

Article

The Role of Tourism in the Ecosystem Services Framework

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Abstract: The Ecosystem Services Framework (ESF) is a powerful tool for understanding the relationship between nature and society, and tourism is an important expression of this. However, the scientific literature focusing on the relationship between tourism and the ESF is limited. Hence, there is a need to bring the tourism research community and the ESF together, not only as a cultural service but as an economic sector that consumes natural resources. This paper aims to do this by analyzing discourse on tourism in institutional reports produced by the ESF. Additionally, how the tourism research community has approached the ESF is analyzed by reviewing the literature that has used it and literature addressing nature-based tourism. The results suggest a “schizophrenic” approach to tourism, which is defined as either a cultural ES (nonmaterial) or as a nature-based industry (consumptive). Moreover, a disconnect has been found between tourism research and the ESF. The tourism research community may not feel comfortable with the inaccurate definition of tourism in the ESF and may prefer to use freer terms. However, the aforementioned community should integrate the ESF within their studies on natural resources. At the same time, the ESF should be more accurate in using tourism-related concepts.

Keywords: ecosystem services; ecotourism; nature-based tourism; tourism bubble; tourism journals

1. Introduction

The Ecosystem Services Framework (ESF) is a powerful tool for understanding the relationship between nature and society. Ecosystem services (ES) became a widely used term in 2005 thanks to the Millennium Ecosystem Assessment (MEA), which took the concept from “an academic backwater to the mainstream of conservation and environmental policy” [1]. The MEA defines ES as the benefits people obtain from ecosystems. It includes provisioning services, such as food, water, or timber; regulation services that affect the weather, floods, diseases, waste, or water quality; cultural services that provide recreational, aesthetic, or spiritual benefits; and supporting services, such as soil formation [2].

Likewise, tourism is an important expression of the relationship between nature and societies. As is often noted, tourism is one of the world’s largest industries, supporting 284 million jobs and generating 9.8% of global Gross Domestic Product in 2015 [3]. However, like all economic sectors, tourism is heavily dependent on ecosystem services to develop its activity. The tourism industry needs provisioning services to provide tourists with food, water, or energy, among other things. In addition, regulating services are important because ecosystems regulate the weather, for instance, which is fundamental when tourists choose a destination, as evidenced by the creation of the Tourism Climatic Index [4]. Moreover, many tourism activities are located in areas affected by natural hazards, such as floods or hurricanes. Therefore, ecosystems are able to mitigate risks that could affect tourism activity, risks which are expected to grow in the future due to climate change [5,6]. Additionally, last but not least, cultural ecosystem services are crucial to visitor satisfaction. Tourists are attracted by different cultural ecosystem services, such as aesthetic appreciation [7], recreational experiences [8], or spiritual

and religious experiences [9]. Expressed in these terms, tourism's dependence on ecosystem services is obvious.

Nevertheless, the scientific literature that has focused on the relationship between tourism and ecosystem services is limited. A few searches on the Scopus database (www.scopus.com) in February 2017 showed that many ES-based studies mentioned tourism in the title or keywords (146 documents, to be precise). However, only four articles in tourism journals (journals with the word "tourism" in the title) mentioned ecosystem services in their title and only seven in the keywords. Besides this, only 11 articles were found to mention ecosystem services and tourism together in the title when searching all scientific journals on the Scopus database. In ES-based studies, tourism mainly plays a role in the context of cultural services [10] following the categories proposed by the Millennium Ecosystem Assessment (MEA) [2]. In their review, Milcu et al. [11] showed that tourism is often assumed to be recreational and routinely considered to be a cultural service, despite some scholars arguing that it should instead be classified as a provisioning service, especially for communities strictly dependent on tourism. Therefore, whereas ES and tourism are absolutely imbricated in the real world, they are not in the scientific literature.

The conceptualization of tourism as a cultural ES rather than an economic industry is also problematic for several reasons. Cultural ES are linked to nonmaterial benefits. However, tourism clearly provides private companies and communities that host tourists with material benefits in monetary terms [3]. Additionally, conceptualizing tourism as nonmaterial, i.e., as a non-consumptive activity, conceals the way in which tourism can consume resources and result in broader negative environmental impacts [12]. Even ecotourism, which is defined by the International Ecotourism Society as "responsible travel to natural areas that conserves the environmental and improves the well-being of local people" (www.ecotourism.org) has been proven to generate environmental impacts, such as travel emissions or overexploitation of community resources, such as food, water, or land [13]. However, it is argued that when ecotourism projects are well-designed and managed their benefits compensate for their problems [14].

Hence, there is a need to bring the tourism research community and the ESF together, not only as a cultural service but as an economic sector that consumes natural resources. This paper aims to do this by analysing discourse on tourism in institutional reports produced by the ESF. Additionally, I analyse how the tourism research community has approached the ESF by reviewing the scientific literature that has used it and literature addressing ecotourism and nature-based tourism, which is the type of tourism most related to ecosystem services. The goal is to go beyond the numbers mentioned above to understand how ES and tourism have been addressing each other.

The paper proceeds as follows. Section 2 explains the sources and the procedures of the qualitative analysis. Section 3 details the results in three subsections: ES institutional reports, tourism papers that mentioned ES, and papers about nature-based tourism. Section 4 discusses the results and emphasizes the most relevant insights, which are summed up in Section 5 with the most significant conclusions.

2. Materials and Methods

In order to analyse the concept of tourism within the ecosystem services framework, I developed a discourse analysis [15] of institutional reports produced by the MEA, The Economics of Ecosystem and Biodiversity (TEEB), and the Common International Classification of Ecosystem Services (CICES). The MEA, TEEB, and CICES were selected because they provide the basis for almost all scientific assessments [16]. Considering all of the reports produced by the three frameworks, some of them were rejected based on the following criteria: those without significant mentions of tourism (apart from synthesis and foundation reports), regional reports, and reports only focusing on some types of ecosystem services. After filtering, 10 documents were analysed (Table 1). The discourse analysis was assisted by a Qualitative Data Assistant Software, namely MAXQDA© v10, Marburg (Germany) [17].

Table 1. Selected reports for discourse analysis on the concept of tourism.

Framework	Year	Report Title
CICES	2013	Common International Classification of Ecosystem Services (CICES): Consultation of Version 4, August–December 2012
MEA	2005	Business Industry Perspective on the Findings of the MA
MEA	2005	Ecosystems and Human Well-being: Opportunities and Challenges for Business and Industry
MEA	2005	Ecosystems and Human Well-being: Synthesis
MEA	2005	Living Beyond Our Means: Natural Assets and Human Well-being
TEEB	2010	The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations
TEEB	2010	The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A Synthesis of the Approach, Conclusions and Recommendations of TEEB
TEEB	2011	The Economics of Ecosystems and Biodiversity in National and International Policy Making
TEEB	2012	The Economics of Ecosystems and Biodiversity in Local and Regional Policy and Management
TEEB	2013	The Economics of Ecosystems and Biodiversity in Business and Enterprise

MEA-Millennium Ecosystem Assessment; TEEB-The Economics of Ecosystem and Biodiversity.

Discourse refers here to “a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities” [18] I analysed the discourse on tourism through a focus on different conceptualizations of the term “tourism” and “ecotourism” indistinctly. Some meanings allowed for the argumentation of different story lines. Story lines structure and reorder meanings of discourse and are semiotic tools; meaning is evoked through story lines. Once a discourse is formulated, it will create story lines [19].

Additionally, papers in tourism journals (journals whose title contained the term “tourism”) that mentioned ecosystem services in the title or keywords were also reviewed using a discourse analysis following the same methods. The origin and background of the first author were also noted. I also recorded which ESF was referenced and which ES were mentioned. The search was run on the Scopus database in February of 2017. The query generated an outcome of seven articles.

To complement the previous review, which represented only a small proportion of tourism research, a quantitative review of the nature-based tourism literature was also conducted. Nature-based tourism was chosen because it has a more direct link with ES. All papers whose title contained the terms “ecotourism” or “nature and tourism” in tourism journals were selected. All papers before 2005 were excluded because that was the year when the ESF became widely used in the scientific literature [1]. The search was run on the Scopus database in February of 2017 (the 2017 papers were excluded to provide a clear cutline). The query generated an outcome of 256 articles. Nineteen articles were excluded because the term “nature” referred to “behaviour” rather than “the natural world”. Thus, the final outcome consisted of 237 articles on nature-based (eco)tourism in scientific tourism journals. The title, abstract, and keywords were analysed in all of these papers in order to identify how many of them used the term ecosystem services. Moreover, parallel terms to the concept of ES were also noted. The tourism story lines found in institutional reports were used to classify the articles; some story lines were added when papers did not fit any of the previous ones. Additionally, the country of affiliation of the first author, the region of the case study, and the scale of study, distinguishing between local, national, regional, and worldwide, were also recorded. The summary of samples and methods can be found in Figure 1.

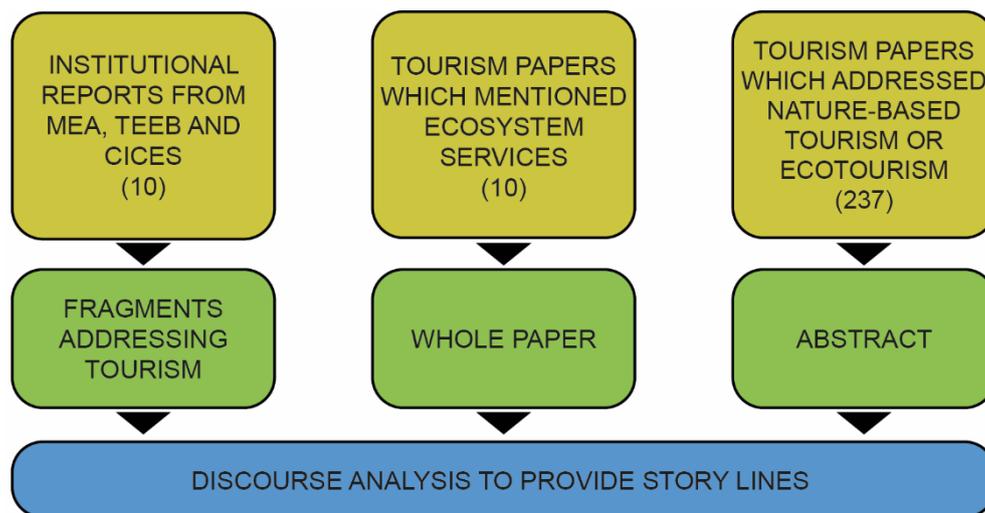


Figure 1. Summary of samples and methods.

3. Results

3.1. The Discourse of Ecosystem Services Frameworks Regarding Tourism

Tourism is often assumed to be a cultural ES in the ES-based literature and in the natural scientists' world view [20,21]. However, the discourse analysis of institutional reports produced by the MEA, TEEB, and CICES evidenced that they also conceptualized tourism as an economic sector. In other words, they addressed tourism from two different standpoints: First, as expected, tourism was defined as a cultural ecosystem service. On the other hand, tourism was also argued to be an industry whose main function is converting natural supplies into goods and services (i.e., money) as all economic sectors do.

Regarding tourism as a cultural ES, this acceptance was only found in the MEA and TEEB's classifications of ES. However, while the MEA included all cultural ES in the same category, TEEB [22] (which notes that its classification largely follows the one in the MEA) defined two subcategories of cultural ES: "(i) Spiritual, religious, aesthetic, inspirational and sense of place; and (ii) recreation, ecotourism, cultural heritage and educational services". It argues that the distinction was due to a different approach in valuation assessments for each group. It is stated by TEEB [22] that: "the second group (where tourism was included) is more amenable to traditional valuation approaches". In the MEA classification, tourism and recreation are assumed to have the same meaning, whereas TEEB distinguished different meanings regarding the two terms. Thus, in the TEEB framework, recreation is placed in a group with mental and physical health. In relation to this group, TEEB [23] says that: "The role of natural landscapes and urban green space for maintaining mental and physical health is increasingly being recognized". However, the definition of tourism [23] states: "Nature tourism provides considerable economic benefits and is a vital source of income for many countries". Hence, whereas the former definition is made in terms of well-being, the definition of tourism refers to economic benefits.

Regarding the CICES classification, it is important to highlight that the CICES framework distinguishes between final ecosystem services and ecosystem goods and benefits, whereas the MEA and TEEB use both terms indistinctly. In the CICES, final ecosystem services are defined as:

The contributions that ecosystems make to human well-being. These services are final in that they are the outputs of ecosystems (whether natural, semi-natural or highly modified) that most directly affect the well-being of people. A fundamental characteristic is that they retain a connection to the underlying ecosystem functions, processes and structures that generate them [24].

In addition to this, ecosystem goods and benefits are defined as:

Things that people create or derive from final ecosystem services. These final outputs from ecosystems have been turned into products or experiences that are not functionally connected to the systems from which they were derived [24].

Hence, following the CICES framework, recreation would be an ecosystem benefit provided by a service, which it calls “environmental settings”, and which in turn would support “physical and experiential interactions” [24]. The CICES does not mention tourism in its framework (apart from when making comparisons with other frameworks) because it does not consider tourism as either an ecosystem service or an ecosystem benefit.

Although the MEA and TEEB address tourism as a cultural ES, and therefore as a nonmaterial benefit that is provided by ecosystems, both frameworks contain many mentions of tourism that refer to it as a material and consumptive activity that even sometimes threatens ecological conservation. For instance, TEEB [25] considers tourism in the same line as other consumptive services when it says:

Overexploitation of benefits arising from some provisioning services (e.g., overexploitation of fish stocks) as well as cultural services (e.g., tourism) and regulating services (e.g., reforestation activities for carbon capture) could lead to a depletion of benefits and social trade-offs.

However, the most evident fragment regarding the consumptive nature of tourism can be found in the MEA synthesis report, when it links ecotourism to sports fishing [2]:

Increased fish catch can increase ecotourism opportunities (e.g., increased sport fishing opportunities) or decrease them if the levels are unsustainable or if the increased catch reduces populations of predators that attract tourists (e.g., killer whales, seals, sea lions).

Additionally, the MEA and TEEB explicitly detail the impacts that tourism had had on ecosystems in at least 16 mentions found in different reports. TEEB [25], for instance, considers that “although nature tourism depends on a healthy environment, there is no guarantee that the tourism industry will take steps to protect it”. The MEA [2], in the same line, warns that:

The growth in the number of tourists and hotels has, nevertheless, generated detrimental effects on the environment. For example, hotel growth is associated with landscape and wetland alteration, deforestation of buffer zones, pollution of rivers, lakes and beaches, and changes in wildlife behaviour.

The second meaning of tourism detected in the ESF is as an economic sector. Contrary to expectations, this is the most widely used meaning of the term tourism found in the MEA and TEEB reports. Of all 142 mentions of tourism in the different reports, at least 65 explicitly addressed tourism as an industry or economic sector rather than as an ecosystem service. Discourse analysis was used to classify these mentions into three story lines: (i) tourism as a tool for promoting ecological conservation (seven mentions); (ii) tourism as a tool for promoting the local economy (nine mentions); and (iii) tourism as an incentive for more eco-friendly private business (six mentions). The other mentions, most of the total, referred to aspects related to the importance of tourism as a growing sector, especially ecotourism, and the money and jobs generated by the tourism industry in different regions, mainly in developing countries.

Tourism as a tool for ecological conservation was only found in two TEEB reports [25,26] and in none of the MEA's. Nevertheless, this conceptualization of tourism was stated as having two facets. First, the creation of fees and taxes for tourists and the tourism sector, which could be directly invested in conservation projects. For instance, TEEB [26] cited a study that: “suggested that a moderate increase to around US \$5 would be a good strategy for increasing park income without losing a significant number of tourists”. In the second facet [25]: “(Tourism) could provide an alternative to more damaging forms of development, such as agriculture, logging, mining or consumptive use of wildlife”. Basically, the key issue is [25] “finding alternative sources of local income to compensate for use restrictions (which are) essential for the long-term success of any protected area”.

Hence, promotion of the local economy through tourism is very much linked to trade-offs between the traditional exploitation of nature and tourism-based economies. Again, this second conceptualization of tourism as a tool to promote the local economy was only found in the same TEEB reports as the previous one. The link between supporting the local economy and protecting nature is evidenced when TEEB [25] says: “Using tourism or hunting expeditions to generate economic benefits for local communities is the cornerstone to enlisting their help in protecting wildlife”. However, most of the time TEEB encourages tourism to promote the local economy with no clear link to promoting ecological conservation. By way of illustration, it states that [26] “local policy challenges are to channel tourism development in such a way that a fair share of income is retained locally, and that locals remain ‘sovereign’ owners of their home place”. In some statements, TEEB even seems to prioritize tourism income over ecological conservation. For instance, it argues that [26]: “If protected areas are well-managed, both small-scale tourism and externally managed high-end tourism can benefit local stakeholders”. Or even more evident, it also states that “if payments focus on the conservation of charismatic species and improving landscape beauty, ecotourism can provide an additional source of income for a region”.

The third meaning of tourism as an industry is as an incentive for more eco-friendly private business. In line with this, TEEB [27] cites the market opportunities provided by tourism as an opportunity to become more eco-friendly: “Many travel agents have realized that sustainable tourism provides an excellent market opportunity, in which economic profit and respect for the environment go hand in hand”. Besides, the MEA [2] argues:

With tourism becoming the world’s largest employer and an important economic factor in many developing countries, native forestlands, coral reefs, and other natural resources will be increasingly perceived as vital business assets of many private companies.

Furthermore, if tourism is considered an industry, it is obvious that it depends on natural supplies to provide goods and services to its customers (i.e., tourists). Some references can be found in the MEA and TEEB frameworks that reinforce this perspective. To cite one example, TEEB [27] states that “many tourism businesses are fully or partially dependent on biodiversity and ecosystem services”. Despite considering it a cultural ES, TEEB addresses tourism as a beneficiary of provisioning and regulating ecosystem services rather than a mere beneficiary of cultural ecosystem services. Thus, the dependence of tourism on ecosystem services is assumed as material rather than nonmaterial and tourism is considered to be a beneficiary of ecosystem services rather than a provider or a service in its own right.

3.2. Ecosystem Services in the Scientific Literature on Tourism

Only seven documents in tourism journals used the term “ecosystem services” in the title or keywords. The topic of four of them was the economic valuation of some ecosystem services, mainly cultural ES, such as views of the sea [28], wildlife watching [29], or recreational trips [30]. They used different methods, such as travel cost, hedonic pricing, and contingent valuation. Another article valued the willingness to pay entrance fees for the carbon sequestration service in natural areas [31]. The other three papers were theoretical approaches. Two addressed links between well-being and ES [32,33] and the other focused on financial tools related to ES to fund conservation, such as Payment for ES (PES) or Stewardships [34].

Three articles referenced the MEA framework using the synthesis report [2] and one paper also mentioned the CICES framework. These were used in the papers to define ES or mention some categories. In addition, two referenced the MEA [35] and TEEB [27] reports on business. Fleischer [28] referenced the MEA report on business to state that “by estimating and accounting for the economic value of ecosystem services, hidden social costs and benefits are revealed and can be used for economic decision making at the local, national and international levels”. Additionally, Roberts et al. [31] used the TEEB report on business to show the links between ES and private companies:

Businesses are increasingly aligning their investments with consumer trends and interest in biodiversity and ecosystem services. Additionally, private organizations are beginning to recognize their direct dependence on ecosystem services, in part because businesses are able to see how biodiversity loss and ecosystem service degradation poses threats to future financial opportunities.

On the other hand, two papers did not reference any ESF despite their focus on ES [29,34].

Most papers focused on one or two ES. Only one paper mentioned ES in general [34] and another focused on all cultural ES in general [33]. The most commonly mentioned ES was recreation [29,30,32], followed by aesthetic appreciation [28,32]. Some regulating services were mentioned, such as carbon storage or sequestration and air cleaning [30–32]. Provisioning services were not addressed by any paper except that written by Lankia et al. [30], who mentioned timber growth in addressing the trade-offs between recreation and timber when valuing forest ES.

However, none of them defined or cited tourism as a cultural ES. Four of them engaged in the story line of tourism as a conservation tool, one understood tourism as a private business, and two referenced it as a tool for engaging people in nature, a different way of using tourism as a conservation tool. Scholars provided diverse reasons for using the ESF in their studies. However, most of them linked ES with economic concepts, such as PES schemes through tourism fees or improving the management of tourism companies by understanding the motivations of tourists. This was in line with the authors' backgrounds, most holding economic and business degrees.

The reviewed papers also mentioned some problems when linking tourism with ES. Most of these were already commonly mentioned in the ES-based literature, such as valuation of nonmarket products, double-counting, or subjectivity of valuation. More innovatively, Martinez-Juarez et al. [32] mentioned that, although tourism was considered a cultural ES, active engagement was still needed to capture the benefits. They highlighted a need to address the links between ES and tourist well-being. This was in fact the aim stated by Willis [33], who "sought to understand how psychological well-being from tourist interactions in nature can contribute to understandings of cultural ecosystem services and how a cultural services framework helps to make sense of them".

However, all of the scholars approached the ESF in acritical ways. Only Whitelaw et al. [34] cited some critical views regarding commodification of nature by stating "it is alleged that commodification elevates the human benefits that are gained from the services provided above the inherent value of nature". However, it is evident that the authors wanted to show that these were not their arguments but others'. Moreover, political viewpoints were also found in some of the papers, especially regarding ownership of ES and the resulting trade-offs. For instance, Fleischer [28] started her paper by stating that: "when a hotel manager offers a room with a view for a higher price than a room without a view, she is actually selling something she does not own". Fleischer also concluded that "this loss of welfare for the local population is reflected in the prices of their housing, in the same way that the view is reflected in the prices of hotel rooms". Additionally, she stood up for economic compensation for residents when a new hotel caused a loss of a sea view. Another political debate found in the papers was [34]: "About the appropriateness of levying visitor fees in protected areas, since there is an argument that public goods are most appropriately funded through central taxation systems".

3.3. Nature-Based Tourism Studies and Their Use of Ecosystem Services

Before focusing on the main subject of the review, it is interesting to introduce some insights regarding the origin and destiny of the reviewed research. Like previous reviews [36,37], I found that most of the 237 articles mentioning nature-based tourism were written in European and North American institutions (70% and 64%, respectively). Latin America was the region that contributed the fewest articles (1.70%) followed by Africa (4.22%). However, 22% of all reviewed articles focused on one or both regions (10.55% each). Hence, Latin America and Africa were the regions the object of most studies written by institutions from other regions (84% and 64%, respectively), especially Europe and North America. In North America, 81.25% of studies focused on other regions, while in Europe

the percentage was 50% (Figure 2). Regarding the scale, most of the articles focused on study cases smaller than the national scale (57.45%), followed by articles focused on the national scale (25.53%).

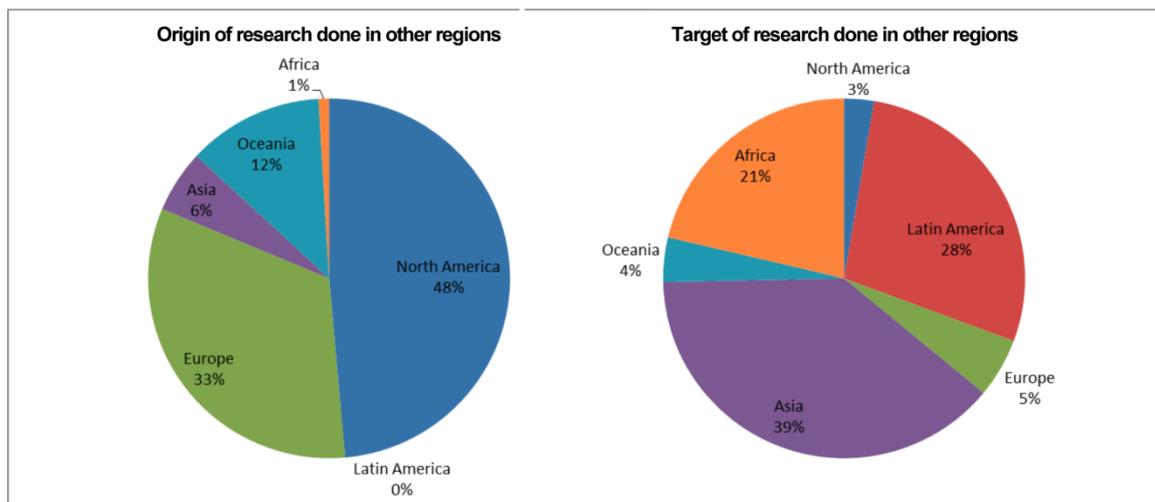


Figure 2. Origin and target of tourism research done in other regions.

Coming back to the paper's topic, taking the story lines previously detected in the ESF as a basis, the most common conceptualization of tourism found in the tourism research engaged with the story line of it being a private business that could sometimes help companies become more environmentally friendly (37.13%). The second most common story line was tourism as a developing tool (32.91%), focusing particularly on southern countries: 65.4% of the articles in this story line were focused on study cases for Africa, Asia, and Latin America. The other story line found in the ESF was tourism as a conservation tool; specifically, in 21.52% of articles. Some articles did not engage in any of the ESF story lines; thus, two other story lines were defined: critical approaches (5.06%), defined by articles mostly from political ecologists and political economists; and tourism as a public right (2.95%), where tourism was conceptualized as an end; that is, the point of it was not to boost the economy or promote conservation but to enjoy tourism per se. This story line is the closest approach to tourism as a cultural ES, despite these scholars not mentioning the ESF. That said, both of these story lines were a minority as the content in most of the articles matched the story lines of the ESF.

Nevertheless, a surprising finding of the review was that only one paper of the 237 that were analysed used the term ecosystem services in the title, abstract, or keywords [33]. Six of the seven papers mentioned in Section 3.2 did not appear with the search terms used in this second review because they did not mention nature tourism or ecotourism. Despite only one article using the term ecosystem services, 49 articles (20.6%) with parallel terms that can be likened to some kind of ES were found. These terms were classified into five different categories: (i) Knowledge: including some services related to environmental education, such as outdoor education; (ii) Natural resources: terms linked to ecological values, natural attractions, or goods; (iii) Nature-based experiences: related to wildlife watching, natural beauty, emotional values, escapism, or reflective moments, among others; (4) Place attachment: this category included all terms linked to sense of place, identity, and nature connection; (5) Supporting services: one article mentioned the importance of natural habitat in nature-based tourism. Most of those terms broadly fit within the ESF, especially as cultural ecosystem services or in the categories of Total Economic Value used in ecosystem valuation.

4. Tourism Research and Ecosystem Services: Light and Shade

The first question that arose out of the results was what tourism actually is. It became very clear that the tourism research community does not see it as an ecosystem service. However, in the ESF, a somewhat "schizophrenic" approach to tourism was found, it being defined as either a cultural

ES (nonmaterial) or a nature-based industry (consumptive). Explanations for the “schizophrenia” surrounding tourism in the ESF can be found in several directions. One reason for the ESF addressing tourism as a nonmaterial service is influenced by the “ecotourism bubble”, i.e., viewing ecotourism in a way that ignores its context [38]. The authors who first mentioned the bubble argued that “the environmental impacts are excluded from the ecotourist bubble by those who discuss—and especially those who support—ecotourism”.

This idea is reinforced by the evidence that most of the discourse in the reports analysed in Section 3.1 is favourable towards tourism development, with only few fragments warning about its environmental consequences. A darker explanation may be that the MEA was carried out under pressure from sponsors interested in presenting tourism as an environmentally friendly activity. Some of the institutions that sponsored the MEA, such as the World Bank or United Nations, embraced tourism as a development strategy and ecotourism as an alternative form of development in particular [39]. However, some scholars have also argued that the inaccurate definition of cultural ecosystem services in the ESF, especially in reference to tourism, was a consequence of the ESF being mainly based on natural science paradigms, which made it difficult to apply the concept to define cultural ecosystem services [40]. Coinciding with that, the ESF’s “schizophrenic” discourse on tourism would be the consequence of some intellectual laziness in defining cultural ES in an accurate way.

The argument of intellectual laziness would also explain an important inconsistency in the ESF with regard to tourism. All ES provide well-being to society in provisioning (food, water . . .), regulating (weather, protection . . .), and cultural (spiritual, aesthetic . . .) terms. However, tourism does not. The well-being of tourists is provided by other services, such as recreation, aesthetic appreciation, or even by some provisioning services, such as local gastronomy. Besides, the well-being of local communities that host tourists is provided by money from tourists rather than tourism itself, as the TEEB definition clearly highlighted. Therefore, in line with this, tourism cannot be considered an ecosystem service, but an industry that converts tourists’ well-being into money. Given the above, the CICES approach seems the most consistent framework to follow. It defines a more accurate approach by distinguishing between ecosystem services and ecosystem goods and benefits. Furthermore, tourism is neither considered an ecosystem service nor an ecosystem good. According to the CICES, tourism is an economic activity that produces and sells ecosystem goods and benefits—such as recreation or gastronomic activities—provided by ecosystem services.

Moreover, a clear disconnection between tourism research and the ESF was also found. However, most of the story lines about tourism used in the ESF matched the content of articles written by tourism scholars. Hence, the obvious question is why tourism scholars avoid the ESF. Most tourism scholars interested in nature-based tourism are social scientists: psychologists, anthropologists, and geographers, among others. Chan et al. [41] argued that the efforts made by ecologists to include economics led the ESF to adopt an essentially economic worldview, and in so doing they may have simultaneously closed the door to other social perspectives. This is reinforced by the fact that most of the tourism researchers who used the ESF in their papers were more from economic than social backgrounds. Hence, tourism community researchers, especially social scientists, may not feel comfortable with this narrow perspective and prefer to use freer terms. That said, some social scientists are becoming accustomed to approaching ES from more social points of view. They avoid the economic perspective to analyse cultural meanings and perceptions of ES [10,21,42]. Tourism research might feel more comfortable with the cited approaches than with research on the identification and valuation of ES. In those reviewed articles that used the ESF, two examples linking ES to well-being rather than focusing on economic valuation [32,33] were found. It is worth noting that Willis [33] is a geographer and not an economist, the only social scientist among the seven papers, the others being economists. In the aforementioned two papers, tourism was seen only as an argument to make people engage with natural environments, which were directly responsible for well-being, and the link between tourism and ES was therefore not a direct one.

Furthermore, ES-based studies usually address ecotourism as an ecosystem service, ignoring the other tourism story lines that were found in the ESF. This simplification must be offensive to tourism scholars since it is obvious to them that tourism is a complex and multifaceted phenomenon [43]. Therefore, the inclusion of tourism as a cultural ecosystem service may distance the tourism research community from the ESF rather than bringing it closer. Tourism scholars may feel more comfortable using the CICES approach, but the MEA and TEEB are still the most widely used frameworks in ES-based literature [16]. One article did reference the CICES [30], but the authors did not use the framework to conceptualize ES in any depth; rather, they used the MEA classification and recreation and ecotourism were defined as the same cultural ES.

All that being said, most of the articles that used the ESF in tourism journals engaged in the story line of tourism as a tool to promote ecological conservation. Furthermore, they engaged in what has been called a neoliberal approach, in line with Neoliberal environmentalism [44], which argues that conservation is worth it if its benefit value is higher than the exploitation value of extractive activities. This also fits with the TEEB perspective when it states that tourism might promote ecological conservation through private fees or by promoting alternative forms of development. Again, this approach might exclude some social scientists traditionally closer to left-wing or socialist approaches, such as critical theory or political ecology [45].

Differences between nature-based tourism and ecotourism are also a point of disagreement between the ESF and tourism research. Nature-based tourism is defined mainly as tourism within natural environments [46], whereas ecotourism is institutionally defined as “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education” (www.ecotourism.org). The tourism research community seems aware of this distinction, with a lot of literature attempting to define what ecotourism is [47,48] or the role of nature in nature-based tourism [49,50], while the ESF uses both terms indistinctly, especially in addressing (eco)tourism as a cultural service. Moreover, the ESF assumes ecotourism to be a form of recreation in many of its statements. However, recreation per se cannot be ecotourism, as recreation activities must be responsible with the environment or local people to become ecotourism. At most, recreation might be assumed to be nature-based tourism if it is assumed that nature-based tourists are only moved by recreational activities. However, nature-based tourism is more than recreation, as it implies movement outside the usual environment (www.unwto.org), whereas recreation can be enjoyed by local people as well. Once more, intellectual laziness is detected in the accuracy of terms used in the ESF.

Our review of the scientific tourism literature presented some limitations. Some articles linking tourism and ecosystem services may have been published in other journals that were not reviewed, such as those focusing on ecosystem services. However, it is likely that the tourism research community is more attentive to tourism journals. Hence, they will have a greater influence on the community and on future directions of research.

5. Conclusions

The current representation of tourism in the ESF is flawed and the representation of ES in the tourism literature is too narrow. This might hide impacts of tourism activities on the ecosystems and reinforce the tourism bubble. However, connecting ES and the tourism research community is very promising. As Willis [33] said: “This approach offers exciting opportunities for tourism research and practice to be based much more around well-being and what matters to people”.

The ESF can help tourism scholars to structure and assess the highly fragmented and case-study-based literature on tourism in relation to environmental issues. For instance, the ESF could host all papers focusing on the connections between tourism and nature under the same umbrella. Moreover, the tourism research community, which is mainly social sciences oriented, can help the ES-based literature to clarify and further specify some cultural ecosystem services. Tourism literature, and literature from other related social science disciplines, has a long tradition in analysing interactions

between human and nature in terms of preferences and perceptions, and many useful concepts and insights have been obtained over the years. However, tourism literature is not expressed in terms of ecosystem services, with the result that findings can hardly reach ES-based scholars.

I therefore conclude that the tourism research community should make an effort to integrate the ecosystem services perspective into their studies on natural resources. At the same time, the ESF should be more accurate in using and defining tourism-related concepts, or tourism scholars will not feel comfortable using them. In line with this, removing tourism from ES categories, as the CICES has done, could be helpful to this end.

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