



Sustainability indicator systems applied to tourism: Analysis based on sustainable tourism development processes

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ABSTRACT: This article presents an analysis of sustainability indicator systems used in studies on the development of sustainable tourism at the global and national level. The methodological procedures, of an exploratory nature, had a mixed approach combining statistical and quantitative data with a narrative review and bibliographical research. This led to an overview of publications that address sustainability indicators in tourism, as well as the most common indicator systems used nationally and internationally. It was possible to conclude that, even though they are important tools for tourism planning, sustainability indicators should not be unquestionable in their relevance in this process. This is because they are instruments that have flaws, either in their design or application. As practical implications of this research, the survey and analysis of indicators used for sustainable tourism planning may help in the creation and revision of sustainability indicators suitable for regional contexts. Furthermore, as a result of the present study, it was also observed that there is a gap regarding the contribution of Latin American studies on this topic.

Keywords: Sustainability indicators;
Tourism planning;
Sustainable tourism.

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INTRODUCTION

Studies that address the importance of a balanced development of tourism, covering dimensions beyond the economic (Neiman & Mendonça, 2005; Hanai, 2009; Alvares, 2010; Perna et al., 2013) demonstrate the need to think and carry out tourism of in a less aggressive and impactful way to nature and the cultures visited, and reinforce the idea of sustainable tourism.

Sustainable tourism, as explained by the World Tourism Organization (UNWTO, 2005), is not a segment of tourism, as all forms of tourism must be sustainable. However, the inaccuracy in the use of the concept does not always cover a practical approach.

As highlighted by Corbari & Ferreira (2019), due to its polysemy, the idea of sustainability was appropriated and it incorporated several characteristics within a continuum between the most radical and the most conservative forms, more revolutionary attitudes and attitudes of gradual change. Discussions in academia, in general, follow the hegemonic pattern (Swarbrooke, 2000; Beni, 2003; 2006).

To guide tourism development according to sustainability assumptions, the use of indicators is recommended (Ko, 2005; UNWTO, 2005; Faria, 2007; Hanai, 2009; Sanches et al., 2018). Also, as highlighted by Butler (1999), without measures or indicators, the use of the term 'sustainable tourism' is meaningless, it becomes 'hyperbole' or mere 'advertising jargon'.

Indicators are crucial measurement instruments for the sustainable use of an environment, being useful for planning tourism activities and minimizing their impacts (Bursztyn & Bursztyn, 2012). As highlighted by Valentin & Spangenberg (2000) and Hanai (2009), sustainability indicators are practical instruments that serve to guide planning and actions.

Thus, intending to add elements and reflections to investigations involving discussions on the use of sustainability indicators in tourism, this article aims to analyze sustainability indicator systems appropriated by studies on sustainable tourism at a global and national level. The article discusses the use of sustainability indicators and whether these result, in fact, in valuable information for planning actions and developing effective strategies and policies in the field of sustainable tourism.

Sustainable Development Indicators

Indicators are tools that provide measurable, quantitative information about a reality (Sanches et al., 2018). Jannuzzi (2017) points out that the indicators contribute to the definition of priorities for the allocation of public resources, as a reference of the situation, performance and results of policies.

For Oliveira (2009), Alvares (2010) and Falcão (2010), sustainability indicators can serve as a warning to iden-

tify potential problems and guide government planning and actions, leading to changes in policy guidelines and actions in the context of sustainable development. Therefore, the results obtained from the application of a system of indicators can signal and contribute to the different social actors (public power, private initiative, third sector and local community) to change patterns identified as unsustainable. This tool facilitates the analysis and evaluation of information that, when combined with other instruments, increases the probability of managers making good decisions (UNWTO, 2005; Van Bellen, 2005).

According to Torres-Delgado & Saarinen (2013), there are two types of indicators: conventional and complex. Conventional indicators are used to describe large areas or countries, and are based on quantitative surveys and standardized numerical data; while complex indicators present a more holistic view, and they can rely on quantitative and qualitative data to compose a general framework to understand different factors, their connections and influences (Torres-Delgado & Saarinen, 2013; Ólafsdóttir, 2021).

Ólafsdóttir (2021) considers that, by simplifying a reality into numbers, the interpretation may be incomplete or provide incorrect information. Therefore, it must be considered that, in order to measure characteristics involving sustainability, conventional quantitative indicators are not enough.

In this sense, Van Bellen (2002) points out that qualitative indicators are suitable for evaluating sustainable development experiences, considering the limitations (implicit and explicit) related to quantitative indicators. A qualitative approach can assign concepts to the indicators (a lot, fair, little, none) corresponding to a numerical scale, which expands the opportunity to interpret the indicators, qualitatively enriching the analysis of the results (Hanai, 2009).

With regard to the application of an indicator system, it should be carried out by more than one individual, due to its subjectivity, since different applicators can give greater importance to certain indicators (Mitríca et al., 2021; Niavis et al. 2019).

The use of sustainability indicators in tourism

In the field of tourism, studies such as the one by Hanai (2009) propose indicator systems that can be used in public or private management. According to the author, sustainability indicators are instruments for planning, managing and developing tourism, and for verifying whether the assumptions of sustainability are being achieved.

The UNWTO (2005, p. 13, our translation) presents sustainable tourism indicators as tools for planning, managing and monitoring tourism practices and defines them as "sets of formally selected information that are regularly used to measure changes relevant to the de-

velopment of tourism management”.

It should be noted that the indicators are not intended to 'create sustainable tourism', they are part of a dynamic process, serving as a parameter of activities and their sustainability (Kristjánsdóttir; Ólafsdóttir; Ragnarsdóttir, 2017; Pivčević; Petrić; Mandić, 2020).

According to UNWTO (2005), in the creation of a set of sustainable tourism indicators, both quantitative and qualitative approaches must be considered. A qualitative approach assumes a better interpretation of reality when combined with objective data (Hanai, 2009). Kristjánsdóttir, Ólafsdóttir and Ragnarsdóttir (2017), Sanches et al. (2018) and Guo, Jiang and Li (2019) point out that most research studies in the field of tourism and sustainability are carried out using qualitative methods.

When it comes to sustainability, it is essential to contemplate, in a balanced way, different dimensions (Foladori, 2001; Falcão & Gómez, 2012). However, Kristjánsdóttir, Ólafsdóttir and Ragnarsdóttir (2017) point out that several studies neglect certain dimensions. The social dimension, for example, requires qualitative assessments and, consequently, the interpretation and evaluation of the results obtained, which may require more time, resources and technique (Hanai, 2009; Van Bellen, 2002).

Sanches et al. (2018) observe a greater focus on the environmental dimension, and Costa, Sawyer and Nascimento (2009), in turn, raised a significant number of projects and indicators focused only on the economic dimension.

As far as the approach to the dimensions is concerned, it is clear that there is no consensus on which ones should be addressed and included in a system. Kristjánsdóttir, Ólafsdóttir and Ragnarsdóttir (2017) observed that purely scientific-academic studies tend to ignore or underestimate the importance of the political dimension, for example, and therefore fail to legitimize their results in the context of public policies.

Hanai (2009), in turn, considers the inclusion of the tourist-institutional dimension. It contains indicators such as accommodation capacity, registration and visitation control, carrying capacity, tourist satisfaction and attendance, existing and potential tourist resources, public investments in tourism, seasonality and others (Hanai, 2019).

Coelho et al. (2017) include the political-institutional dimension as a way to prove the participation of the public power with actions that guarantee the consolidation of tourism in a region (qualification of local actors, entrepreneurship and promotion of the destination).

Few (Luchiari, 2002; Hanai, 2009) are the researchers who consider the inclusion of the technological dimension, even though this is increasingly important. From it, it would be possible to measure, for example, the use of raw materials that are not aggressive to the en-

vironment, cost reduction, partnerships between institutions, among others.

Ólafsdóttir (2021) emphasizes the importance of public participation, combining local and specialized knowledge in the process of selection and development of sustainability indicators in tourism. Even more specifically, Marzo-Navarro, Pedraja-Iglesias and Vinzón (2020) developed a model of indicators for tourism from the perspective of the local community. This is an effective way of giving voice to the community, in a significant contribution to the tourism development process in order to meet the needs and expectations of different social actors.

On this subject, it should be noted that the UNWTO (2005) describes and recommends a participatory process with twelve stages for the development of indicators, and provides a form for this.

On the other hand, the experience of Linares, García and Rodríguez (2019) regarding instruments for assessing tourism sustainability demonstrates a lack of involvement of the local community by the public authorities so as to achieve the objectives related to sustainable development and tourism. According to these authors, this is due, among other reasons, to the lack of knowledge about methodologies for integrated assessment of the sustainability of a tourist destination and each one's role in this regard.

Another fundamental characteristic that must be present is monitoring the progress of the indicators towards sustainable tourism over time (Ko, 2005), because a single assessment is not enough to draw conclusions about tourism sustainability (Oliveira, 2009).

Ólafsdóttir (2021) states that indicators have proven to be a good tool for assessing sustainability in tourism because they are more concrete than the concept itself.

However, Cordeiro, Leite and Partidário (2009) note that no system is fully capable of assessing the sustainability of tourist destinations due to limitations in interpreting the meaning of this term/ideal.

Thus, it is clear that, in addition to the difficulties in the practical application of the concept and principles of sustainable tourism (a fact that has been widely pointed out by several authors), there is also a consensus that understands the indicators as key tools for the analysis of sustainability in local level.

METHODOLOGY

An exploratory theoretical-analytical study was developed (Gil, 2008) with a mixed approach (Goldenberg, 2007), in which statistical and quantitative methods were used to analyze and combine data from bibliographic surveys and narrative reviews in order to provide a general analysis of the researched universe.

Between July and September 2021, a narrative review

was carried out, which consisted of locating and analyzing manuscripts on indicators and sustainable tourism.

The online databases Scopus, Web of Science, Redalyc and Publicações de Turismo, from the Postgraduate Program in Tourism at the University of São Paulo (USP), were used. The Scopus and Web of Science databases were selected because they are related to environmental and social sciences; and the databases Redalyc and Publicações em Turismo for including scientific journals from Latin America and the Caribbean, in addition to Spain and Portugal.

Keywords were defined from an adherence test with groups of keywords in English. This language was chosen because it is predominant in international academic studies, and constant in the abstracts of the articles. The most adequate combination to discuss tourism in a critical perspective was shown to be: indicators of "sustainable tourism", which was used in the searches in the four databases. It should be noted that a different combination, even with the same words, can bring different results. This is an inherent feature of the methodology used.

For the time frame between 2017 and 2021, an initial result of 213 publications on the Web of Science was obtained; 171 on Scopus; four on Redalyc; and 30 in the USP database.

From the universe of 418 publications, articles were filtered, establishing inclusion and exclusion criteria that can be seen in Table 1, below.

Table 1 - Inclusion and exclusion criteria in the analysis portfolio

| INCLUSION CRITERIA | EXCLUSION CRITERIA |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| More macro conceptions about sustainable tourism indicators, which discuss the dimensions jointly, not separately. | Studies that did not correlate indicators and tourism. |
| Studies that dealt with sustainability in public policies and were consistent with the analysis. | Studies that did not correlate indicators and sustainability. |
| Exemplification of sustainability indicators. | Application of indicators in corporate or other very specific environments. |
| | Duplicity. |

Source: Our own design.

After applying these criteria, 106 studies were considered because they contained relevant data for the purposes of this research, 79 of which were from Scopus;

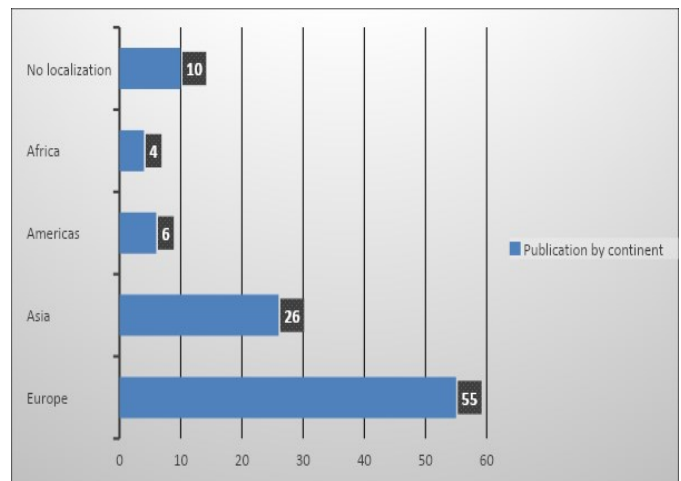
14 from the Web of Science; none from Redalyc; and 13 from USP.

A second review led to the exclusion of seven studies, leaving the final analysis portfolio with 99 publications. During the reading of the material, attention was drawn to the low number of studies by Latin American authors, even though searches were carried out in Ibero-American and Latin databases. This situation will be better presented and discussed below.

RESULTS AND DISCUSSION

Figure 1 illustrates, in graphic form, the publications on sustainable tourism indicators distributed throughout continents. This data refers to the geographic location where the research was applied, regardless of the place where the article was published or the origin of the researchers. Studies shown in Figure 1 as 'no localization' are purely theoretical.

Figure 1 - Graph of publications on sustainable tourism indicators by continent



Source: Our own design.

Most publications on the subject are located in the European and Asian continents. On the European continent, most of the studies originate in Spain. The research carried out allows us to state that, even though there are Latino and Brazilian researchers such as Sanchez et al. (2018) studying sustainability indicators in tourism, these have little visibility on the subject. In fact, mainly European researchers are used for basing research, discussions and decisions, and there is greater reliability in studies from Spain, and the validation of information by Spanish researchers is important. There is, therefore, a hegemony of thinking or, as stated by Escobar (2005), a coloniality of knowledge. This Spanish protagonism may be making invisible the realities and specificities of regions that do not have the same characteristics as the Spanish models. Policies and guidelines that have a positive reaction in countri-

es considered developed cannot be compared to those needed for emerging countries (Beni, 2006) as they do not recognize the regional realities of each country. According to Beni (2006), the adoption of hegemonic models is not always well-instrumented. It does not necessarily meet the interests of all countries.

Regarding the predominance of Spanish references, Hanai (2009, p. 215) states that: "the dominant Spanish tourist model focuses essentially on the number of tourists, and associates the number of tourists with the economic results of the sector. Consequently, concerns about the effects and conditions of tourism development in Spain led to the need for studies and alternative models of tourism development with a sustainable approach. These factors have contributed to Spain becoming one of the great international references in scientific studies on the sustainability of tourism development and also in the application of indicator systems."

Guo, Jiang and Li (2019) also observed a shortage of publications from Latin America and a prevalence from Europe and Asia. According to these authors, Europe has always stood out in tourism studies due to its developed tourist economy, which can be verified in UNWTO data (2022).

Regarding the existence of few studies from Latin America, a justification may be Lotka's Law (Serrano; Sianes; Ariza-Montes, 2019). This means that there is an uneven distribution of productivity among authors: a minority is responsible for publishing most of the relevant studies on a given topic. In the case of this study, there is a group of researchers within a spatial area that seems to dominate the production of knowledge in this sense: Europe, and particularly Spain, which produces the largest number of scientific articles.

It must be considered that there is a hegemony of the English language as a universal standard, and this was the language used in this research. It is possible that existing publications in other languages were not accessed due to this limitation.

The present research allows us to state that there are studies involving tourism and sustainability indicators applied to the reality of Latin America or authored by Latin researchers, but these are only found in a more specific search.

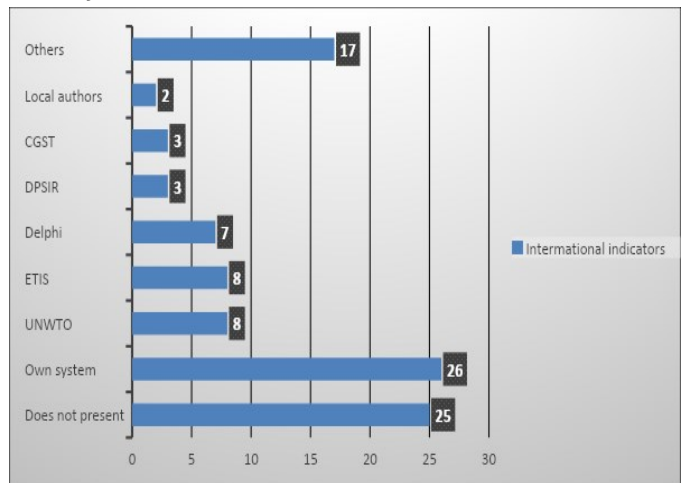
Sustainability indicators in tourism: Global and national overview

From the research carried out, it can be said that the sets and systems of indicators most present in academic research on tourism about this subject are:

- UNWTO indicator system (2005);
- European System of Tourist Indicators (European Commission, 2016);
- Delphi Method by Helmer, Dalkey and Rescher (1959);

- DPSIR Model (Drivers, Pressures, States, Impacts, Responses) (OECD, 2014); and
 - GSTC – Global Sustainable Tourism Criteria for Destinations and Performance Indicators (GSTC, 2013).
- Among these indicator systems, the figure below shows the ones most used internationally. In the graph, articles that carry out a literature review or theoretical discussion, without applying a specific system of indicators, are classified as 'does not present' (25%).

Figure 2 - Chart of the main indicator systems used internationally



Source: Our own design.

It is noticed that 27% of the researchers adapted an existing system of indicators or created and applied their own, which demonstrates that there is an interest in developing new methodologies in addition to the existing ones. Occasionally (2%), the indicator systems developed by them are reapplied or analyzed by other researchers, in other contexts.

Kristjánsdóttir, Ólafsdóttir and Ragnarsdóttir (2017) also concluded from their results that the majority (63%) of researchers prefer to develop their own set or system of indicators and apply it in case studies, as "the results indicate that, clearly, there is no consensus or universally accepted set of indicators" (Kristjánsdóttir; Ólafsdóttir; Ragnarsdóttir, 2017, p. 8, our translation). This characteristic is probably due to the fact that the indicators must be thought out and chosen in order to meet specific local conditions.

About this, Elena & Rainer (2020) point out that a general set of indicators is not the most adequate to measure sustainability in all tourist destinations. This is because each destination has its own characteristics, peculiarities and specificities that must be considered. Therefore, as much as an indicator has a comparative objective in its purpose – whether between destinations or to monitor the same destination over time – local conditions must also be taken into account. In other words, tourist destinations or regions cannot be

addressed in a standardized way and the imposition of a universal system will inevitably result in a superficial analysis. As highlighted by Valentin & Spangenberg (2000), there are several matrices of indicators, which can be used as inspiration, but not copied. "Each community is unique and the development of indicators at the local level provides the opportunity to make this individuality visible in the choice of indicators, thus becoming part of the local/regional identity" (p. 387).

Observing the graph, the UNWTO indicator system (2005) and the European Tourism Indicators System (ETIS, 2016) are among the most cited (both with 8%), followed by the use of the Delphi Method (7%). The DPSIR approach and the indicators of the Global Sustainable Tourism Council (GSTC, 2013), both with 3%, are also among the most used tools for measuring sustainability in tourism. It is important to remember that most of the research found in the databases is on the European continent, which may explain the greater use of tools developed on that continent.

Niavis et al. (2019) carried out a survey on the usefulness and ease of use of different indicator systems, applied to the Mediterranean region and concluded that, for the universe researched, the ETIS system was the most useful, followed by UNWTO and GSTC. Flour et al. (2019) also found that the indicators suggested by UNWTO and ETIS have been widely used by various entities. For Tudorache et al. (2017), ETIS is flexible and can be adapted to the particularities of each destination (useful information, needs and data availability) and also because it comprises additional indicators that can be introduced when the available indicators are insufficient.

With regard to the GSTC (2013) indicators, Mutana & Mukwada (2017) warn that these indicators have clear benefits for tourism business operators. Ólafsdóttir (2020), in turn, points out that these indicators were based on environmental management systems and environmental certifications, therefore focusing more on the environmental dimension to the detriment of the other pillars of sustainability. What makes it so widely used for analyses, according to the author, is the fact that it is a highly accessible tool that highlights characteristics of tourism not found in other sets of indicators.

With regard to the dimensions of sustainability, it is observed that some of these international tools allow a partial analysis of the tourism situation in a destination, as they do not comprise at least the three basic dimensions of sustainability (economic, social and ecological). It is also important to consider that several of these tools result in standardized measurements, therefore, not suitable for more specific analyses of tourism (Ólafsdóttir, 2020). Niavis et al. (2019) also state that the applicability of international indicators can be questioned, as personalized approaches are essential to operationalize sustainability assessments.

For Cordeiro, Leite and Partidário (2009), the UNWTO system provides the most useful information for decision-making processes. Despite not being a visually attractive system, the information obtained makes it possible to analyze specific aspects: it points out specific aspects in each dimension, which facilitate decision-making and adjustments in planning. "Visually attractive" is understood here in the sense that "to be useful, instruments for assessing the sustainability of tourism need to be able to communicate in a visually clear and concise manner" (Cordeiro; Leite; Partidário, 2009, p. 89).

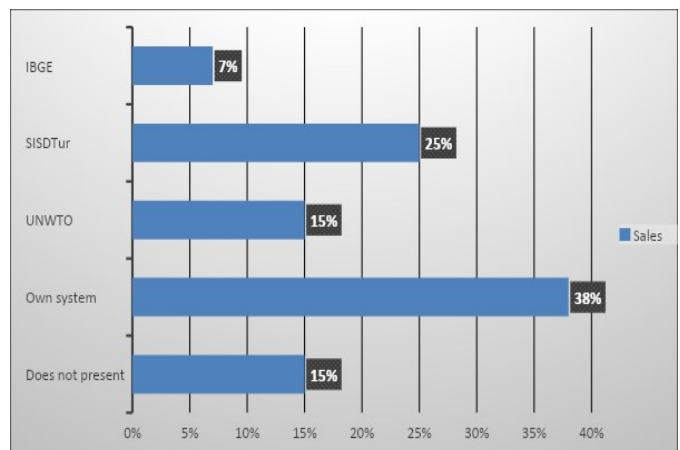
It is noteworthy that one of the criteria for promoting public policies that encompass social participation in consultation and decision-making processes is the broad understanding of its participants in the process, including information on data identified by technical-scientific studies about the process (Hanai, 2009). Therefore, information and results related to sustainability indicators must be communicated in a way that the population can understand and know the existing situation, and the desired stage of sustainability (Cordeiro; Leite; Partidário, 2009).

In the context of tourism development, the set of indicators proposed by UNWTO (2005) fulfills its function and is used as a basis for studies involving the theme. In the case of using a global base of indicators applied to tourism, as is the case proposed by the UNWTO (2005), this must necessarily be adapted to different scales and scopes of application.

Following Valentin & Spangenberg (2000), Elena & Rainer (2020) and other authors, it is understood that sustainability must be related to the specific characteristics of a given location. Therefore, no matter how relevant studies and practices involving sustainability indicators in other countries are, they are for those particular realities and contexts and require adaptations.

Figure 3 presents a national panorama containing the main indicator systems used in Brazil, according to the analysis portfolio.

Figure 3 - Graph of the main indicator systems used in Brazil



Source: Our own design.

As observed in the global panorama, part of the researchers (38%) develop their own system of indicators. The indicator system most used by Brazilian researchers (25%) is the SISDTur developed by Hanai (2009). The second most used indicator system is the UNWTO (15%). Theoretical studies on sustainability indicators in tourism account for 15% of the surveys and are represented in Figure 08 as 'does not present'.

Hanai (2009) developed a system that involves different dimensions of sustainability (environmental, economic, social, cultural, institutional and tourism), and applied it separately to tourist establishments and municipal tourism management. In SISDTur, its author presented the applicability of the system in a clear way that could be replicated by other researchers, a fact that, according to Falcão (2010) had been little detailed and discussed in the literature on the subject until then.

When replicating indicator systems, adaptations are necessary to meet local realities and demands, incorporating specific aspects of the location where the systems will be applied. The Hanai system (2009) was designed for reality and according to the specificities of the municipality of Bueno Brandão. When other researchers use SISDTur, they do so with adaptations for the municipalities under study.

Concerning the UNWTO system (2005), Cordeiro (2008) considers it to be the instrument that more accurately interprets the dimensions of sustainable development. It is, for Falcão, Farias and Gómez (2009), the most appropriate tool for measuring sustainability in tourism.

Based on what is found in the literature, it is possible to draw some comparisons. Both the UNWTO (2005), at the global level, and Hanai (2009), at the national level, have characteristics considered fundamental, such as: adaptation for applicability on a local scale; integrated approach to dimensions; and feasibility for primary or secondary data collection.

Despite presenting a concept of sustainable tourism that guides their systems, it is important to consider the polysemy and lack of consensus regarding the concept of sustainable tourism, derived from narratives in permanent conflict and led by the market. Government institutions and market practices – as well as the academy, which plays a fundamental role in defining concepts – do not express themselves clearly with regard to sustainability (Irving; Coelho; Arruda, 2020). This causes the theory to be abstract compared to sustainability at an operational level, resulting in difficulty measuring it, even with the use of indicators.

Both systems expressly present a participatory process in their design and subsequent application. Hanai (2009) proposes that his system be applied individually, by different individuals. The qualitative results are later compared to reach a consensus. For the author, the different perceptions of the applicators and their individual considerations made the participatory process difficult due to the significant divergences in the re-

sults.

"the existence of these divergences corroborates the importance of the involvement and participation of the local population in the definition of indicators and in the production of instruments that are adequate, applicable and of political and social acceptance for the management of tourism [...]. The adoption of a participatory approach was essential to place the community in its relevant local context in order to produce accurate and relevant results for the local reality, reflecting on its own vision of sustainability and local priorities (Hanai, 2009, p. 341)."

This finding shows that, in practical terms, there is no equity, a fact already observed by Niavis et al. (2019), Linares, García and Rodríguez (2019) and Mitrica et al. (2021).

By comparing the systems, it is observed, at first, an advantage of the UNWTO with regard to the scope/scale of application. However, it is worth noting that research in the area highlights the importance of adapting pre-established sustainability indicators to the peculiarities of the studied tourist destination. Thus, the UNWTO macro system results in some difficulty in application on smaller scales. In this case, it can be said that SISDTur would be an improvement of UNWTO, since Hanai studied it and used it as a basis in some aspects to compose its own system and apply it to the context of specific tourism development in the area of Bueno Brandão, Minas Gerais, Brazil.

Practical and/or theoretical implications

It was found, based on the research carried out, that decisions related to the development of world tourism are concentrated, geographically, in Spain. For example, even though SISDTur was formulated in an academic environment in Brazil, it is mostly based on Spanish (14 of 24 models) experiences and case studies of the application of tourism sustainability indicators.

The UNWTO, located in Madrid (Spain), concentrates and is the origin of many pioneering initiatives and tourism development models aimed at formulating public policies, even though they are not managed there. Even in Brazil, from 2003 onwards, with the creation of the Ministry of Tourism, Spanish consultants were hired to define public policies.

This finding, arising from the study presented here, identifies a gap with regard to research and Latin American protagonism. In this sense, this research comes to add to the preexisting research studies, and contribute theoretically to studies in this field.

In a more practical way, this article can also help in the design and review of regionalized indicators based on the research carried out. Moreover, when analyzing the publications found in the databases on this topic, it was observed that they point to several limitations in the use of indicators.

Chart 3:
sexuality

Sources:

Thus, the analysis compiled about these limitations may contribute to the development of tools that are closer to sustainable tourism.

FINAL REMARKS

In general, it was found through this research that there is not only one set or consolidated system of indicators for tourism, either nationally or internationally. The direct and indirect results of this research lead to thinking about the need to consider matrices of indicators that are in line with the socio-territorial reality, especially in the global South. Even if inspired by other systems – as demonstrated based on Spain – it is necessary to think critically and look at local realities. The studies and systems of sustainability indicators analyzed here point out that sustainable tourism management interventions must be based on the search for improvements in economic, ecological and social indicators. However, the question remains about to what extent do the indicators produce information capable of meeting a perspective that, in fact, corresponds to sustainable tourism? The fact is that, in addition to building a matrix of indicators that can be measured assertively, it is imperative that these indicators be evaluated and that actions be taken, mainly through public policies that are oriented towards effective sustainability.

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