Building Bridges Between Indigenous Peoples and Geotourism Activity: The Case of the Raposa Ethnoregion in Roraima, Brazil

Ana Sibelonia Saldanha Veras, Diogo Guedes Vidal, Nelson Barros, and Maria Alzira Pimenta Dinis

Abstract The state of Roraima in Brazil registers a significant number of Indigenous People (IP), distributed throughout a diversity of ethnoregions. Among them, the municipalities of Amajari, located near the region of the riverbed of Baixo Cotingo, and in the upper Ajarani River, stand out. These IP include the ethnic groups of *Macuxi, Ingaricó, Taurepang* and *Wapixanas*, which together aggregate a culturally well-developed contingent. In the municipality of Mucajaí lives another IP community, the *Yanomami,* recognized as the most isolated IP from South America. These communities live in two regions with potential for geotourism activity: the Extreme North Tourist Region of Brazil, covering an environment which is extremely rich in diversity of landforms, such as hills, plateaus, and valleys, and the Roraima Tourist Region in the Amazon Savanna forests. The objective of this research is to present the *Macuxi* and *Yanomami* communities in the region, which are engaged with ethnic tourism activities, highlighting their skills in promoting sustainable tourism management, namely geotourism. The methodology is qualitative exploratory, based on literature and document research in the division of ecotourism in the Mucajaí State Department for Planning. This review work was carried out from June to August 2021. Among the distinct realities relating to the environment, the results indicate that the IP from the Raposa Serra do Sol Indigenous Land feel the need for training

A. S. S. Veras
Faculty of Science and Technology, University Fernando Pessoa, Porto, Portugal
e-mail: 39347@ufp.edu.pt

N. Barros · M. A. P. Dinis
Faculty of Science and Technology, UFP Energy, Environment and Health Research Unit (FP-ENAS), University Fernando Pessoa, Porto, Portugal
e-mail: nelson@ufp.edu.pt

M. A. P. Dinis
e-mail: madinis@ufp.edu.pt

D. G. Vidal (✉)
Centre for Functional Ecology - Science for People & the Planet (CFE), TERRA Associate Laboratory, Department of Life Sciences, Faculty of Sciences and Technology, University of Coimbra, Coimbra, Portugal
e-mail: diogoguedesvidal@hotmail.com

M. F. Mbah et al. (eds.), *Indigenous Methodologies, Research and Practices for Sustainable Development*, World Sustainability Series,
https://doi.org/10.1007/978-3-031-12326-9_21

to better understand how to welcome the tourist, and, thus, attend the requirements of the Normative Instruction n. 03/2015, which establishes norms and guidelines regarding visitation activities for tourism purposes in indigenous lands (IL). The *Yanomami* indigenous community also seeks partnership with institutions, either under the form of events, workshops or meetings to conceptualize and carry out strategies allowing to structure the geotourism activity. Accordingly, tourism workshops were implemented, aiming to attend the planning and development of indigenous community tourism to offer a unique tourist experience, thus contributing to build bridges between the indigenous communities and the geotourism activity, in a broader context of the concept of sustainable development.

Keywords Indigenous peoples · *Yanomami* · *Macuxi* · Nature-Society Relations · Geotourism · Roraima

1 Introduction

There are between 370 and 500 million Indigenous People (IP) worldwide, in over 90 countries (The World Bank, 2021). According to the "The Indigenous World 2020" report (Mamo, 2020), IP represent 5% of the global world population. However, the same report states that they account for about 15% of the extreme poor, along with a life expectancy up to 20 years lower than of non-indigenous people worldwide. Despite these vital inequalities (Therborn, 2006), IP hold ancestral knowledge, transmitted from past generations and justified by living side by side with nature (von Seggern, 2021), crucial to learn how to live in balance and harmony with the natural ecosystem cycles. The need to respect and to live according to nature is part of the United Nations 2030 Agenda philosophy (United Nations, 2015), translated in the Sustainable Development Goal (SDG) 15, Life on Earth. The protection of the forests is crucial because it represents a vital resource from which about 1.6 billion people worldwide depend for subsistence. In this context, in addition to fostering new sustainable activities in which geotourism is part of, SDGs are globally linked to facilitating economic means and benefits that cover ethnic groups, since indigenous knowledge constitute valuable and dense inputs that act as a lens from the perspective of sustainable development (Newsome & Dowling, 2018; Santafe-Troncoso & Loring, 2021; Souza et al., 2021).

Located in the littoral-east coast of South America, Brazil is a country with a significant number of IP, more than 734,000 people. Among these are people who have recognized themselves as indigenous, mainly in the country's urban areas (IBGE - Instituto Brasileiro de Geografia e Estatística, 2010; The International Work Group for Indigenous Affairs (IWGIA), 2020). IP have rights guaranteed by the Brazilian Constitution of 1988 regarding the soil, lands and its territories (Supremo Tribunal Federal, 2020). IP live in demarcated and preserved areas, representing a significant strength to the culture and beliefs within their communities. Thus, ancestral knowledge anchored by IP may pave the way for more sustainable growth in the

context of tourism and heritage safeguard (Santafe-Troncoso & Loring, 2021; World Tourism Organization, 2019), with implications in poverty and subsistence of these communities.

Roraima, the northernmost Brazilian state, comprises one of the largest indigenous populations in the country, estimated at around 55,922 people, distributed through 46,505 hectares (IBGE - Instituto Brasileiro de Geografia e Estatística, 2010). The same source confirms that these Indigenous Lands (IL) represent 83.2% of the region and households, dispersed in two ethnic groups or linguistic trunks, the *Macro-Jê* and *Tupis* that unfold into *Ingaricô* and *Macuxi*, with *Macuxi* being the largest ethnic group. There are also the *Patamona*, *Taurepang*, *Waimiri-Atroari*, *Wapixana*, *Wai-Wai*, *Ye'Kuana* and *Yanomami* (i.e., semi-nomads of Tropical Rainforests) IP that have developed specific forms of relationship with the natural environment (Bortolon, 2014; Niewöhner et al., 2021).

Geotourism is considered a segment of tourism based on information on geological and geomorphological attractions, valuing the integration of the citizens' knowledge to promote the sustainable development of a specific region (Dowling, 2014; Dowling & Newsome, 2005; Hose, 2006; Veras et al., 2020). In this sense, IP are guardians of a natural heritage, offering opportunities to promote attitudes towards sustainability (Satapathy & Bhattacharya, 2021). Aligned with the need to protect the natural heritage, treaties with the mission to defend goods of interest to humanity and to raise the local citizen awareness on sustainability patterns to preserve recognized sites in indigenous communities are welcome (Matshusa et al., 2021). Thus, considering the Roraima state reality regarding the significant diversity of IP, this chapter aims to present the *Macuxi* community from the Raposa region in the Raposa Serra do Sol Indigenous Land, which already taking advantage from the ethnic tourism, as well as the *Yanomami* indigenous community, from Maturuca indigenous land, highlighting the IP skills for the promotion of sustainable tourism management, in particular geotourism. In this work, the *Macuxi* and the *Yanomami* were selected due to their culture and geoecosystem richness, which acts in favour of the geotourism activity. Considering this scenario, the research will present the *Macuxi* and *Yanomami* communities that already work with ethnic tourism, highlighting their skills in promoting sustainable tourism management, namely geotourism.

2 Methodology

2.1 Study Area

Two IP were addressed in this research: the *Macuxi*, who inhabit the Raposa Serra do Sol IL located in the North of the State of Roraima, in a region that occupies 7.5% of the soil in Roraima, and the *Yanomami* from Maturuca IL (Fig. 1). In these IL, the ecological vegetation composition is made of savanna, locally known as *lavrado* and, for the *Yanomami* region, the environment is characterized by a forest system

and extensive plains interrupted by hills and mountains with varying altitudes of 200 to 500 m, as well as the existence of floodplain areas (Morais & Carvalho, 2015). The area is favourable to agriculture (i.e., cattle raising, *Oryza barthii* rice growing, *Zea mays* corn crops, and *Vigna unguiculata* beans) also rich in gold, diamonds and cassiterite, which has been attracting miners clandestinely exploiting these deposits in indigenous areas (Aleixo et al., 2020; Alonso, 2013; Oliveira, 2020).

In this nook, the geological and geomorphological ecosystem groups were shaped by erosional flattening and chemical weathering processes linking the Roraima Group's hill and the mountain ranges to this landscape, which generated acidic and dystrophic soils used by this group (Holanda et al., 2014; Schaeffer et al., 2018).

Raposa Serra do Sol IL experienced a territory demarcation process in 1977, characterized by a long political and judicial battle (Alonso, 2013). This immense area of 1678,800 hectares is occupied by the IP of the *Macuxi, Patamona, Taurepang, Wapixanas* ethnic groups, illegal farmers and squatters. This political and judicial battle ended in 1996 and all contestations were concluded by the Federal Supreme Court, which gave victory to the IP (Yamada, 2008). The full right of traditional occupation refers to the territory, which characterizes IP as the first inhabitants depending on the land. It includes the right to use land and natural resources under their IL tenure systems, as well as the natural role in protecting nature (Supremo Tribunal Federal 2020). The rights of grouped IP to land also encompass economic, social, cultural, civil and political, individual, collective, and development rights (Okeke, 2021). Therefore, these lands may have particular uses, including the tourist activity

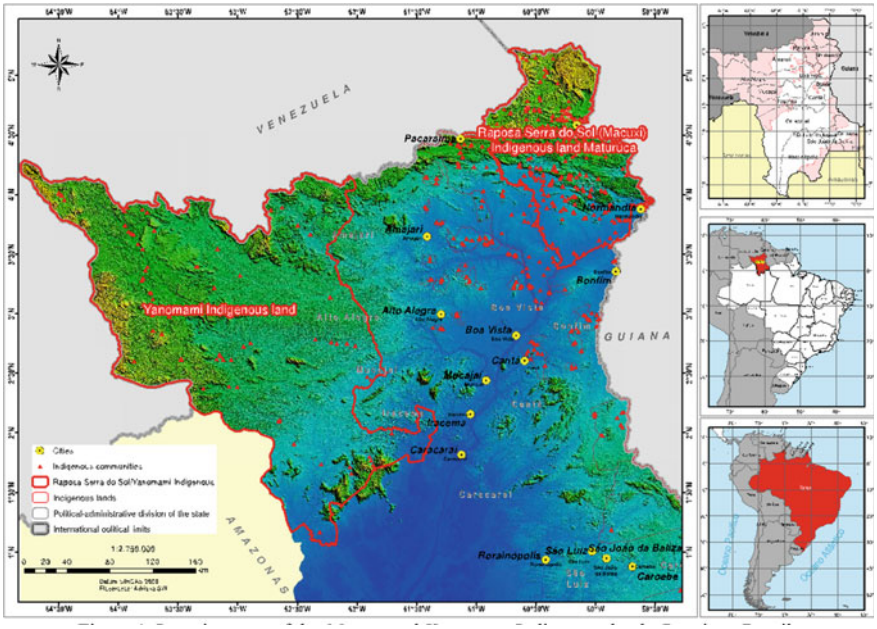

Fig. 1 Location map of the *Macuxi* and *Yanomami* indigenous lands, Roraima, Brazil

use, as long as satisfying the premises for operationalization and comply with the Normative Instruction n. 03/2015 and Law n. 11,771 (Presidency of Republic of Brazil, 2008).

Funai (2021), local institutions and indigenous women who care for the environment have been acting as supporters of the Yanomami ethnic group in the initiative to work with tourism, in a coalition force that brings together various actors around a sustainable project, discussed and submitted in March 2020. The first tourism model, whose protagonists are the managers of the business in their territories, the Yanomami themselves, will provide various services such as guides, porters and cooks. Indigenous women are also involved in the project, according to their President, Floriza da Cruz Pinto (Brasil. Ministério do Meio Ambiente, 2020).

The previous belief that IP should only live in the forest has changed. On the contrary, most national policies in Latin American countries, recognizing the indigenous person as the manager of natural resources and valuing ecological knowledge, triggering various actions, as in the 1980s Venezuelan environmental scientists, considering the Yanomami IP, asked the government to establish a National Park and a joint indigenous area for Yanomami who migrate to lands in the neighbouring country. These actions are supported by the UNESCO Man and the Biosphere Programme (UNESCO, 2020). In Brazil, the lands of the Yanomami ethnic group were recognized as official collective rights. The protection of their lives and survival and other activities, including tourism, through Decree n. 780, on May 15, 1992 (Presidência da República do Brasil, 1992), marks a breakthrough.

2.2 Research Methodology

This research is based on a qualitative exploratory approach to address indigenous communities and describing them in relation to the characteristics of their territories and local manufactured products and goods attracting the tourists. A literature analysis was carried out through journal articles, official websites and document research on the ecotourism division of the Roraima State Department for Planning in Brazil. This review work was carried out from June to August 2021.

Privileged information was obtained from the known Brazilian specialist Enoque Raposo—interlocutor and head of the Ecotourism Division GER/SEPLAN, author of a technical report produced in the Raposa Serra do Sol I Indigenous community (TIRSS)—a clay pot producer centre and an area to operate tourism at a professional level in the near future. Data from the analysis of the Tourist Visitation Plan process with the National Indian Foundation (Funai, 2015) was obtained from the Regional Coordinator of the National Indian Foundation (Funai) in Roraima. Regarding the indigenous names used in this chapter, they were transcribed as suggested by previous works from Barra (2020) and Senra (2020). For the production of the map, the Software ArcMap version 10.3 was used for the geographical cartographic projection (South America), central meridian -62º geodetic reference system: SIRGAS 2000.

The vectors used are IL available at the Funai website (Funai, 2021) and the cartographic base of the State of Roraima, scale 1:100,000, was downloaded at IBGE (2021). A numerical model of the Shuttle Radar Topography Mission (SRTM) shaded terrain was used.

3 Results and Discussion

Roraima is the state with the largest number of IP in Brazil, with more than 25,700 inhabitants. The ethnic groups in this area are: *Wapixana*, *Jaricuna*, *Taulipáng*, *Ingaricó*, *Waimiri*, *Atroari*, *Mawayána*, *Yanomami*, *Wai-Wai*, *Karafawyana*, *Yekuana* and *Makuxi* (Mamo, 2020). These ethnic groups represent a cultural diversity through the criteria of kinship and religion (i.e., cosmovision, the worldview). In this aspect, the worldview in the indigenous world is rooted in the places, in the houses where IP were born (i.e., emergence houses, houses of transformation, in the depths of the land, water and forests, in animals (Fakudze, 2021). IP share the territory, language, irrefutable physical differences and are responsible for the possession of a large geographical area, such as the *Macuxi* ethnic group who inhabit the valley of the Uraricoera River, the TIRSS territory. These IP make up a total of 72% in this region (Fleuri & Fleuri, 2018; Schröder, 2003; Silva, 2019; Spies, 2020). *Macuxi* are transnational people for geographical reasons, as they inhabit part of the Cooperative Republic of Guyana, in the basin of Rio Branco and Rio Rupunini, in Roraima. In Brazilian territory, namely in Roraima, the occupied area is divided into Raposa Serra do Sol IL, São Marcos IL (a large part) and the isolated Amajari and Alto Cauamé (Spies, 2020) lands.

3.1 The Macuxi

Embodied in traditional knowledge about nature, the behavior of this ethnic group is based on the best season for tourist activity, considering then about the animals (i.e., the best time for hunting and fishing; in which the flora season is visibly appreciable with fruits and flowers and it is worth mentioning the buriti vegetable as a resource widely used in the making of buildings, costumes for typical celebrations such as parixara dance and other typical manifestations, in the production of handicrafts such as basketwork; moment and ritual for the collection of clay. Despite the easy access to industrialized materials, this ethnic group (i.e., indigenous people) does not despise the abundant resources, IP dominate deep traditional knowledge linked to biodiversity and a vast knowledge about the land, sustaining a strong relationship with nature and influencing the innate responsibility for preservation, therefore, one can associate sustainability. As the largest population with about 22 thousand represent the majority of the Macuxi population and of this universe, about 53% are in IL, these IP are valuing the Macuxi language that belongs to the Karib trunk (i.e., spoken

in the North and Central region. Western Brazil, Bolivarian Republic of Venezuela, Cooperative Republic of Guyana, French Guiana, Suriname and part of Colombia. In strengthening the Macuxi language, the first Intercultural Licentiate course of the Insikiran Nucleus was implemented by the Federal University of Roraima as an incentive to train indigenous teachers, therefore it is a favorable bias in several areas in conducting tourist activities of preparation to receive the tourist in a moment of experience and immersion and musical rhythm known by the generic designation of forró, in addition to itineraries where the tourist gets to know the stories, legends, cuisine and indigenous drinks, the natural attractions await the tourist to discover waterfalls and bathing in a rejuvenating freshwater lake these activities are autonomously active in accordance with current legislation (Braga and Bethonico, 2018).

3.2 The Yanomami

The *Yanomami* IP are characterized by high mobility in ecosystems, a cosmovision stems from the understanding that the Earth is central for these IP and goes far beyond the simplistic representation of the environment elements, i.e., plants, animals, air and moon. According to the indigenous leader representing the *Yanomami*, Davi Kopenawa, stating "I am the man (i.e., shaman) of the forest and I defend my people and nature, I eat *Bertholleta excelsa*, *Mauritia flexuosa*, everything we need to live well", it is clear the strong bond between these IP and mother earth, since for the *Yanomami* everything is interconnected with invisible beings in the eyes of the *pajés* (shamans) (Kopenawa & Davi, 2015).

Isolation in *Yanomami* is called *moxihatetea*, a particular behaviour of this aloof and reclusive South American ethnic group, living in footpaths in Northern Brazil and Southern Venezuela, where they have been cultivating for over two hundred years in gardens (i.e., called *roça*–farm), plantain (*Musa spp*), sweet potato (*Ipomoea batatas*), cassava (*Manihot esculenta*), *buriti* (*Mauritia flexuosa*), and *açaí* (*Euterpe leracea*), and they feed on small animals such as howler monkey (*Alouatta guariba)*, *pacu* fish (*Piractus mesopotamicus*), wild pig and/or peccary (*Tayssu pecari*), curassow (*Mitu tomen*) and other species. Therefore, to understand the territoriality of the *Yanomami*, and despite the contact they have already made with urban society, it is important to understand thar they still did not develop strategies for food stocking. Their hunts are made at 1 km from the collective house (i.e., village or multifamily house) called *yano* or *xapono*, to avoid the depletion of hunting resources.

Agriculture was intensified in the last decades to observe edaphic conditions (i.e., not to tire the land) as a means of considering local water availability. This relationship with the land is very respectful to a sustainable culture, as described by Melo et al. (2010). In this complex web, the *Yanomami* plant crops such as fruits, roots and collect seeds in addition to fishing and hunting (Albert & Le Tourneau, 2007; Goulart, 2020). Currently, the *Yanomami* ethnic group is part of the cultural mosaic in the Maturuca IL. The pieces they made of fibre are available in virtual stores and can

be found in the Përi si book (Yanomami et al., 2019). The mentioned work explains the fungus that *Yanomami* women use in making basketry. This practice resulted in intercultural research produced by the Socio-Environmental Institute. The work is part of the *Saberes da Floresta* series (i.e., Knowledge of the Forest) and had the collaboration of researchers from the National Institute for Amazonian Research. The innovation of this work made by women is the use of a very strong fabric thread produced by a Përi si fungus. It is a rhizomorph structure, with a morphology similar to a mushroom, but which cannot be eaten, proliferating among the fallen leaves and rotten wood in the rainforest litter.

3.3 Initiatives in Favour of Tourism in the Macuxi *and* Yanomami

In the IL of *Macuxi* and *Yanomami*, the tourism activity is still emerging. However, to reach a desirable sustainable economic level, some initial steps are needed. In this context, some previous initiatives were conducted in the region in the last twenty years. The genesis of this movement in the community occurred in 1998 when the *Macuxi* ethnic group experienced the first workshop of the National Program for the Municipalization of Tourism as a way to encourage cultural recovery, understand tourist concepts and resulting in concomitant socio-economic development, benefiting the entire community. This workshop also stimulated the implementation of a tourism project for the community at the time, an initiative of the State of Roraima and the Brazilian Institute of Tourism (EMBRATUR), an opportune moment in which a group composed of 36 IP registered and made notes based on the worked concepts of "what tourism means and its benefits" and the attractions and rich handicrafts produced. In 2004, an indigenous village of Roraima used tourism as a way to recover the history and millenary traditions of the *Macuxí* people (Folha do Meio Ambiente, 2004), resulting in IP empowerment and social integration.

Recently, the Normative Instruction n. 03/2015 (National Indian Foundation—Funai, 2015) was introduced in support of the National Policy for Territorial and Environmental Management of Indigenous Lands (PNGATI) in the regulatory legislation for tourism visitation. The referred instruction establishes norms for the activity of visitation for touristic purposes, specifying the procedures for visitation plans, obligations, and prohibitions, by imposing state limits on IP and tourists. The legally enforceable PNGATI ensures the sociocultural autonomy of IP resulting from a participatory process of deliberation in the construction and structuring of the following goals: (i) protection of territory and natural resources; (ii) governance and indigenous participation; (iii) protected areas, conservation units and IL; (iv) prevention and recovery of environmental damage; (v) sustainable use of a policy by indigenous organizations to manage natural resources and indigenous productive initiatives; (vi) education, training, exchange, and environmental education highlighting and recognizing the rights guaranteed in Article n. 231 of the Federal Constitution

of 1988 (Brazil 2012; National Indian Foundation—Funai 2015; Supremo Tribunal Federal, 2020).

Based on the legislative instruments that guide the policy to the addressed IP, training courses were held in the TIRSS for handling and counting of fish, reinforcing the partnership with residents of the Sustainable Development Reserve, strengthening and transferring knowledge about the production and marketing of handicrafts, as well as the tourism practice, as required in joint visiting plans. The tourism activity in these regions should be carried out according to the principles of uses, customs and traditions of the ethnic groups recommended by the Normative Instruction n. 03/2015 that states that when an event of overlapping of IL with conservation units happens, the Visitation Plan shall be analysed by agencies such as the Chico Mendes Institute for Biodiversity Conservation and the Funai (Goulart, 2020) (Table 1).

The identified advance shown in Table 1 demonstrates an effort that came from the IP in favour of tourism. Therefore, it considers the non-migratory impact of IP to the city and how to adequately manage (i.e., innate sustainable management) their territories (Díaz et al., 2019).

In accordance with the state tourism policy, developed by the Official Tourism Agency in partnership with the State University of Roraima and the Federal University of Roraima, and in response to community requests converging with the autonomy of IP, workshops and training courses were held resulting in a booklet for the operationalization of tourism that started in 2019, resulting in the execution of the Action Plan and Guidelines for the Development of Tourism in Indigenous Lands, according to the temporality, specificity and needs of each community of the Extreme North of Brazil tourist region. Such actions benefited from the knowledge of the National Funai and the Federal Prosecution Service. Thus, these actions had a wide scope, through subsidized exchanges, knowledge, experiences, and the point of view of the participants, which can be considered an achieved milestone regarding the evolution of the *Macuxi* IP (Table 2).

Among the available courses, Food Handling was the one with the largest number of people who chose to attend it. This course worked on basic principles such as good personal hygiene, sanitary safety practices, with the philosophy of not attacking or underestimating the IP culture, based on millenary mechanisms for the conservation and handling of food (Semeghini et al., 2020). The second most frequented course was the one to make Clay Pots as it is a tradition of the community in TIRSS to commercialize these items. In this sense, there is a whole context in the process of clay collection, of the sacred place with offerings to the clay's grandmother (i.e., *Ko'kono*), and the space where they are produced in absolute silence accompanied by rituals. This production process ends through drying in fires and ovens, so these procedures preserve the pans from cracking. For the training to be effectively carried out, there was an intense mobilization to identify the women mastering the arts involved in these practices, to rescue and consolidate the culture to the youngest (Barra, 2020).

Table 1 Timeline of official advances that favoured the indigenous population in Roraima, Brazil

1970	1998	2012	2020	2021
Indigenous Council of Roraima -CIR	First Tourism Workshop	Decree n. 7747	Leadership training	Projects filed with Funai
The creation of the CIR-to strengthen, defend the rights and autonomy of indigenous peoples	Fax Community (Indigenous Land Raposa Serra do Sol) 36 participants Realization: Embratur/Ger/Seplan-Codetur	Institute the National Environmental and Territorial Management Policy of Indigenous Lands	Partnerships: Ger/Ufrr/Ufam/Seplan-Detur/Sei/Uerr Preparation of tourism operational booklet; Technical visits	Process: 08620.002445/2020-91 Tourist Visit Plan Movie release: The Last Forest- a film that gives visibility to the situation of the Yanomami ethnic group

Table 2 Training of environmental and tourist agents (2019–2020)

Partnerships GER/SEPLAN-DETUR SENAR/UERR/UFRR/ CBMRR (*Short course, Workshop and Technical visit*)	Benefited indigenous community	Course offered	Trained IP
• Introduction to tourism; • Tourist leading in natural areas; • Basics of first aid; • Welcoming; • Crafts and ethno jewellery; • Recognition of tourist resources; • Formulation of tourist itineraries; • Tourism flow monitoring	*Água Fria*, *Pedra Preta*, *Cajú*, *Chuí*, *Caraparú*, *Warandá*, *Flexal*, *Nova Vida I and II*, *Arapa*, *Santa Creuza*, *Santa Luiza*, and *Barro*	Food handling	115
	Bananal, *Boca da Mata*, and *Nova Esperança*	Food handling	64
	Raposa I	Making of clay pots	30
	Guariba	Food handling	24
Total	17	04	233

Source Data collected from the Report of the Tourism Program in Indigenous Lands GER/SEPLAN-DETUR. National Rural Learning Service, State University of Roraima—UERR, Federal University of Roraima—UFRR, Military Fire Department of Roraima—CBMRR

3.4 Study Limitations

This study is supported in the consultation of official and scientific documents that demonstrate how geotourism and local activities may favour the engagement of IP and promote their recognition and empowerment. Despite this importance, contacting with IP and apply some interviews regarding the citizens experience in these activities will be necessary in the future, to provide accurate information that can be used to understand if the initiatives were effective. However, to conduct research with IP, the normative instruction n. 01/1995 (FUNAI - National Indian Foundation, 1995) must be respected: national or foreign researchers must submit a certified copy of personal documents and/or passport, curriculum vitae, medical certificates of endemic diseases in the area or contagious diseases, copies of curriculum vitae, letter of inquiry to leaders and, if isolated Indians, send correspondence to the Department of Isolated Indians DII-FUNAI. Such documentation must accompany 2 (two) copies of scientific articles in the intended area to develop the research project. These bureaucratic steps take an average of 12 months.

4 Conclusions

The two particular ethnic groups from Roraima, Brazil addressed in this chapter, *Macuxi* and *Yanomami*, are IP with rights and known as promoters of environmental preservation in their territories, constituting a mantle of traditional knowledge. Aiming to conduct professional tourism among the IP community, specific courses were supported by the Brazilian public institutions and made available to communities, art masters and organizations of women who work with handicrafts sustainably, resulting in an empowerment of these groups towards sustainability change in these communities. These courses acted as workshops of sustainable development.

The emphasis on valuing cultures, types of organizations, sustainable ways of life guaranteed by the PNGATI and Normative Instruction n. 03/2015, a deployment tool in support of the tourism policy, established guidelines for the elaboration of the tourist visitation plans. These must have clear objectives and justifications, and a distribution of competences in the community, considering the social and gender aspects, partners involved, delimitation of the itinerary and object of visits, conditions of transport, accommodation, food, business plan, first aid service strategy, manual of good practice conduct for visitors and the community, among other necessary requirements. Consequently, once the visitation plan is approved by the Funai, all these procedures revert to IP income. This specific aspect is extremely important in the context of tourism to be advanced within IP communities, contributing to alleviate poverty (SDG 1) and overall sustainable development. The mentioned partnerships addressed with local authorities (SDG 17) help supporting the sustainability in these communities.

Building bridges between IP and geotourism may be a path to recognize the value of these communities in sustainable development within ethnoregions and IL and to enhance sustainable tourism. Accordingly, geotourism should be seen as a new opportunity that can work in harmony with other tourism activities, assisting in understanding the depth of the Amazon world on a local and global scale through the natural heritage present in indigenous areas and to implement SDGs able to allow to advance sustainable development. It is noteworthy that more research is needed on the subject and that the results can increase the strength of geotourism activities.

References

Albert, B., & Le Tourneau, F. M. (2007). Ethnogeography and resource use among the Yanomami: Toward a model of "reticular space." *Current Anthropology, 48*, 584–592. https://doi.org/10.1086/519914

Aleixo, E., dos S. Lima, A., & Aureliano, I. C. (2020). Mortes, invasões e garimpo em terras indígenas no estado de Roraima: entre mobilizações étnicas e conflitos sociais [Deaths, invasions and mining in indigenous lands in the state of Roraima: between ethnic mobilizations and social conflicts]. *Vukápanavo Rev Teren,* 13–36.

Alonso, V. F. (2013). *Roraima: Movimento indígena, demarcação de terra e conflito social (Roraima: Indigenous movement, land demarcation and social conflict).* Pontifícia Universidade Católica de São Paulo.

Barra, M. C. A. (2020). O que cabe na pausa: O sensível no modo de fazer conhecimento das parteiras e parteiros indígenas da região das Serras na terra indígena Raposa Serra do Sol [Sensitive in the way of making knowledge of the indigenous midwives and midwives of the Serras region in the Raposa Serra do Sol indigenous land]. Universidade Federal de Minas Gerais.

Bortolon, D. M. O. (2014) Terra Indígena Araçá/Roraima: continuidades e transformações envolvendo coletividades Macuxi [Araçá/Roraima indigenous land: Continuities and transformations involving Macuxi communities]. Universidade do Vale do Taquari—Univates.

Braga, M. G. G., & de M. Bethonico, M. B. (2018). Uso da palha de buriti: Manejo, preservação e tradição do povo Macuxi da comunidade indígena Campo Alegre—Roraima [Use of buriti straw: management, preservation and tradition of the Macuxi people from the Campo Alegre indigenous community—Roraima]. *Rev Percursos, 19*, 177–205. https://doi.org/10.5965/1984724619392018177

Brasil. Ministério do Meio Ambiente. (2020). Instituto Chico Mendes de Conservação da Biodiversidade [Chico Mendes Institute for Biodiversity Conservation]. https://www.gov.br/icmbio/pt-br. Accessed November 12, 2020

Brazil. Presidência da República. (2012). Institui a Política Nacional de Gestão Territorial e Ambiental de Terras Indígenas—PNGATI, e dá outras providências [Establishes the National Policy for Territorial and Environmental Management of Indigenous Lands—PNGATI, and other measures]. Presidência da República.

da Yanomami, F. C. P., Campos, F. P., & Moura, F., et al. (2019). Përisi : përisiyoma pë wãha oni = Marasmius yanomami : o fungo que as mulheres Yanomami usam na cestaria [Përisi: përisiyoma pë wãha oni = Marasmius yanomami: the fungus Yanomami women use in basketwork]. Instituto Socioambiental.

de Oliveira, W. V. (2020). Ideality and reality of popular action (Petition N. 3.388/RR) in the sphere of the Brazilian Supreme Court. *Rev Estud Jurídicos UNESP, 39*, 29–58.

de Souza, N. N. S., Irving, M. D. A., de Souza, C. D. M., & de Lima, M. A. G. (2021). Turismo étnico indígena: Definición conceptual, potencialidades y desafíos en Brasil [Indigenous ethnic

tourism: Conceptual definition, potential and challenges in Brazil]. *Turismo - Visão e Ação, 23*, 308–328. https://doi.org/10.14210/rtva.v23n2.p308-328

de Spies, I. M. S. (2020). Ser Macuxi e Wapixana na Fronteira: Ausência de Documentação, Identidade e Cidadania [Ser Macuxi and Wapixana on the Border: Lack of documentation, identity and citizenship]. Appris editor.

Díaz, S. M., Settele, J., & Brondízio, E., et al. (2019). The global assessment report on biodiversity and ecosystem services: Summary for policy makers. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

dos Silva, N. C. S. (2019). Conhecer a História e o Modo de Vida dos Povos Indígenas de Roraima: Etnias Macuxi e Wapichana [Knowing the history and way of life of the indigenous peoples of Roraima: Macuxi and Wapishana ethnicities]. *Revista Eletrônica Casa de Makunaima, 2*, 91-103

Dowling, R. K., & Newsome, D. (2005). Geotourism. *Geotourism,* 1–260

Dowling, R. K. (2014) Global geotourism—an emerging form of sustainable tourism. *Czech Journal of Tourism, 2*. https://doi.org/10.2478/cjot-2013-0004

Fakudze, C. (2021). The influence of local worldview presuppositions on learners' conceptions of selected mechanics topics. *South African Journal of Education, 41*, 1–11.

Fleuri, R. M., & Fleuri, L. J. (2018). Learning from Brazilian indigenous peoples: Towards a decolonial education. *The Australian Journal of Indigenous Education, 47*, 8–18. https://doi.org/10.1017/jie.2017.28

Folha do Meio Ambiente. (2004). Aldeia indígena de Roraima utiliza o turismo como forma de recuperar a história e as tradições milenares do povo macuxí [Indigenous village of Roraima uses tourism as a way to recover the history and millenary traditions of the Macuxis people]. In: *Resgatando o passado pelo ecoturismo.* http://folhadomeio.com.br/2004/04/resgat101/. Accessed August 17, 2021.

FUNAI—National Indian Foundation. (1995). Normative Instruction n. 01/1995. https://www.ufrgs.br/bioetica/funai.htm. Accessed November 17, 2021

Funai. (2021). Fundação Nacional do Índio [National Indian Foundation]. https://www.gov.br/funai/pt-br. Accessed August 17, 2021.

Fundação Nacional do Índio – Funai. (2015). Estabelece normas e diretrizes relativas às atividades de visitação para fins turísticos em terras indígenas [Establishes norms and guidelines relating to visitation activities for tourist purposes in indigenous lands]. Ministério da Justiça e Segurança Pública.

Goulart, L. T. (2020). Os Yanonami e o projeto Yaripo: transformações e turismo em Maturacá [The Yanonami and the Yaripo project: transformations and tourism in Maturacá]. Universidade Federal de São Carlos—UFSCar.

Holanda, J. R., Marmos, J. L., Maia, M. A. M. (2014). Geodiversidade do Estado de Roraima [Geodiversity of Roraima State]. CPRM.

Hose, T. A. (2006). Geotourism and interpretation. In: R. K. Dowling, D. B. T.-G. Newsome (Eds.), *Geotourism: Sustainability, impacts and management* (pp. 221–241). Butterworth-Heinemann.

IBGE - Instituto Brasileiro de Geografia e Estatística. (2010). O Brasil Indígena [Indigenous Brazil]. https://indigenas.ibge.gov.br/estudos-especiais-3.html. Accessed August 16, 2021.

IBGE - Instituto Brasileiro de Geografia e Estatística. (2021). Bases cartográficas contínuas - Estados [Continuous cartographic bases - States]. https://www.ibge.gov.br/geociencias/cartas-e-mapas/bases-cartograficas-continuas/15807-estados.html?edicao=16036&t=sobre. Accessed August 17, 2021.

Kopenawa, A., & Davi, B. (2015). A queda do céu: Palavras de um xamã yanomami [Fall from Heaven: Words of a Yanomami Shaman]. Companhia das Letras.

Mamo, D. (2020). *The Indigenous World 2020*. The International Work Group for Indigenous Affairs (IWGIA).

Matshusa, K., Thomas, P., Leonard, L. (2021) A methodology for examining geotourism potential at the Kruger National Park, South Africa. *GeoJournal of Tourism and Geosites, 34*, 209–217. https://doi.org/10.30892/gtg.34128-639

Melo, V. F., Francelino, M. R., Uchôa, S. C. P., et al. (2010). Soils in the yanomami indigenous area in the mid-Catrimani river—Roraima. *Revista Brasileira De Ciencia Do Solo, 34*, 487–496. https://doi.org/10.1590/s0100-06832010000200022

Morais, R. P., & de Carvalho, T. M. (2015). Aspectos dinâmicos da paisagem do lavrado, nordeste de Roraima [Dynamic aspects of the lavrado landscape, northeast of Roraima]. *Geociências, 34*, 55–68.

Newsome, D., & Dowling, R. (2018). Geoheritage and geotourism. In E. Reynard & J. Brilha (Eds.), *Geoheritage: Assessment, protection, and management* (pp. 305–321). Elsevier.

Niewöhner, J., Biedermann, S., Heitger, A. (2021). More-than-human eating. *Berliner Blätter, 84*, 35–48. https://doi.org/10.18452/22955

Okeke, C. E. (2021). Rethinking the rights of indigenous peoples in international law: Africa in perspective. *African Journal of Law and Human Rights, 5*, 40–54.

Presidência da República do Brasil. (1992). Homologa a demarcação administrativa da Terra Indígena YANOMAMI, nos Estados de Roraima e Amazonas [Approves the administrative demarcation of the YANOMAMI Indigenous Land, in the States of Roraima and Amazonas]. Planalto.

Presidência da República do Brasil. (2008). Regulamento Dispõe sobre a Política Nacional de Turismo, define as atribuições do Governo Federal no planejamento, desenvolvimento e estímulo ao setor turístico; revoga a Lei no 6.505, de 13 de dezembro de 1977, o Decreto-Lei no 2.294, de 21 de novembro [Regulation Provides for the National Tourism Policy, defines the Federal Government's attributions in planning, developing and stimulating the tourism sector; revokes Law no. 6505, of December 13, 1977, Decree-Law no. 2294, of November 21]. Presidência da República do Brasil.

Santafe-Troncoso, V., & Loring, P. A. (2021). Indigenous food sovereignty and tourism: The Chakra route in the Amazon region of Ecuador. *Journal of Sustainable Tourism, 29*, 391–410. https://doi.org/10.1080/09669582.2020.1770769

Satapathy, D. A., & Bhattacharya, P. (2021). Indigenous eco-legends in contemporary North East Indian literature: Lessons in ecological conservation and preservation. *Academia Letters*. https://doi.org/10.20935/al1161

Schaeffer, C. E. G. R., do V. Júnior, J. F., & Melo, V. F., et al. (2018). Solos, ambientes e povos indígenas de Roraima: uma etnoecologia entrelaçada [Roraima's soils, environments and indigenous peoples: an intertwined ethnoecology]. In: Batista KD, Lumbreras JF, Coelho MR, et al. (eds) Guia de Campo da XI Reunião Brasileira de Classificação e Correlação de Solos: RCC de Roraima (pp. 165–182). Embrapa.

Schröder, P. (2003). Pemongon Patá: Território Macuxi, rotas de conflito [Pemongon Patá: Macuxi territory, routes of conflict]. *Revista De Antropologia, 46*, 289–293. https://doi.org/10.1590/s0034-77012003000100010

Semeghini, M. G., de Menezes, M. A. O., & de Souza, C., et al. (2020). Guia prático: alimentação escolar indígena e de comunidades tradicionais [Practical guide: indigenous school meals and traditional communities]. Secretaria de Agricultura Familiar e Cooperativismo.

Senra, E. B. (2020) "Santa Maria é floresta igual aqui" : reflexões sobre a mobilidade Yanomae ["Santa Maria is the same forest here": Reflections on Yanomae mobility]. Universidade de Brasília.

Supremo Tribunal Federal. (2020). Constituição da República Federativa do Brasil [Constitution of the Federative Republic of Brazil]. Supremo Tribunal Federal, Secretaria de Documentação.

The International Work Group for Indigenous Affairs (IWGIA). (2020). *Indigenous peoples in Brazil*. https://www.iwgia.org/en/brazil/3616-iw-2020-brazil.html. Accessed August 17, 2021.

The World Bank. (2021). *Indigenous peoples*. https://www.worldbank.org/en/topic/indigenouspeoples. Accessed August 16, 2021.

Therborn, G. (2006). *Inequalities of the World*. Verso.

UNESCO. (2020). *Man and the Biosphere (MAB) Programme*. https://en.unesco.org/mab. Accessed October 13, 2021.

United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. Resolution adopted by the General Assembly on 25 September 2015, A/RES/70/1. Geneva

Veras, A. S. S., Vidal, D. G., Barros, N., & Dinis, M. A. P. (2020). Geodiversidade como recurso do geoturismo: uma experiência na região Central de Roraima, Brasil [Geodiversity as a geotourism resource: an experience in the Central region of Roraima, Brazil]. In: M. Oliveira, N. Carvalho, O. Santos (Eds.), Atas do IV Congresso Internacional Educação, Ambiente e Desenvolvimento (pp. 384–390). OIKOS – Associação de Defesa do Ambiente e do Património da Região de Leiria, Leiria.

von Seggern, J. (2021). Understandings, practices and human-environment relationships—a meta-ethnographic analysis of local and indigenous climate change adaptation and mitigation strategies in selected pacific island states. *Sustainability, 13*, 1–15. https://doi.org/10.3390/su13010011

World Tourism Organization. (2019). *Recommendations on sustainable development of indigenous tourism*. World Tourism Organization (UNWTO).

Yamada, E. M. (2008). *International Human Rights Law in the context of indigenous peoples: Moving from legislation to implementation*. The University of Arizona.