

EXTENDED ABSTRACT

TOURISM IN PROTECTED NATURAL AREAS. ELEMENTS FOR ETHNOTOURISM DEVELOPMENT IN THE BIOSPHERE RESERVES OF MEXICO: A LITERATURE REVIEW

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1. INTRODUCCIÓN

The international Union for Conservation of Nature defines Protected Natural Areas (PNA) as “Clearly defined geographical spaces, recognized and managed through legal means, to achieve the conservation of nature with its associated ecosystem services and cultural values.” For the management and conservation of biodiversity, the world’s PNA are classified into six categories, which are adapted in each country (IUCN, 2023). According to the Ministry of Environment and Natural Resources, México has 226 PNA, classified into six management categories: 78 National Parks, 54 Flora and Fauna Protection Areas, 48 Biosphere Reserves (BR), 28 Sanctuaries, 13 Natural Resources Protection Areas and five Natural Monuments according to the National Commission of Protected Natural Areas (CONANP, 2024).

The BR modality was proposed in 1960 by “the international conservation community of the Man and the Biosphere Program (MAB) of UNESCO”, considering the protection measures in ANP of developing countries to be deficient at that time (Murillo and Orozco, 2006: 37). The BRs were implemented as sustainable conservation measures over time (Martinez, 2015) and are considered biocultural research centers (Halffter, 2011).

In Mexico, BR are established in representative ecosystems of the nation, little altered by anthropic action, whit endemic species, or in some risk category; with ecosystems that need to be preserved and restored (LGEEPA, 1988: 37). In fact, the Mexican government has given special importance to the decree and management of the BR, increasing their number between 2006 and 2024 from three to 48 decreed BR. For this reason, this bibliographic review article takes BR as a category of study, because its ethnobiological complexity, in many of them, has attracted the interest of tourist (Blanco *et al.*, 2015); in addition to, nature tourism is one of the activities proposed as a conservation strategy in the management programs of the Mexican PNA (CONANP, 2023).

The variants of nature tourism allowed in the BR are ecotourism, rural tourism, adventure tourism and ethnotourism, these differ from each other due to the space and objetct of enjoyment they offer (SEMARNAT, 2018). Particularly, ethnotourism “focuses on the current and past culture of the people” and is developed with various social groups and not exclusively whit indigenous peoples (Ramos, 2012: 31). Through ethnotourism, the tourist knows in depth the biocultural processes that human beings establish with ecosystems over a longer period (Morales, 2008).

Although the ethnobiological attributes and tourism dynamics in the BR have been studies by the scientific sector, in Mexico no analysis has been carries out between the information on tourism practice declared in the Tourism Programs. PNA and the real number of PNA where tourism is offered, less on the possible relationship between the ethnobiological studies that have been carried out in the BR and ethnotourism. Thus, this bibliographic review has three objectives: 1) Identify the central characteristics of the available research on tourism and ethnotourism in PNA at the global level, general context: 2) Analyze the information available on tourism and ethnotourism in the BR of Mexico: 3) Analyze the ethnobiological research carried out in the RB of Mexico to identify the possible field of insertion of ethnotourism.

2. METHODOLOGY

The web of Science database was used as the main source of scientific work, as it includes the largest amount of research from the most prestigious and high impact journals worldwide, and also contains “multidisciplinary, current and retrospective information” (Sevin and Turkey, 2004: 980) and widely cited research (Van Wee and Banister, 2015). For the search in Web of Science, a route was established using the words: tourism, ethnotourism or ethno-tourism and “natural protected areas” or “biosphere reserve”. To cover each objective of the bibliographic review, a mixed methodology was designed, qualitative and quantitative.

For the qualitative analysis of international research on tourism practice and ethnotourism specifically in the PNA and the BR as trend, based on the information from the Web of Science, the fist article written on the subject in 1995 was located (Barabé, 1995) and its evolution until July 2023.

The analysis of all national information was qualitative and quantitative. Initially, to answer the questions about tourism in the BR of Mexico, information was searched in the CONANP databases, a search was also carried out in the databases and the keywords tourism, ethnotourism, ecotourism, rural tourism, PNA, native peoples, ethnoscience,

ethnobiology and the name of each of the 48 Mexican BR. To complement the data that was not covered with scientific information, tourism activity was also tracked on Google for each of the 226 ANPs in Mexico and the 123 ANP management programs published up to July 2023 were reviewed (CONANP, 2023).

For the review of ethnobiological research in the Mexico's BR, the selection criteria were that the research included the ethnographic method and the development of some subdiscipline of ethnobiology such as: ethnobotany, ethnozoology, ethnoecology, ethnopharmacology (D'Ambrosio, 2014); ethnoedafology, ethnomycology, ethnoagronomy, ethnomedicine, ethnoveterinary science (Pardo *et al.*, 2012) or concepts such as traditional ecological knowledge, knowledge, use and management of natural resources (Ludwig and El-Hani, 2020).

The national information was organized into five databases: 1.- PNA with tourist activity by management category, 2.- BR with tourist activity, 3.- BR inhabited by indigenous peoples, 4.- BR where ethnobiological research has been carried out; and 5.- RB where ethnobiological research has been linked to tourism development. For the quantitative analysis of the databases, descriptive statistics were used using the Excel tool.

3. RESULTS

To cover the objectives of the review, the results were divided into 6 central points, starting from the general international context on the topic, and then explaining the national information.

3.1. CHARACTERISTICS OF SCIENTIFIC RESEARCH ON TOURISM IN THE PNA, INTERNATIONAL CONTEXT

The review was based on 108 research on tourism in PNA worldwide, including research on ethnotourism in BR, all from different disciplines. According to the review, the countries that have generated the most publications on the subject are Spain, Russia and the United States. The trend in the evolution of the topic was distinguished since 1995, when the first article on sustainable tourism in France was apparently written (Barabé, 1995) and until July 2023, thus, it was exemplified with at least one investigation per continent. Since the end of the 20th century, research on sustainable tourism has been mainly carried out in PNA (Barabé, 1995). At the beginning of the 21st century, research contemplated the leisure value attributed by tourists to PNA (Font, 2000). Later, writing was written about the planning and social and environmental consequences of tourism (Pérez *et al.*, 2004) and the economic valuation of tourist attractions (Ransom and Mangi, 2010), up to the current trend on tourism promotion strategies on the Internet. All of these investigations have been generated in response to local and specific concerns about tourism development in the ANP.

3.2. Main characteristics of Ethnotourism research in Protected Natural Areas, international context

In general, the analysis of global trends allowed us to locate that the Research on ecotourism did not aim to use the cultural wealth that indigenous peoples have on the management

of natural resources in the PNA; In response and in a complementary manner, ethnotourism covered that service. The central trend of research on ethnotourism is the analysis of the ways of life and traditional aspects that are interesting for tourists; For example, in Morocco, Africa (Bartha, 2006), the traditional practices and way of life of the Berbers are an ethnotourism attraction for visitors, or the traditional hunting practices among the Yupik-Chukchi, in Russia, which it's attractive for Western tourists who visit them (Panáková, 2019). There are other contrasting examples such as the ethnotourism offered at the Polynesian Cultural Center (CCP), in Hawaii, United States, where native Polynesians present a performance that fuses their history, tradition, biodiversity and identity with contemporary elements (Caneen, 2014). In general, an important trend was distinguished regarding ethnotourism as a social practice that responds to an environmental, social, historical, and political context.

3.3. Tourism activity in the ANP, Mexican context

According to CONANP (2019), in Mexico 100 of the 226 federal PNA have a tourism vocation. However, according to their management plans, this activity is carried out in 171 PNA; that is, in 75.6% of them and the national parks stand out, followed by the BR. In a complementary manner, after reviewing the Management Plans, the SIMEC database (2023) and tracking tourism activity on Google for each BR, it was found that tourism is currently practiced in 44 (91.6%) of the 48 BRs. information that differs from that shared by CONANP (March and Bustamante, 2018).

3.4. Native peoples in the Biosphere Reserves of Mexico

Part of the biocultural wealth that attracts tourists to the BR is the presence of native peoples, who sometimes serve as hosts. Of the 49 ANP with the presence of 36 indigenous peoples in Mexico (CONANP, 2020b), 20 are RB. Native peoples have generated ethnobotanical knowledge about medicinal, artisanal, ceremonial and food uses (SEMARNAT, 2012); but ethnoecological for the conservation of ecosystems, an aspect that has been of interest to the scientific community.

3.5. Ethno-scientific research in Biosphere Reserves of Mexico

Since 2000, the scientific community began to be interested in recording and analyzing the knowledge of the rural population of the BR and, based on the analysis of the registered traditional knowledge, they have proposed sustainable alternatives for management and in situ conservation of natural resources (Halffter, 2011). Of the 48 national BRs, only ten (20.8%) have conducted ethnoscientific research (Table 1). In these ten BRs, the development of 46 investigations was recorded: 23 ethnobotanical investigations, eight ethnozoological, six ethnobiological, five ethnoecological, three ethnoagronomic, one ethnoagroforestry and one ethnoherpetological.

3.6. Ethnotourism in Biosphere Reserves of Mexico

In the BRs, natural, cultural, and historical assets converge that are reflected in the ethnobiological knowledge of the peoples that inhabit them; that is, the tangible and intangible heritage that is attractive to travelers (Acuña *et al.*, 2019). Although ethnotourism experiences are few in Mexico, the most representative has been in the RB Montes Azules (RBMA), Chiapas.

4. DISCUSSION

Since 1995, research on tourism in global ANPs has followed trend topics, such as sustainability, tourist preferences, carrying capacity, among others, until reaching the current need to link ethnobiological knowledge to tourism management in the BR. The managers of the ANP in the world have implemented tourism as multipurpose strategies: on the one hand, the dissemination of scientific knowledge about ecosystems, as a means of environmental education for visitors and, on the other, the valorization of natural resources, which partially benefits the inhabitants of the ANP. Currently, the need to integrate the knowledge of residents about the management of their natural resources into the tourism management models in the PNA has been identified (González *et al.*, 2018); For this, in-depth ethnobiological research is necessary, which goes beyond descriptive and diagnostic research (D'Ambrosio, 2014). This supports the participation of the local population in an economic activity such as tourism, in addition, the local population considers that these.

Ethnobiological tourist attractions directly benefit them by stimulating the local economy (Arizpe *et al.*, 2019). Even with this, it is distinguished as insufficient that the ecological, geographical, and cultural factors of the BR are opportune for the development of ethnotourism and ecotourism in Mexico (Arizpe *et al.*, 2019). It must also be considered that, with or without tourism, the territory, ecosystems, and culture of the people are transformed. So, in terms of ethnotourism, the importance of starting from the local diagnosis and the approach of projects that include the participation of the population, their contributions and suggestions based on the knowledge that they consider important to share is reiterated.

5. CONCLUSIONS

Based on the review, it's distinguished that it's currently necessary to develop multidisciplinary and transdisciplinary ethnobiological research that surpasses the descriptive and diagnostic stage to give way to a purposeful ethnobiology. Regarding national information, although through the review it was identified that nature tourism is practiced in 91.6% of Mexico's BR, this differs from the information available in CONANP.

So, the missing data is completed with the information that the academy collects and organizes through scientific articles, information that ideally should be accessible to decision makers and the public. Regarding whether there are options to carry out ethnotourism in the Mexico's BR, the answer is yes. The BR of the country maintains a wide biocultural wealth and the willingness of indigenous peoples to improve their economic income through ethnotourism.

This review does not suggest the mandatory implementation of ethnotourism, but rather designing projects that prioritize the participation of the population, this allows the permanence and success of the projects in the long term. It is important to consider the ethical implications when developing ethnotourism among the indigenous peoples of the BR, a topic that academics highly highlight as a point of debate. However, this review made it possible to distinguish that indigenous peoples could decide on the traditional elements they share, or they combine the traditional with induced elements for the enjoyment of tourists and that both dynamics are valid.