

## The Practice of Geotourism in the Jequitinhonha Valley as an Alternative for Appreciation of the Geomining Heritage and Regional Ethnodevelopment

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### Abstract

Geotourism is a segment of tourism activity that is growing at national and international levels, based on the dissemination of knowledge, conservation and appreciation of the geological heritage through the development of sustainability practices. It is noteworthy that this type of tourism can be configured as an important instrument for ethnodevelopment of traditional communities, especially for those that maintain an intrinsic relationship with the geological and mining heritage, as is the case with several population centers of the *Vale do Jequitinhonha* (Jequitinhonha Valley), MG. The aim of this work was to investigate the relationships between traditional *quilombola* and gold miners communities and the geomining heritage of the valley and their contributions to the practice of geotourism as an alternative for regional ethnodevelopment. The methodological procedures adopted comprised bibliographic research; field recognition, with semi-structured interviews; analysis of the relationship of traditional communities with geomining heritage; data systematization; and critical reflection on the information gathered. The analysis of the results shows that the target communities of the research have an intrinsic relationship with the geomining heritage and that the practice of geotourism, understood as an alternative of ethnodevelopment, presents high potential of appropriation by the local traditional populations in their exercise of an ethnopolitical leading role. Initiatives of this kind are already underway, albeit punctual and incipient, requiring actions of planning and intensification of dialogue with those involved. Hopefully the results obtained in the research may contribute to bring a new perspective of this theme by public managers, tourism sector agents, the scientific community and local traditional groups.

**Keywords:** Geotourism, geological and mining heritage, ethnodevelopment; traditional communities, *Vale do Jequitinhonha*.

### Resumo

#### A Prática do Geoturismo no Vale do Jequitinhonha como Alternativa de Valorização do Patrimônio Geomineiro e Etnodesenvolvimento Regional

O geoturismo é um segmento da atividade turística em ascensão em âmbito nacional e internacional, pautado na difusão do conhecimento, na conservação e na valorização

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do patrimônio geológico por meio do desenvolvimento de práticas de sustentabilidade. Vale ressaltar que esse tipo de turismo pode se configurar como importante instrumento para o etnodesenvolvimento de comunidades tradicionais, especialmente para aquelas que mantêm uma relação intrínseca com o patrimônio geológico e mineiro, como é o caso de diversos núcleos populacionais do Vale do Jequitinhonha, MG. O objetivo deste trabalho foi investigar as relações das comunidades tradicionais de quilombolas e garimpeiros com o patrimônio geomineiro do Vale e suas contribuições para a prática do geoturismo como uma alternativa de etnodesenvolvimento regional. Os procedimentos metodológicos adotados compreenderam pesquisa bibliográfica; reconhecimentos de campo, com realização de entrevistas semiestruturadas; análise da relação das comunidades tradicionais com o patrimônio geomineiro; sistematização de dados; e reflexão crítica sobre as informações levantadas. A análise dos resultados aponta que as comunidades alvo da pesquisa mantêm uma relação intrínseca com o patrimônio geomineiro e que a prática do geoturismo, compreendida como alternativa de etnodesenvolvimento, apresenta elevadas potencialidades de apropriação pelas populações tradicionais locais em seu exercício de protagonismo etnopolítico. Já se atestam iniciativas desse cunho, embora pontuais e incipientes, demandando ações de planejamento e de intensificação do diálogo com os atores envolvidos. Espera-se que os resultados obtidos na pesquisa possam contribuir para despertar um novo olhar para essa temática pelos gestores públicos, agentes do setor turístico, comunidade científica e grupos tradicionais locais.

**Palavras-chave:** Geoturismo; Patrimônio geológico e mineiro; Etnodesenvolvimento; Comunidades tradicionais; Vale do Jequitinhonha.

## Resumen

### La práctica del geoturismo en el Valle del Jequitinhonha como una alternativa de valorización del patrimonio geominero y etnodesarrollo regional

El geoturismo es un segmento de la actividad turística en ascenso a nivel internacional y nacional, pautado en la difusión del conocimiento, conservación y valorización del patrimonio geológico por medio del desarrollo de prácticas de sustentabilidad. Este tipo de turismo puede configurarse como un importante instrumento para el etnodesarrollo de comunidades tradicionales, especialmente para aquellas que mantienen una relación intrínseca con el patrimonio geológico y minero, como es el caso de diversos núcleos poblacionales del Valle del Jequitinhonha (Brasil). El objetivo de este trabajo fue investigar las relaciones de las comunidades tradicionales de *quilombolas* y mineros con el patrimonio geominero del Valle del Jequitinhonha y sus contribuciones a la práctica del geoturismo como una alternativa de etnodesarrollo regional. Los procedimientos metodológicos adoptados incluyeron investigaciones bibliográficas; reconocimientos de campo con entrevistas semiestruturadas; análisis de la relación de las comunidades tradicionales con el patrimonio geominero; sistematización de datos; y reflexión crítica sobre la información planteada. El análisis de los resultados apunta que las comunidades objetivo de la investigación mantienen una relación intrínseca con el patrimonio geominero, y que la práctica del geoturismo, comprendida como una alternativa de etnodesarrollo, presenta elevadas potencialidades de apropiación por las poblaciones tradicionales locales en su ejercicio de protagonismo etnopolítico. Ya se atestiguan iniciativas de este tipo, aunque puntuales e incipientes, lo que requiere acciones de planificación y de intensificación del diálogo con los actores involucrados. Se espera que los resultados obtenidos en la investigación puedan contribuir a despertar una nueva mirada a esta temática por los gestores públicos, agentes del sector turístico, comunidad científica y grupos tradicionales locales.

**Palabras clave:** Geoturismo; Patrimonio geológico y minero; Etnodesarrollo; Comunidades Tradicionales; Valle del Jequitinhonha.

## INTRODUCTION

In recent decades, initiatives for the conservation of geological and mining heritage have been disseminated nationally and internationally through the work of governmental and academic institutions. These initiatives include: the dissemination of geological knowledge (from the inventory of places of geological and geomining interest); the interpretative signaling of this type of heritage; the development of geotourism itineraries; the creation of geoparks; the listing of geological monuments, and the performance of academic studies and educational projects including researchers and local communities. Among these initiatives, geotourism can be considered a relevant practice for traditional communities, since this activity contributes to ethnodevelopment by including the communities in the construction and participation in projects aiming at the appreciation and conservation of the geomining heritage.

Ethnodevelopment is based on the principle of seeking autonomy of traditional communities, since they assume a dynamic within this larger paradigm of participation in projects, estimating not only the economic value of relationships, but also the social and cultural values involved in them. In this sense, considering the context of sociopolitical emergence of traditional peoples and communities, which links them to preparation and consolidation in the intra- and extraregional contexts of alternative cultural landscapes defined in the lines of contemporary cultural geography (Deus, 2012; Deus, Silva, Neves, & Barbosa, 2018), it becomes necessary to increasingly engage conservation initiatives of geological and mining heritage in conversation with the vision and experience of these local populations.

It is relevant to point out that such leading role imbricated into the ethnodevelopment of traditional peoples and communities has been strongly evidenced by the construction and management of ethno-tourism projects in the national territory, which, it is worth mentioning, can improve sociocultural practices. Standing out above all are projects and activities with indigenous peoples and *quilombola*<sup>1</sup> nuclei, whose traditionalism has been recognized in the governmental sphere, from the oldest and already consolidated legislations.

In Minas Gerais, the discussions about appreciation of the geomining heritage have been spreading in the last years, although the discussion developed about initiatives that include traditional communities is still incipient in the scope of such questions and debates. The Jequitinhonha Valley mesoregion, located in the northeastern portion of the state, stigmatized as a “poverty valley” from an “economist” perspective, has in particular a rich geological and mining heritage associated with the sociocultural diversity of its traditional communities, which often is not visible to society. Noteworthy in this context are also the historical processes of marginalization that affected the mining communities and that contributed to the identity denial of these communities, which also hampered their self-recognition as *quilombola* groups.

This said, the objective of this work was to investigate the relationships between traditional *quilombola* and gold mining communities and the Jequitinhonha Valley geomining heritage and their contributions to the practice of geotourism

1. A *quilombola* is a resident of a *quilombo* in Brazil. *Quilombolas* are the descendants of Afro-Brazilian slaves who escaped from slave plantations that existed in Brazil until abolition of slavery in 1888. The most famous quilombola was Zumbi and the most famous quilombo was Palmares.

as an alternative for regional ethnodevelopment. To do so, we started from the methodological conceptions of geotourism and ethnogeography aimed at understanding the realities from a multiplicity of perspectives, considering both data and information from scientific studies as for the geographycities of subjects who experience and build their realities.

The methodological procedures adopted for the research included: bibliographic, cartographic and documentary research on the theme and area of study; regional toponymic inventory; field recognitions, which involved observations and semi-structured interviews to investigate the relationship of the research's target audience with the geomining heritage and geotouristic practices in the municipalities of Angelândia, Diamantina, Coronel Murta, Araçuaí and Pedra Azul. The interviews were conducted between 2015 and 2017, on the occasion of field work of the Graduate Program in Geography at Universidade Federal de Minas Gerais (UFMG). The target audience of the interviews were leaders of *quilombola* communities of Alto dos Bois and Quartel do Indaiá, domiciled, respectively, in the cities of Angelândia and Diamantina, and in the gold mining communities we interviewed community leaders of Extração and Quartel do Indaiá in Diamantina; Coronel Murta mining workers Association; and Araçuaí miners and local leaders of Pedra Azul, totaling 12 qualitative interviews with key informants. The questions investigated included: reasons that led to the decline of mining activity, in the local and regional context; representativeness of extractive activity; perception about geodiversity attributes; reports of tourist experiences in the region; and proposals for regional tourism development. Finally, contextualization and systematization of primary and secondary data were carried out, as well as questioning and critical reflection on the research concepts and topics.

## **GEOTOURISM, GEOMINING HERITAGE AND ETHNODEVELOPMENT**

Geotourism is an emerging form of tourism at national and international level. This tourist segment is based on the identification, conservation and appreciation of geological and mining heritage, as well as dissemination of geological knowledge to the lay public, targeting also its execution from the principles of sustainable development.

The theme began to gain momentum from the 1990s, with the research of English Thomas Hose, who defines geotourism as “the provision of interpretive and service facilities to enable tourists to acquire knowledge and understanding of the geology and geomorphology of a site beyond the level of mere aesthetic appreciation” (Hose, 1995).

Hose (2000) eventually introduced, however, a new definition for the theme, considering geotourism as the provision of services and interpretative means that promote the value and social benefits of sites with geological and geomorphological attractions, ensuring their conservation for the use of students, tourists, and others with recreational and leisure interests.

In the national context, Ruchkys (2007) makes a conceptual reflection on geotourism, considering the geological and mining heritage as its main attraction, because this category of heritage, through environmental interpretation instruments, makes it possible to sensitize the visitor, making the understanding of

the geological and geomorphological processes of a given territory more accessible to the lay public, as well as the promotion and dissemination of Earth Sciences.

It is pertinent to note that the practice of geotourism should prioritize the linking of bio- and geodiversity elements with socio-cultural aspects, contributing to the optimization of tourism offer and the development of the activity, since – as we have already pointed out – the natural and cultural heritage is configured as the main attractiveness of this segment. It is relevant to note that this articulation of geotourism with natural and socio-cultural aspects contributes to its interaction with other tourism modalities, such as cultural tourism, ecotourism, rural tourism, adventure tourism, among others.

For López and Salazar (2008), geotourism would constitute a strategy to promote sustainable development in economically depressed communities, through the use and protection of their geological and mining heritage with high quality tourism resources.

According to Moreira (2014), this segment would have the possibility of reaching a degree of strategic importance for the rise of tourism in Brazil, as a factor of social and educational development of the communities involved, since they are the key to development of tourist activity and geoparks.

Thus, the development and implementation of geotouristic itineraries can be configured as an effective instrument for the growth and appreciation of traditional communities. Mansur et al. (2013) draw attention to the difficulties in attracting the lay citizen in geosciences directly to specific geotourism itineraries, suggesting as an alternative the adaptation of tourist itineraries already implemented and functioning as a value addition factor. This strategy was implemented by Mineropar, in Paraná, offering training courses for teachers, guides and tourism drivers.

As regards the heritage of old mining areas, geotourism activities can also be configured as an efficient tool for dissemination, conservation and appreciation of the mining heritage, since this type of heritage, besides encompassing the physical structures of the mines, also includes the “mining” culture that the community developed during the period of mineral resources exploitation. From a socioeconomic point of view, it is remarkable that this practice can be established as a potential economic alternative for groups that worked in these mining territories and need to relocate to the labor market after the closure of mining activities. And it is under this bias that mining heritage has attracted growing interest from developed countries, that is, due to the inherent scientific and cultural characteristics that may have potential for tourism development (Correia, Sá & Favas, 2012).

Europe is a pioneer in this approach, given the large number of inactive mines located there, with a rich cultural heritage that attracts the attention of the general public, as they are ideal places for the transmission of knowledge linked to the Earth Sciences and the mining history. We highlight the tourist use experiences in old mines in the Nord-Pas-de-Calais region, France; in Lusatia, on the border of Germany and Poland; in Cornwall, England; and in Lousal and Aljustrel, in Portugal (Accioly, 2012). The *Instituto Geológico y Minero*, in Spain, has also been investing in the construction of methodologies that include the survey of historical mining sites and possibilities of appreciation of the geomining heritage in several regions of the country, such as Andalusia, Aragon, Asturias, Balearic



Islands, Castilla-La Mancha, Castilla y León, Murcia and the Basque Country, as portrayed by Riart (2000), García-Cortéz, Carcavilla, Díaz-Martínez and Vegas (2014), López (2010), Rodríguez (2010), among others.

The Geoparks Program of the United Nations Organization for Education, Science and Culture, which aims to identify areas for the conservation of geological heritage, also features, in many geoparks, sites linked to the history of mining that are valued for positive and sustainable initiatives, such as the Arouca geoparks in Portugal and the Nature Park in Germany.

Brazil has great potential for tourism use of former mining areas, as witnessed in various regions of the country. In the Northeast region of Rio Grande do Norte, the mining heritage of the Brejuí mine has attracted the attention of numerous visitors (Nascimento, Rocha & Nolasco, 2013). The studies by Carvalho and Nolasco (2007) highlight, in turn, the tourist potential of former gold mining areas in Chapada Diamantina. In the south, in Curitiba, there is the *Parque das Pedreiras* (Quarries Park) with the *Ópera de Arame* (Wire Opera House), which is a theater built in an old quarry pit. In Rio Grande do Sul there is the *Ametista Parque*, in Ametista do Sul, which offers visits to an underground mine, among other attractions (Accioly, 2012). Domingues (2016) also highlights the perspectives of appreciation and conservation of geomining heritage in Caçapava do Sul, Rio Grande do Sul.

In Minas Gerais, discussions about the closure of mines, the possibilities for future use of mining territories and the appreciation of geomining heritage have received particular attention. In the mineral province of the *Quadrilátero Ferrífero* (Iron Quadrangle, one of the most notable Precambrian areas in the world), a territorial outline considered as the cradle of mining in the state, studies that cover this topic are recurrent. Ruchkys' thesis (2007) represented a milestone for the adoption of this type of initiative, with the proposition of a geopark in this region encouraging the development of other works and research in this territorial outline, such as Ruchkys and Machado (2013), who discussed the historical sites of mining and tourist use in old mines Passagem, in Mariana, and Chico Rey, in Ouro Preto; and Paula and Castro (2014), who bring a methodology to inventory places of geological and mining interest for tourism purposes, in Ouro Preto. In other regions of the state there are also works of this nature, such as Liccardo (2007), who points out mineral tourism in the northeast, focusing on the regions of Teófilo Otoni, Araçuaí and Governador Valadares, and Lacerda (2014), who questions the interfaces of tourism with former gold mining sites in Diamantina. And in southern Minas Gerais, we point out the work of Lopes and Ruchkys (2015), who carried out a modeling of integrated scenarios targeted to inactive mines in São Thomé das Letras.

At the governmental level, since 2012, the *Fundação Estadual do Meio Ambiente* (Feam, State Environmental Foundation) has been developing the Territorial Reconversion Project, which considers, in addition to the environmental aspects, the importance of reintegrating the mining territory after closure of the activity and its possibilities for future use. In the context of this project, an inventory of abandoned and paralyzed mines was carried out between 2014 and 2015, from surveys in all mesoregions of Minas Gerais, resulting in a total of 400 registered inactive mining enterprises (Feam, 2016). The Jequitinhonha Valley mesoregion, the target of this study, presented a high number of inactive granite, gemstones and industrial mineral extraction enterprises.

Such projects are also intended to engage in dialogue with ethnodevelopment proposals that postulate the need “for communities to become managers of their own development, being assured of the opportunity to train their ethnoprofessionals in specific and strategic technical areas” (Batalla, 1981, 1985 *apud* Lima, 2014). Note that this perspective began in the 1990s, from research and government actions in conjunction with indigenous peoples, in order to address the demand for these communities to preserve their right to control and self-recognition and determine the uses of their territory (Medeiros, 2011). Currently, such practices have been developed together with several traditional groups that seek, in some way, a local development practice that values their social, cultural and environmental characteristics, respecting mainly the political and economic autonomy of the group.

It is also noteworthy that, according to Little (2002), ethnodevelopment must always consider the dialogue between the “economic development of an ethnic group” and the “ethnicity development of a social group”, which when combined also take into account the conception of local scale, whereby, according to the author:

there are greater opportunities for ethnic groups to influence decisions that affect them and, as a consequence, to promote changes in their economic and social practices. It is at the local level that the process of building ethnic self-management begins. (Little, 2002)

Given the diversity of studies with this bias in the current scenario, including governmental actions and projects, we will present below the results of this research, which was conducted through bibliographic surveys and reports of *quilombola* and gold mining communities interviewed. Subsequently, the discourses on how geotourism presents itself as an ethnodevelopmental perspective for *quilombola* and gold mining communities in the emblematic Jequitinhonha region.

## **THE GEOMINING HERITAGE OF THE JEQUITINHONHA VALLEY AND ITS INTERFACES WITH TRADITIONAL QUILOMBOLA AND GOLD MINING COMMUNITIES**

The reality experienced in the Jequitinhonha Valley mesoregion indicates a deep connection between the local and the regional, so that the local identity conception is now mixed with the regional one, in the sense of “being from the valley”, from which the subjects themselves identify with important landscape units, which hold an exuberant natural and cultural heritage. The Jequitinhonha river is consolidated as the main structural sign of the landscape – whether for its physical-geographical character or from the cultural-historical perspective – and is a major contributor in shaping the identity of local subjects. In this perspective, Machado (2009, pp. 8-9) points out that:

more than a perennial stream that runs through the northeast of Minas Gerais, the JEQUITINHONHA RIVER is a sign of the landscape. Besides representing the main agent of relief transformation, it participates intensely in the transformation of the

landscape. In the interaction with man, the Jequitinhonha Valley serves as a transport route; as a shelter of mineral wealth, as a source of food and drinking and irrigation water; as a source of hydroelectric power; as a means of leisure, and as a source of artistic inspiration.

From the geological point of view, the Jequitinhonha Valley has a rich lithological, gemological and geological-economic diversity, with mainly ornamental rocks, gems and industrial ores. It is also noteworthy that this lithological diversity, associated with the processes of river dissection, imprinted in the regional landscape various forms of relief, most notably, in this geomorphological aspect, the *Serra do Espinhaço* (in the upper portion of the basin), the set of plateaus with the *chapadas* (tablelands, distributed in the middle *Jequitinhonha*) and the granite spikes sculpting the landscapes of the low course (Machado, 2009). These natural attributes strongly influenced the regional process of occupation, dating back to the colonial period when many pioneers entered the inner regions of the captaincy of Minas Gerais in search of diamonds and precious stones.

These dimensions of reality are well represented by regional toponymy. The topographic maps of the Jequitinhonha Valley present several toponymic records linked to the geological and mining heritage, as well as to the ore extraction activities in the region, such as *Diamantina*, *Extração* (Diamantina district), *Minas Novas*, *Pedra Azul*, *Turmalina*, *Berilo*, *Carbonita*, *Rubelita*, *Datas*, *Itaobim* (from the tupi language, Green Stone), *Itaipava* (from the tupi language, Pebble Bank), *Cachoeira dos Cristais*, *Serra das Safiras*, *Gruta do Salitre* (Diamantina), among others.

In this perspective, the *Jequitinhonha* Valley turns out to be a “valley of many cultures”, occupied by a range of traditional populations, consisting of: *quilombolas*, *fiscadores* (small-scale miners), evergreen collectors, indigenous people, *veredeiros*, small-scale fishermen, tide-water settlers, peoples of *terreiros* and caatinga workers. This social diversity is expressed even in the production of local handicrafts (clay pots and sculptures, basketry, embroidery, tapestry, drumming boxes and drums), in music, in poetry, in stories, religious festivities (the feasts of *congado* and *Nossa Senhora do Rosário*, *Folias de Reis*), cultural expressions (*vesperatas*, *bandas de taquara*, *Festivale*), gastronomy, among other daily dynamics that contribute to the maintenance and reproduction of these cultures in time and space.

All this cultural richness has motivated an intense scientific production, from a cultural geographical point of view, which uses conceptual categories of analysis and paradigms of interpretation of cultural geography and questions cultural practices and ethnodevelopment of the Valley populations, such as the studies by Ferreira (2007), Martins (2007), Lacerda (2005, 2014), Lacerda, Sancho, Pena, and Deus (2011), Deus (2012), Oliveira and Vieira (2012), Tubaldini, Gianasi and Deus (2012), Miné and Rodrigues (2012), Diniz, Deus, Gianasi and Rodrigues (2012), Deus and Carmo (2016), Silva and Deus (2016), among others.

In recent decades, geological knowledge of this region has increased significantly, particularly by the Jequitinhonha Project, produced by the *Companhia de Pesquisa de Recursos Minerais* (Ore Resources Research Company, of the Geological Survey of Brazil) in partnership with *Companhia de Desenvolvimento Econômico* (Economic Development Company) of Minas Gerais, and a range of studies on the orogenic belt Araçuaí, highlighting the productions of Almeida (1977), Uhlein (1991),



Uhlein and Kattah (2000), Uhlein, Trompette, Egydio-Silva and Vauchez (2007), Pedrosa-Soares (1995), Pedrosa-Soares and Wiedemann-Leonardos (2000), Pedrosa-Soares, Leonardos and Correia-Neves (1984), Pedrosa-Soares et al. (1990, 2007, 2013), and Alkmim, Pedrosa-Soares, Noce and Cruz (2007). There are also studies on gemology and mining in the region, as shown by works of Gandini (1999), Castañeda, Addad and Luccardo (2001), Chaves and Meneghetti Filho (2002), Cornejo and Bartorelli (2010), and Kahwage and Mendes (2011). From 2002 to 2005, the Progemas Project was developed by UFMG, designed to support the development of local productive arrangement of gems and jewels in the Araçuaí-Coronel Murta region, which also generated several studies.

However, in the last decade, the mining activity reduced significantly in the Jequitinhonha Valley, taking into account the full contingent of players involved (Reyes, 2014).

Chaves and Meneghetti Filho (2002) highlight the need to implement mitigating measures for environmental degradation resulting from diamond mining in the upper *Jequitinhonha*, reinforcing the need to look for socioeconomic alternatives for the communities. It is in this context that the practice of activities related to geotourism and cultural tourism could become a positive alternative for those involved in these processes.

In this sense, the Development Plan of the Local Productive Arrangement of Gems and Stone Artifacts of *Teófilo Otoni* is underway, which encompasses several municipalities of the Jequitinhonha and Mucuri valleys. However, it indicates the need for studies that include the historical and cultural aspects of the mining activity and propose initiatives such as the mapping of mining areas, intensification of the tourist route, and creation of the gem museum, aiming at the promotion of mineral tourism in the region (Fundação Vanzolini, 2014).

Regarding the *quilombola* communities of Jequitinhonha, we see the development of a number of initiatives to appreciate and rescue cultural traditions and interpret the cultural heritage, in order to include them as protagonists of local and regional tourist itineraries, such as the Rota dos Quilombos Project, coordinated by the Eloy Ferreira da Silva Documentation Center and based on the principles of solidarity economy (Deus & Carmo, 2016).

It is also in this perspective that the geomining heritage features as a structural axis of humans interactions with the environment, since it allows the reflection of assimilation and meanings that will contribute to the appropriation of values, not only by the local community but for society at large. From such conceptions, geotourism is present as an important strategy for ethnodevelopment, since it passes by the recognition and appreciation of assets, both by those who experience it and by those who wish to try it through tourist activities.

### **GEOTOURISM: A NEW PERSPECTIVE OF ETHNODEVELOPMENT FOR THE TRADITIONAL QUILOMBOLA AND MINING COMMUNITIES OF THE JEQUITINHONHA VALLEY, MG**

According to the interviewees' reports, the main reasons that prompted the stoppage of ore extraction activity are due to deficient planning and management actions, in addition to the difficulty in complying with current mining and

environmental legislation. We point out that many of these mining areas are located in *quilombola* territories, and those players are directly or indirectly involved in ore extraction processes. The communities also highlighted disorders resulting from the decay of extractive activity in the region, considering that they depend economically on it, and this indeed interferes with the seasonal migration process and the sociocultural relations of these communities with regions of traditional attraction of the migratory movement.

Regarding the representativeness of the historical and natural heritage, the interviewees reinforced the importance of implementing projects that promote the appreciation of historical aspects, the natural heritage, and that foster the generation of income, even through this strengthening of cultural identity. They also pointed out that ore extraction is part of their history, since it is a family tradition that has been maintained since the colonial period. However, maintenance of this tradition is threatened, as shown in the words of a *quilombola* and gold mining interviewee:

My boys are gone because there is no work here... There has always been gold mining here, but now we can't and we have to do it differently. . . , but it was very good when that bunch of men, women and boys gathered and all went to the riverside. (personal communication, Comunidade de Quartel do Indaiá, Diamantina, 2017)

From the tourist point of view, it can be seen that the rich natural and cultural heritage of the Jequitinhonha Valley led to the creation of various tourist circuits established by the State of Minas Gerais Tourism Department, among which we highlight *Circuito dos Diamantes* – which focuses on the high Jequitinhonha; *Circuito das Pedras Preciosas* – in the middle Jequitinhonha, which also covers municipalities of the Mucuri Valley; and *Circuito Vale do Jequitinhonha*, which is mostly composed of municipalities in the lower and middle Jequitinhonha.

From field observations and interviewees' reports, it can be noted that throughout the Jequitinhonha basin, considering the regional geo and sociodiversity, it is possible to see potentialities for the practice of geotourism, although actions of this nature are still incipient, especially those involving traditional communities. According to the respondents, however, some specific experiences stand out, such as in Diamantina, where visitors can enjoy the rich geological heritage of Serra do Espinhaço and know in greater detail the cultural historical importance of the region in diamond exploitation. The experience in this location also expands to the *Museu de Diamantes e Casa da Glória*, where visitors can learn, in addition to some important samples of these minerals, the history and development of research and discoveries conducted in this region since the eighteenth century. Scientific tourism practices are also evidenced in former diamond extraction areas by university students from various courses, such as in the *Extração* (Curralinho) and *Quartel do Indaiá* districts. Another prominent place, located in the Diamantina countryside, is the *Garimpo Real* tourist spot, a venture focused on the gold mining experience, rescuing and revealing to visitors the gold miners' customs and their traditional way of searching for diamonds. According to the owner, interactive activities (concerning the practice of mining) are offered during people's visit to the place.

In the middle Jequitinhonha, some gold mining areas in the Araçuaí microregion, such as the *Serra da Cascalheira* (Coronel Murta) and the *Zé da Estrada* (Itinga) mines, are also visited by geology and mining engineering students from various universities, according to interviewees.

About the lower Jequitinhonha, interviewees highlighted the natural landscape of the famous granite spikes, also known as “sugar loaves” of the Jequitinhonha Valley, located in the Rubim, Jacinto and Pedra Azul regions, which constitute a large number of geological monuments that receive many visitors and are used as well for practicing climbing, in addition to ancient areas of seawater mining, such as that of *Laranjeiras*, which gave rise to the “Pedra Azul” toponym. Besides the geological and archaeological attributes, the region is considered an important ecotone, resulting from the transition between three biomes: Atlantic Forest, *Cerrado* and *Caatinga*. However, it was pointed out by local leaders that the disorderly tourism practices in these areas compromise the integrity of some archaeological sites in the region, such as *Pedra do Salão*, in Rubim. This fact motivated the development of a bill for the creation of the Pedra Misteriosa State Park (although the project was not approved by the Legislative Assembly of Minas Gerais due to the conflicts that emerged with the local landowners). However, the majority of respondents, around 98%, consider that tourism can be established as an option for local socioeconomic development.

The interviews and field observations showed that often these activities occur without prior planning and are devoid of instruments that could make the visit more enjoyable and productive, such as the preparation of geotouristic itineraries; the development of environmental interpretation techniques; the use of educational materials; and, above all, eco- and geotourism training and inclusion of members of the traditional local communities, who are the ones with the best knowledge about these areas, which are part of their life history.

By listing some of the projects, studies and roadmaps being built in *Jequitinhonha*, we seek not only to point out their importance at the local and regional scale, but also to draw attention to the high potential of regional ethnodevelopment through geotourism. In addition, we point to the increasingly evident need to design an integrated network, from planning to execution, that connects such projects and the communities involved in the conservation and maintenance of all these heritage values.

## FINAL CONSIDERATIONS

Geotourism is a booming tourism segment that allows traditional communities to take part in the activity, providing them with another way to interact with their own historical, geological and mining heritage, which fosters income generation and enables families to be maintained in their localities. From the results obtained in the fieldwork, it is worth noting that members of these communities can act as local guides, considering the socio-cultural richness of their life experiences in these sites/territories, contributing significantly to the diffusion of traditional knowledge. In addition, the very community can organize itself to meet other demands of the tourist chain, such as lodging, gastronomy, handicraft sales, among other activities based on sustainability and solidarity economy parameters.

The Jequitinhonha Valley has a natural and cultural heritage of great relevance to Minas Gerais. In all its extension, the testimonies of its connectivity with the geological and mining heritage are remarkable. In addition, it encompasses a considerable amount of the most diverse categories of traditional communities, which bring knowledge of a unique way of life, extremely suggestive and relevant to the practice of geotourism in the region.

Despite the rich potential of the Valley, initiatives that address geotourism are still incipient and punctual, requiring greater articulation of public managers and other agents involved in the segment, in order to establish a closer dialogue with traditional communities and build planning and management of this activity, also contributing to the effectiveness of the regional ethnodevelopment of the traditional communities domiciled there.

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## CONTRIBUTIONS

**Liliane Rodrigues de O. Braga:** Definition of the research problem and objectives, development of the theoretical proposition, bibliographical review and theoretical foundation, choice of methodological procedures, data collection, data analysis, critical review of the manuscript, writing of the manuscript, adequacy of the manuscript to RTA rules.

**Ludimila de Miranda Rodrigues Silva:** Development of the theoretical proposition, bibliographical review and theoretical foundation, choice of methodological procedures, data collection, data analysis, critical review of the manuscript, writing of the manuscript, adaptation of the manuscript to RTA norms.

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