

Article

The Contribution of Tourism to Sustainable Rural Development in Peripheral Mining Spaces: The Riotinto Mining Basin (Andalusia, Spain)

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Abstract: Since the middle of the 20th century, the crisis of industrial mining activities in Western Europe has caused the cessation of mining, triggering a structural crisis. The necessity to look for alternatives has been widely discussed; among these alternatives, tourist activities based on mining heritage stand out. However, it is essential to address the study of those unattractive peripheral spaces in which new activities encounter obstacles to their development and face post-industrial and rural crises. The Riotinto Mining Basin (Huelva, Andalusia) represents an example of such rural spaces; it has an enormous cultural heritage, and the mine has recently been reactivated. The objective of this research is to analyze the contribution of mining tourism to sustainable rural development. The applied methodology was mixed and was based on interviews and secondary data. The results are (a) the achievement of the tourism value of the mining heritage; (b) the difficulties tourism faces in overcoming its peripheral condition; (c) the relative contribution of tourism to the improvement of the territorial image; (d) the lack of coordination among stakeholders; and (e) the limited contribution of tourism to sustainable rural development and its movement to a secondary economic role after the reopening of the mine.

Keywords: boring peripheries; mining tourism; rural destination; stakeholders; sustainable rural development



Citation: Bahamonde-Rodríguez, M.; Šadeikaitė, G.; García-Delgado, F.J. The Contribution of Tourism to Sustainable Rural Development in Peripheral Mining Spaces: The Riotinto Mining Basin (Andalusia, Spain). *Sustainability* **2024**, *16*, 443. <https://doi.org/10.3390/su16010443>

Academic Editors: Stephan Weiler

Received: 15 October 2023

Revised: 13 December 2023

Accepted: 31 December 2023

Published: 4 January 2024



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1. Introduction

Since the middle of the 20th century, the European mines have progressively closed due to the loss of competitiveness resulting from the increase in international competition, low profitability, high production costs, the fall in the price of minerals, the energy crisis, the issues of environmental degradation, and the progressive reduction in the use of fossil fuels [1,2]. The cessation of mining is economically, institutionally, socially, and culturally dramatic [3] and has generated uncertainty, management difficulties, and a severe structural change in regional development [4]; this has caused widespread unemployment and social tensions [5]. Mining regions are stigmatized in a context of environmental and landscape degradation, soil contamination, deterioration of facilities, and speculation [5–7]. In this context, adaptation and adaptability are necessary to face a new reality with alternative proposals and solutions to reactivate the local economy [3,8] and improve the territorial image [9]. A restructuring process has begun in recent decades [4,10], with new industries or activities that initiate a new development process. Simultaneously, many internal voices link the future to the reopening of the mines because the reopening promises employment and economic reactivation [11,12]; this gains strength in the current global context (environmental crisis, electrification, energy crisis, invasion of Ukraine, etc.) [13].

It is necessary to design public policies to address the restructuring of mining areas [8]. The EU applied different instruments from the Regional Policy, Cohesion Policy and Structural Funds (European Regional Development Fund (ERDF), and European Social Fund (ESF)). In 1986, Objective 2 regions (declining industrial regions, mainly urban) were created in the areas where the Industrial Revolution occurred [10]. Their recovery involved abandoning the productive monopoly and betting on economic diversification with new options in particular contexts [8,10,14]. However, the scenario of rural mining spaces was different [15,16]. They fell within Objective 1 regions (regions where the GDP per capita is below the 75% threshold of the EU average), with the arrival of the ERDF funds, the LEADER initiative, and, later, EAFRD, in addition to some specific reindustrialization and diversification programs [17].

In some cases, the first reaction to the closure of the mines was to return to the natural landscape with environmental restoration [14,18] and to later incorporate new activities for environmental, socio-cultural, and economic sustainability [18]. However, sometimes “positional evils” were chosen, acting in mining spaces as if they were inert and vacant and building industrial waste management facilities [19].

Public policies argued that industrial mining heritage (IMH) could be an effective endogenous resource for the territorial development [20] in a context in which the EU and heritage institutions defend and promote the vision of cultural heritage as local potential. Thus, the proposal was to act against heritage degradation [5,15] and to incentivize new activities that allow job creation and impede demographic bleeding [4].

The processes of the conservation, rehabilitation, and enhancement of the IMH have been diverse, with the IMH acquiring a monumental, museum, and didactic function [15], which is often based on adaptive reuse [21]. Thus, post-mining spaces are reinvented as a cultural objective [22–24].

The processes to enhance the IMH culminated in the intention to obtain the status of a UNESCO World Heritage Site (WHS), which began in 1978. The IMH obtained the declaration of the WHS together with the Wieliczka Salt Mine (Poland) [8]. In addition, the designation of mining spaces as “Geoparks” by UNESCO also highlights their geological characteristics [25,26].

However, the conservation of the most notable sites, the enhancement of the IMH, and heritage protection are not in themselves solutions for mining territories, as they generate little or no economic dynamism [15]. Thus, heritage tourism is often used as a strategy to improve the territory’s image [9] through economic revitalization, diversification, and substitution of activities [2,5,6,9,27–29]. In addition, tourism is perceived as an instrument for financing the rehabilitation and conservation of the IMH [9,18,28], which justifies the recovery processes [8], and the (re)valuation of local identity and the landscape [30]. This process shows the interdependence between heritage management and tourism development [31–33] since it frequently seems that “the development or “creation” of a heritage tourism attraction is a last resort and sometimes the only possible solution” [6] (p. 345). However, touristification is not exempt from the opposition between conservation and commercialization [31,34,35], trivialization and authenticity [36], and the paradox of “creative destruction” [34].

There is a form of industrial heritage tourism [6,16] called Industrial Mining Heritage Tourism (IMHT). This modality has proliferated while industrial mining landscapes acquired an “aesthetic of deindustrialization” [6]. It was first developed in the industrial belt of Europe, where the First Industrial Revolution took place, namely in the United Kingdom, Germany, the Netherlands, Belgium, Sweden, Poland, Austria, and France [6,20,24], and later in the industrialized periphery in the area of the Second Industrial Revolution, i.e., Southern Europe [15,24]. Since joining the EU, initiatives have multiplied in Central and Eastern Europe [10]. The importance of IMHT is evident in the European Route of Industrial Heritage (ERIH), an expression of a creative activity [37] in which a multitude of mining areas have become places to visit [2]. Furthermore, the WHS brand has national and international influence in the development of IMHT products and in the marketing

of heritage destinations [38,39]. The “Geoparque” brand is projected to be related to new demand segments [26].

The size of the IMH and its degradation have motivated the initiation and launching of most of the tourism projects as public initiatives at different scales or as projects that are supported by these initiatives through various plans [14,29,40]. There are examples where local authorities have carried out restructuring policies [10], with varying success as they have sometimes been taken over by regional or state bodies [41]. Thus, different governance models have been generated [15]. A unique model is the management through foundations of a diverse public, private, or mixed nature present in the Ironbridge Gorge Museum Trust [42], which has served as a model for many others.

The development of tourist activities around the IMH has been complex, given that there are highly diverse stakeholders of different natures, with multiple relationships and interests, whose actions are conditioned by the ownership of the mines, the legislative framework, and administrative barriers, including the lack of legal protection and lack of coordination between departments [3,14,24], as well as local identity and culture [3,30]. Therefore, cooperation at different scales and with the presence and participation of local public and private actors [2,8,24,27,38] is necessary, but is not always achieved [3,4,24]. In this sense, the formation of networks [18] has succeeded, such as in the creation of ERIH based on INTERREG [37].

Generally, the transformation of the IMH into a resource and its subsequent integration into new IMHT products and destinations follows a similar pattern [16,40]. It starts from the museum or interpretive center and then develops products based on the characteristics of the place and the old industrial mining infrastructures [3,43] to form a “mining park” [15,16]. Visits are included to the productive activities on the surface, e.g., open pit mines, terraces, and waste dumps, or to those underground, including processing and transportation activities, e.g., ships, docks, trains and tracks, and roads, as well as socio-cultural facilities, such as offices, housing, and shared services [6]. In this regard, differentiation is sought with other more or less complex products, such as living history, historical and theatrical recreations [44], the tourist narrative of former mine workers [45–47], thematization and recreation, e.g., outdoor sports or nature reserves, which are detached from the mining event and decontextualized [22,46], or the generation of routes at different scales [2,20]. Thus, creativity and active consumption progressively gain importance over heritage resources and passive consumption [3], which means moving from tourism focused on the past to one of the experiences, which are more oriented to popular and mass culture [48].

From a demand point of view, IMHT is developed in the context of market segmentation, which responds to the demand for heritage preservation, cultural experiences, and non-mass spaces where mines occupy the central role [3,40]. It is intended for specific market segments, such as the educational, family, social, and business segments [20,49]; yet, specialized attractions can also be offered, e.g., attractions aimed at railway enthusiasts [50].

The success of experiences such as Ironbridge Gorge, Zollverein, Bochum Museum, or Wieliczka has generated expectations and initiatives that have multiplied throughout Europe [2,24,51]. The usefulness of IMHT in conserving the IMH is evident [8]. However, generally, due to the lack of planning and rational management [27] in the enhancement of the tourist value of the IMH, the IMH faces the following issues:

1. The importance of the whole and the uniqueness, because not all mining sites are accepted by tourists in the same way [6].
2. The demand is limited [2,6], and although it continues to grow, it generates few overnight stays [6,7,15], which complicates the creation of accommodation [7].
3. There are difficulties in generating tourism products from the IMH [20,24]; this has led to barely original products, with the content and experiences being repeated [24,27,29,52], which impacts the not-always-positive tourist experience [22].
4. Substantial continuous public investments are necessary to cover the vital implementation costs, i.e., IMH rehabilitation, tourism value enhancement, and use and

maintenance [16,53], particularly when these public funds and investments are withdrawn during the crisis [14,53], and there is a need for private investment.

5. The creation of products, including marketing and promotion [53], with low profitability, long payback periods, and few guarantees of viability further complicates private investment [6,40].
6. The need to invest in human resources training or in the attracting of new employees [53] presents difficulties in places with demographic issues [4,54], especially in the tourism sector, where employment is often precarious and poorly paid [55].

All this determines that the scope of IMHT in terms of economic rejuvenation, fixation of the population, and socio-cultural benefits is limited [4,6,15,20,51], despite the expectations and the fact that it has been considered to be a panacea [16].

Moreover, geographical location, e.g., urban, rural, and inland and coastal areas, and spatial centrality, e.g., distance to sending centers and tourist destinations—urban, coastal, etc. —, and accessibility and connectivity affect the development of IMHT. In this way, rurality and peripherality to the adapted and well-known economic and tourist circuits act against the tourism development of the factors indicated above [1–3,6,7,17,20,24,29], even when WHS statements exist [2,40]. In this way, there is a necessity to study the post-mining rural spaces that were the result of peripheral industrialization [15,22] since they add to the issues related to mining tourism and the general tourist development of boring rural areas or intermediate peripherals [56,57], in which the uniqueness and exoticism of attractions exert considerable influence on individual travel priorities [58,59], as visitors must allocate more time and expense to access and participate in experiences compared to other more accessible and cheaper attractions [58]. Otherwise, it is necessary to resort to grouping complementary resources [59] that are capable of attracting autonomous tourism in its own right [60]; this will sometimes be incidental, i.e., stops along the way, and other times it will be purposeful, i.e., visiting a specific attraction [59].

Furthermore, rural spaces must face their issues with proposals for “rural development from within”, where endogenous resources must replace exogenous resources in rural development policies [61]. Multifunctionality and diversification are proposed as strategies for community policies for rural development, taking the community and their capabilities into account [62]. It is a “sustainable rural development” (SRD) that involves sustainable management of natural resources and the socio-economic development of rural areas and communities [63]. However, it has often resulted in an indicative superstructure that is more intended to finance projects concerning particular objectives than overall visions [64]. Furthermore, peripheral rural mining spaces are subject to external pressures from global capitalism. In this context, mining in peripheral rural areas recovers in the face of new industrial and economic processes, signaling a new financial framework with regard to competitiveness, environmentalism, socio-cultural factors, and reindustrialization. While mining is often seen as antagonistic to tourism [65], it has multiple positive and negative relations with tourism [66]; it is also perceived as an opportunity for tourism, with visits to active mines [67].

Therefore, this research aims to analyze the tourist activity in the Rio Tinto Mining Basin (RTMB) (Andalusia, Spain), where the Rio Tinto Mining Park was created and is considered to be a successful IMHT initiative in Spain [15,16,29,40,54,68]; also considered is the fact that mining activity was restarted in 2015. The central question of the research is whether tourism has been an instrument of multi-functionality and diversification for the SRD. Other questions of the research to be addressed are: How has tourism value been given to the IMH? Who has participated in the process, and how have they participated? What happens in mining sites of declared heritage in a scenario of mining reindustrialization?

2. Materials and Methods

2.1. Methodology

The study of the existing relationships between heritage, tourist, and recreational activities and SRD recommends the use of a case analysis [33,57] to analyze tourism in

peripheral intermediate areas [33,57,59] and IMHT [3]. In-depth data collection from various sources is used to conduct the analysis [69].

First, a semi-structured interview was designed [70] for the stakeholders who participate in or influence planning [71] to obtain primary data on the development processes and tourism outcomes [59,72]. Thirteen open questions (q) were posed that allowed the identification of other vital topics [73] to gather opinions and perceptions of the interested parties [3,33] on four topics (Table 1): (a) the role of stakeholders and the relationships between them [74]; (b) the enhancement of the tourism value of the IMH [3]; (c) the development of IMHT [3,75,76]; and (d) the effects derived from IMHT [3,76], the development contexts, and the rural and local development processes [33,59,77].

Table 1. Interview questions.

Code	Question	Topics
q1	What role does your entity have in tourism in the RTMB?	(a)(c)
q2	Do you identify your territory with mining tourism? Why?	(a)(b)(c)(d)
q3	What projects have you launched (or supported) for the heritage/tourism enhancement of the region/municipality?	(a)(b)(c)
q4	What heritage projects/tourism enhancement does your entity plan (or intend to support) in the region/municipality?	(a)(b)(c)(d)
q5	Who should we look to for the development of tourism?	(a)(b)(d)
q6	What functions does the Río Tinto Foundation have in the destination? Which are, from your point of view, the most important?	(a)(b)(d)
q7	What singularities does the mining tourism management model have in the region?	(b)(c)(d)
q8	What are the instruments used for the development of mining tourism?	(b)(c)(d)
q9	What is said about the promotion and development of tourist activities (companies and products) in the region?	(b)(c)(d)
q10	What projects related to tourism (or not) have been launched in your municipality?	(b)(c)(d)
q11	What is the future of mining tourism, given the reactivation of mining?	(a)(b)(c)(d)
q12	What has been the situation of tourism activity during the COVID-19 pandemic?	(b)(c)(d)
q13	Future proposals for improving tourism in the region.	(a)(b)(c)(d)

(In italics are those questions that complement or offer secondary information about the topic studied). Authors' elaboration.

In total, 12 interviews (Int) were carried out, 3 with two people from the same institution simultaneously (Figure 1). The interviews were carried out between July 2021 and July 2023, in person, online (Meet©), and by telephone. The conversations were transcribed. Although they were contacted, it was not possible to conduct interviews with politicians and/or technicians from the municipalities (Zalamea la Real, Berrocal, and Campofrío were impossible).

Intervention area	Nature			
	Public		Mixed	Private
Local	(Int01) Town council Technician M El Campillo Online	(Int04) Town council Town councillor/Technician F/M Minas de Riotinto Online		(Int11) Company (restaurant, hostel/Business association Owner M In person
RTMB	(Int08) Town council Town councillor F Nerva In person	(Int10) Town council Mayor M La Granada de Río-Tinto Via phone call	(Int02) LAG Manager M Minas de Riotinto Online	(Int12) Foundation Río Tinto Museum Director/Manager M/M Minas de Riotinto In person
Regional	(Int03) Guadalinfo Technician F Minas de Riotinto Online	(Int06) CADE Technicians F/M Nerva In person		(Int05) Association Amigos FF.C. Cuenca Minera de Río Tinto M Nerva Online
International	(Int09) CADE Technician F Minas de Riotinto In person			(Int07) Foundation Atalaya Mining Technician M Minas de Riotinto Online
Legend	(Interview) Position Gender Municipality Interview Channel			

Figure 1. Informants were interviewed according to their intervention area and nature. Authors' elaboration.

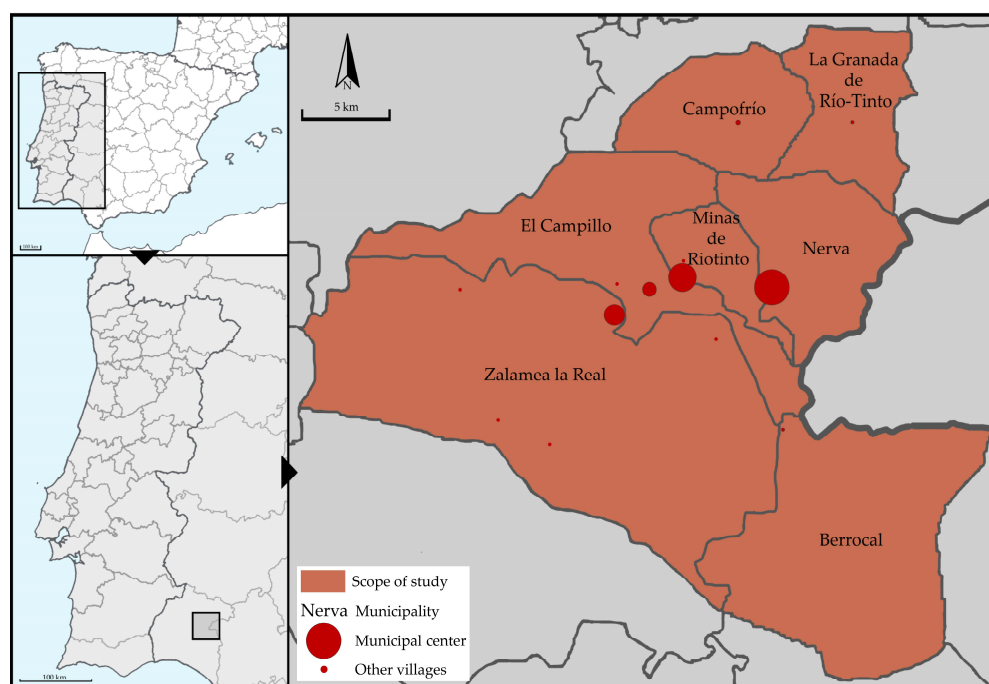
Secondly, an intense territorial recognition was carried out for direct observation and data collection [72] by analyzing tourism resources (territorial diversity), accessibility, and connectivity. Thirdly, the authors used secondary sources focused on (a) the heritage characterization, the enhancement of tourism value (published sources, planning documents, and internal documents of companies and organizations) (b) and the analysis of results using statistics [78–80]. Finally, data triangulation was carried out [73] to maximize the understanding of the phenomenon and the convergence (or not) of the results [81], to interpret the processes, and to obtain conclusions [72].

2.2. Scope of Study

The RTMB is a region located in the central-eastern section of the province of Huelva (Andalusia, Spain), with an area of 627.25 km² and 7 municipalities (Figure 2). It is formed by a river with acidic, reddish waters called Tinto, where an extreme environment develops [82].

It is located to the west of Sierra Morena, in the South Portuguese geological unit. It is rich in polymetallic compounds that give rise to the Iberian Pyritic Belt, which is 230 km long and 45 km wide. Its mineral wealth has continuously motivated the development of mining and metallurgy (silver, copper, gold, and sulfides) in the RTMB for the past 5000 years [83].

The first period of mining splendor in the current RTMB was the Roman period (1st-century BC–5th century AD). The second was that of the British (1873–1954), where the mines would achieve international fame with the Rio Tinto Company Limited, established according to the colonial model [84]. It marked the arrival of mining capitalism with new forms of production relations [85]. This mining development did not occur equally throughout the RTMB, with the southern and northern municipalities specializing in agriculture, forestry, and livestock farming to meet the needs of the central mining municipalities (Minas de Riotinto, Nerva, and El Campillo) [83].



Municipality	Surface (km ²)	Population					Density (inhabitants/km ²) 2022
		1960	2022	Δ 1960–2022 (%)	≤14 years (%) (2020)	≥65 years (%) (2020)	
Berrocal	126.43	816	302	−63.00	3.96	33.33	2.39
Campofrío	47.06	1303	742	−43.05	11.64	23.56	15.77
El Campillo	90.88	3711	2018	−45.62	12.40	22.38	22.21
La Granada de Río-Tinto	44.77	430	254	−43.93	11.93	22.63	5.67
Minas de Riotinto	23.35	8436	3738	−55.69	11.52	22.51	160.09
Nerva	55.48	12,686	5100	−59.80	12.23	21.90	91.93
Zalamea la Real	239.28	5780	3026	−47.65	10.54	23.51	12.65
RTMB	627.25	33,162	15,180	−54.22	11.18	24.26	24.20
Huelva Province	10,145.50	399,934	528,763	24.36	15.21	16.85	52.12

Figure 2. Scope of study and territorial and demographic characteristics. Source: [79]. Authors' elaboration.

Mining specialization led to a deep crisis in the middle of the 20th century. During this time, the nationalization of the mines by the Spanish state occurred (1954), the relocation of industrial activities to the provincial capital occurred (1960s), and the effects of the energy crisis of 1973 were experienced [75]. In 1986, the Rio Tinto Company Limited closed the copper line [86] due to profitability being below the “break-even” point, but the gossan line of gold and silver continued. In 2001, mining and metallurgy activity ceased [75] and restarted in 2015 due to the rise in the profitability of copper, which is expected to continue for the next few decades.

This millennial mining and metallurgical activity has left a “handmade landscape” [83] with an immense IMH scattered in open pit mines, underground galleries, tailings and slag heaps, railways, machinery, industrial constructions and services, etc. [75].

The crisis of traditional activities produced a demographic drain on the RTMB, which was aggravated by its peripherality and the process of the coastalization of economic activities [54,75]. In 2022, it had a population of 15,180 inhabitants [78], a decrease of 54.22% since 1960 (Figure 2), going from 8.29% of the provincial population to 2.87%. The average density is 24.20 inhabitants/km² (2022), with marked contrasts between the central municipalities and the rest. It has a low birth rate and significant population ageing, which results in high dependency rates. Added to this is a negative migratory balance.

The development of mining involved the construction of a narrow-gauge railway to the port of Huelva. From 1968, it progressively lost functions, and it closed in 1984 [87], leaving the RTMB connected with the provincial capital (Huelva) and regional capital (Seville) and the tourist areas of the Sierra to the north and the coast to the south through conventional first and second level highways.

3. Results and Discussion

3.1. Responses to the Mining Crisis

Since 1873, the RTMB has been developed under the business paternalism of the Rio Tinto Company Limited (the Company) [75]. In the municipality of Minas de Riotinto, which was a factory city, the Company owned everything [75]. The nationalization of the mines did not substantially change this situation of dependency. A series of measures and public actions [8] were implemented in the RTMB after the arrival of democracy in Spain (1977), the creation of the Autonomous Community of Andalusia (1981), and the incorporation of Spain into the EEC (1986).

First, public services were strengthened. Thus, the regional Ministry of Health inaugurated a regional hospital (1984) and reinforced secondary educational services [75]. This resulted in the attraction of qualified labor and a certain dynamization of restaurants, accommodation, and real estate offers.

Joining the EU meant the arrival of funds, i.e., ESF, ERDF, and now EAFRD, and community initiatives, especially LEADER, EQUAL, and INTERREG, accompanied by national programs (PRODER in Spain). For its management, the region created a development network [54,75,88]. In the 1990s, a public consortium between the seven municipalities established the Commonwealth of the Mining Basin [88]. In 1992, the Local Action Group (LAG) was created as a public–private rural development consortium that participates in all the programming periods [88]. Afterwards, different territorial services of the regional ministries were implemented to develop employment, training, and diversification programs through entrepreneurship [86,88]. Of this entire structure, only the LAG and some regional agencies survived the international economic crisis [88].

Since 1988, Riotinto Minera SA has acted as venture capital in new companies and activities (prominent citrus and fruit farms and industrial initiatives), generating a business network (Int12). Public administrations insisted on promoting industrial estates to establish new industries, which would remain “when the subsidies ran out” (Int01). The crisis of polymetallic mining until the cessation of activity represented a path towards an unproductive and subsidized space, which had to look for alternatives [3,4,8]. Thus, there were actions for economic diversification and the creation of a business network [3], but it was exogenous industrialization [86] which came in search of public aid and cheap land [75]. This way, dependence on the public sector and its investments was consolidated [75,86,88]. The RTMB continued to be an area in a state of permanent reconversion and decline [86], waiting for the reopening of the mine [75,86].

However, unlike other mining spaces, a long-term strategy was not established to promote and encourage economic, social, and environmental processes [8]. Thus, diversification and subcontracting through heritage conservation and tourism are proposed in an unfavorable context.

3.2. The Tourist Value of Mining Heritage

In 1987, the company Río Tinto Minera SA created a permanent “Río Tinto Foundation for the History of Mining and Metallurgy” (RTF), a private non-profit charitable-teaching cultural foundation (Int12). The patrimonialization process begins when mining is still active, and the RTF survives the Company that created it (Int12). The RTF takes the Ironbridge Gorge Museum (United Kingdom) and the Bergbau Museum in Bochum (Germany) as its heritage model [87] and follows the Ironbridge Gorge Museum Trust (Int12). The RTF’s primary objectives were (a) the conservation, protection, and restoration of the historical heritage generated by mining; (b) its subsequent use for tourism; and (c) participation in projects [87]. The RTF was endowed from the beginning with the liabilities of the mine, which represented a critical movable and immovable IMH, i.e., archaeological, industrial mining, documentary, and bibliographic heritage, which it has since then recovered, restored, rehabilitated, and made valuable [75,87]. The RTF appears as a private management model of the IMH [42] in a context (Spanish) in which public initiatives predominate. This proposal for corporate patrimonialization [1] links educational purposes with the former mining company [3].

Throughout the process, a balance is sought between tourist activities (use) and the preservation of heritage self-imposed by the RTF to meet its objectives (Int12), with a scientific heritage criterion above the economic one (Int12). The first action of the RTF is the rehabilitation of the Company’s hospital as the Río Tinto Mining Museum (RTMM) (Int12). The management of the IMH faces the problem of excess dimensions [41]; so, it is necessary to prioritize its actions [89]. Furthermore, it is necessary to self-finance the project (reinvestment) since payrolls and suppliers require the payments (Int12), and heritage elements without tourist use require intervention [75]. The RTF must face the amortization of the initial investment [41] and ongoing financing [3], given that museums’ primary income comes from admissions [52], and this requires a continuous flow of visitors [41]. This is how the relationship and interdependence between heritage and tourism arose [32,90]. Tourism revenues are allocated to heritage management [32] to cover rehabilitation, security, and operational and maintenance costs and to meet the need for services, infrastructure, and equipment (SIE) [3,41].

In 1989, there was nothing connected with IMHT in the RTMB (Int02). In 1992, the RTF launched the Riotinto Mining Park (RTMP) (Figures 3 and 4). It represents productive activities (open pit mines and underground tunnel), processing activities (workshop area recovery), transportation (railway and railway infrastructure), and socio-cultural facilities (hospital and housing) (Figure 3). The central elements of the RTMP appeared before the cessation of mining activity; these were the RTMM, the Mining Tourist Railway (MTR), and the Corta Atalaya open pit exploitation. The RTMP was proposed to enhance the restored IMH’s tourist value and to generate an economic alternative in the RTMB [29,87]. The RTMP was the first initiative of this type in Spain [15,16,22,29]. From a marketing perspective, RTMP primarily focuses on a specific historical period [3] from 1873 to 2001.

All visitors pass through the RTMM, with a historical tour of mining from prehistory to the cessation of activity. The success of the MTR is explained by its conservation and preservation of authenticity and its commercial viability, which allows high demand satisfaction [91]. Open pit exploitations have limited appeal [15], but Corta Atalaya is the largest in Europe, which gives it uniqueness [40] as an example of the transformation of nature [67]. In addition, the other open pit mine that can be visited, Peña del Hierro, which was declared as a Montería de Gossan Natural Monument (MGMN), and the mining workshops were recovered as a visitor center. The number of attractions has expanded (Int05, Int11, Int12). Thus, thematic elements are incorporated into the static attractions, such as “Mars on Earth” [92], which allows you to visit places on the Río Tinto which have been declared protected as the Protected Landscape of Río Tinto (PLRT). In this way, we move from offering a single tourist package [16] as a “creative improvement” [93] and as a sustainability strategy [94], with the diversification of markets and segments (from an audience specialized in IMHT to one broader). However, creating new products takes

longer, from the idea to the implementation and the opening to the public, due to heritage protection legal and financial issues (Int01, Int12). This shows, as has been studied, that the transformation of IMH into tourism resources and products is complex [38,50].

In 2007, the state Ministry of Culture incorporated the Rio Tinto mines within “Mining Historical Heritage” into the Spanish Tentative List of WHS, along with 19 other mines [95]. Still, this proposal is not of great significant importance since it mixes different types of mining, contexts, management models, and dimensions. Since 2012, the RTMP has been incorporated into the Asset of Cultural Interest (ACI) Heritage Zone of the Riotinto-Nerva Mining Basin (HZRTN) [96]. In 2016, RTMP joined ERIH, allowing its internationalization [37]. In addition, a proposal from the regional Ministry of Environment has been developed, with the support of the RTF, to create a Geopark, which can enhance the natural heritage [26], reinforcing the declaration of PLRT and MGMN.

		MUNICIPALITY		
		Minas de Riotinto	Nerva	
		Corta Atalaya (1992–2004; 2021)	Peña del Hierro (2004)	Mars on Earth (2021)
MINING HERITAGE OF VALUE	Productive activities	On surface ①③⑤ Open pit mine (1873–1994), largest in Europe (1200x900 m) ■■■	①③④ Open pit mine (closed in 1966). Winch and rehabilitation of the electrical machine house. 4 km hiking. Natural Monument (2010) ■■	②⑥ Visit to research sites for Mars exploration and other space missions (NASA, ESA, CAB...) ■
		Underground Roman mine reproduction (2001)	Tunnel Santa María (2004)	
	Processing activities	①②③④⑤⑥⑦⑧ Reproduction of a Roman gallery and mineral extraction (in the Mining Museum) ■	①③④ Access tunnel to Peña del Hierro (200 m) ■	Visitor Reception Center (2017)
			①③④ Former workshop of the Pilones Group (2010). ■■	
	Transport	Mining Tourist Railway (1994)		
Socio-cultural facilities		Mining Museum Ernest Lluch (1992)	House No. 21 (2005)	San Carlos Housing Group (in progress)
		①②③④⑤⑥⑦⑧ Mining hospital (1927–1983) 17 rooms. Prehistory until 2001. Geological sample; railway; printing ■	①②③④⑤⑥⑦⑧ Victorian house (1882). British staff housing ■	Worker's house in Peña del Hierro ■

Legend

Mining Museum	Mining Tourist Railway	Short Watchtower	Peña del Hierro (complex)	Mars on Earth
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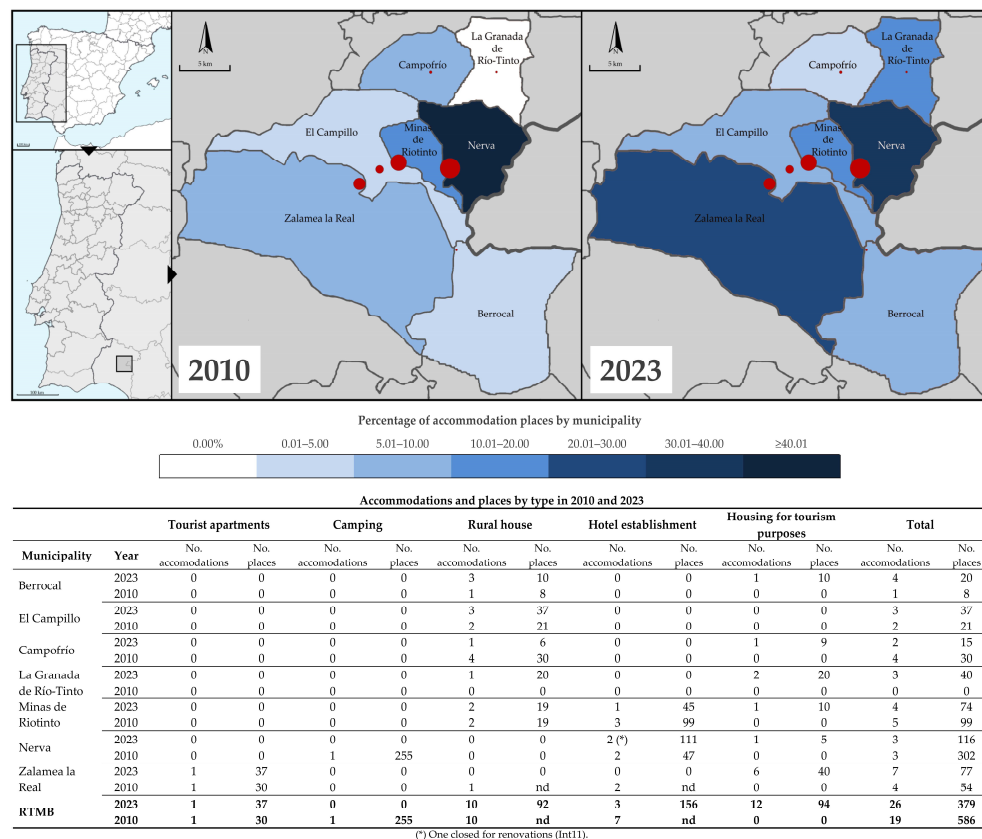
① Package 1 (Mon to Sun). ② Package 2 (Tue, Thu, Sat). ③ Package 3 (Mon to Sun). ④ Package 4 (Mon to Sun). ⑤ Package 5 (Mon to Sun). ⑥ Package 6 (Mon to Sun). ⑦ Package 7 (Tue and Thu; limited places). ⑧ Mining Museum-House No. 21 (Mon to Sun). ⑨ Moon Train (full moon days in summer; limited places). Stakeholders involved in enhancing tourism value: ■ FRT; ■ Regional Ministry of Environment; ■ Minas de Riotinto City Council; ■ Atalaya Mining.

Figure 3. Structure of RTMP. Source: [75,84,87,97]. Authors' elaboration.

Apart from the PMR, as an offer from IMHT there is only a small Matilde Gallardo Ethnological Interpretation Center (Minas de Riotinto), which explains the mining way of life in a traditional workers' home (19th century); it is managed by an association and is unrelated to the PMR (Int01). For its part, the new mining company, Atalaya Mining, through the Atalaya Riotinto Foundation (FAR), made a “living industry” proposal, with

professional (technical and scientific) and school visits, as well as a viewpoint on the road from which you can observe the operation of the mine and the blasting (Int07).

The development of IMHT was identified with the offer of accommodation, restaurants, and other services for tourists [3]. In 2023, there were 26 tourist accommodations with a total of 379 beds (Figure 4) [85], with a sharp decrease in beds (−64.68%) compared to 2010 [78]. The accommodation offered in the RTMB is very scarce, as in other areas of IMHT [8,32].



(*) One closed for renovations (Int11).

Figure 4. Accommodation offer in the RTMB in 2010 and 2023. Source: [78,85]. Authors' elaboration.

The development of IMHT was identified with the offer of accommodation, restaurants, and other services for tourists [3]. Since 1995, the LAG has co-financed the implementation and improvement of most of the accommodation (Int02), generating a network of all types (hotels, campsites, and rural houses) (Int02). In 2023, there were 26 tourist accommodations with a total of 379 beds (Figure 4) [80], with a sharp decline in beds (−64.68%) compared to 2010 [75]. The accommodation offered in the RTMB is very scarce, as in other areas of IMHT [15,29]. The most essential accommodation types (2023) are tourist homes (46.15%) and rural houses (38.46%), but 41.16% of the places are distributed among three hotel establishments, which are the only ones that can accommodate groups (≥ 45 seats); this is a notable obstacle to the further development of tourism (Int01, Int03, Int06, Int08, Int12). The current supply of places is concentrated in the municipalities of Nerva (30.60%) and Minas de Riotinto (19.53%); these places are linked to IMHT (Int02, Int11), while the rest are purely rural (Int02, Int10). Four accommodation places in the IMH complexes respond to the orientation of the IMH rehabilitation towards SIE for tourism [15,35]. Except for one hotel from 1987, all the accommodation was created after 2001. Since 2015, the appearance of the new accommodation has been limited due to the demand for real estate by mine workers (Int12). Currently, all the accommodation is privately promoted. Those accommodation sites that were encouraged by the municipal (a campsite) and regional administrations (a hotel) have failed (Int06, Int11, Int12). Activity cessations due to non-viability are recorded (Int02), especially during the international financial crisis (Int06). The

promotion of the LAG has been fundamental in the accommodation offer in the RTMB, but it is very scarce, as in other areas of IMHT [15,29].

For their part, the municipalities talked about the promotion of parking for motorhomes (Int01, Int04, Int08) due to the increased demand since the pandemic (Int03, Int06); they sought financial support from the Atalaya Riotinto Foundation (ARF) (Int07). Creating electric charging points is also proposed as a tourist initiative (Int04). These proposals align with the development of autonomous tourism [60], but their contribution to IMHT is questionable.

There are 49 restaurant establishments with about ± 1000 seats [79], which cannot cope with the demand peaks (Int01, Int02), which are affected by transit points (near the road) and by seasonality (Int01, Int02). They are concentrated in the most populated municipalities (Nerva and Minas de Riotinto) (Figure 5) and are also the ones that usually receive visitors from the RTMP (Int01, Int06, Int11, Int12). There are only six establishments with the capacity for groups (≥ 45 people); four of them are in Minas de Riotinto, which is also the municipality where the demand resulting from the reopening of the mine is concentrated (Int11, Int12).

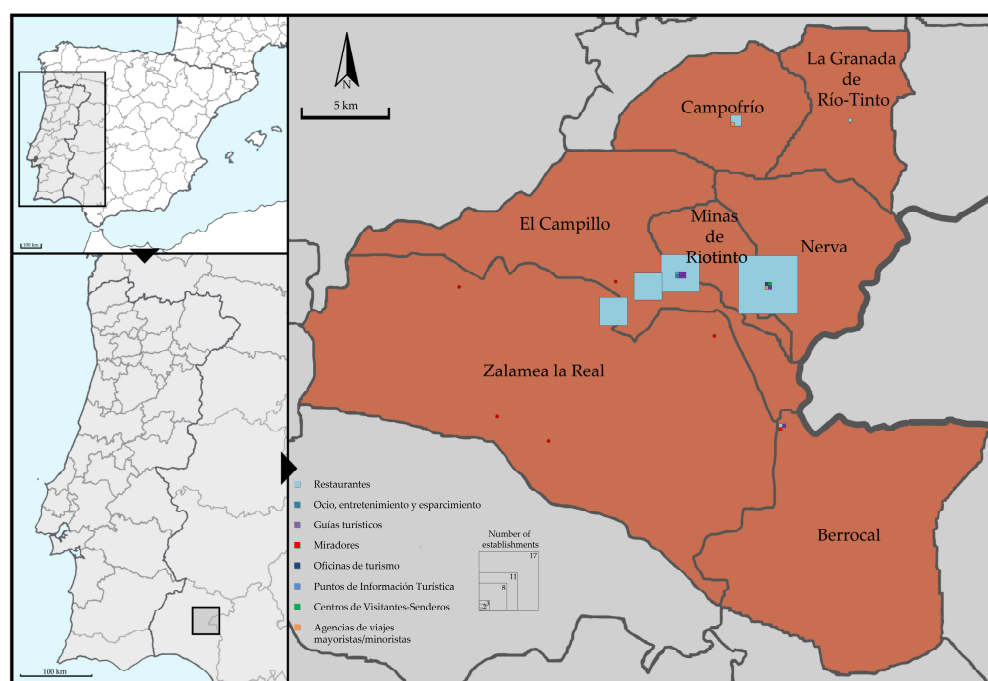


Figure 5. Restaurants and other tourist services in RTMB. Source: [84]. Authors' elaboration.

The rest of the tourist services are even scarcer (Figure 5), and for decades, initiatives were co-financed; later, they ceased their activity (Int02). Apart from the RTMP, as an offer from IMHT, there is only a small Matilde Gallardo Ethnological Interpretation Center (Minas de Riotinto) that explains the mining way of life in a traditional workers' home (19th century); this managed by an association and is unrelated to the RTMP (Int01). For its part, the new mining company, Atalaya Mining, through the ARF, made a "living industry" proposal, with professional (technical and scientific) and school visits; there is also a viewpoint on the road from which you can observe the operation of the mine and the blasting (Int07). In addition, four tour guides and one "leisure, entertainment and recreation activity" (this is the RTMP) are registered [80]. For its part, the municipal SIE comprises a tourist office and a tourist information point pending opening with the support of ARF (Int04, Int07), while the others are closed or have not materialized (Int01). Apart from the Peña del Hierro Visitor Center and the trail (established by the regional Ministry of Environment, but managed by the RTF), there are no other public facilities in the PLRT.

The situation of the SIE is practically the same as that of a decade ago [75], with few private and public activities generated. There is a deficiency in the supply of restaurants and services as business opportunities [52] as they have viability issues due to their low profitability and high fixed costs [52].

The RTMP has received a continuous flow of visitors, accumulating 1,768,703 since its opening in 1992 (Figure 6) [75,92]. The RTMP stands out on a Spanish scale within IMHT [29,40]. Visits to the RTMP have experienced ups and downs due to [75]: (a) opening/closing of new attractions; (b) the celebration of events (its own and those of others); (c) meteorological variability (cold and rainy days/months/years increase visits, warm ones limit them); and (d) the effects of the international economic crisis and the pandemic. Since 2015, there has been continuous growth. Reopening the mine that year did not negatively affect the number of visitors, but whether it had a positive effect has not been established. The heritage declarations (PLRT, MGMN, and HZRTN) do not indicate an increase in visitors, nor does the inclusion in the WHS Tentative List. The COVID-19 pandemic and the restrictions imposed (2020 and 2021) caused a plunge in the number of visitors; growth was registered when the restrictions were eased (Int11, Int12). In 2022, the number of visitors from 2019 recovered. The increase in visitors indicates its consolidation [59], robustness, and ability to withstand high levels of visitors [31] and demonstrates its viability with a relatively modest investment [58]. The effect and importance of the RTMP in IMHT are due to its uniqueness [53], which is based on a combination of authenticity, interpretation, and thematization. In this way, RTMP “aspires to remain a reference and example—national and international—of the use of endogenous resources linked to the mining of a territory” [87] (pp. 19–20) and to stand out on a Spanish scale [15,16,29,40].

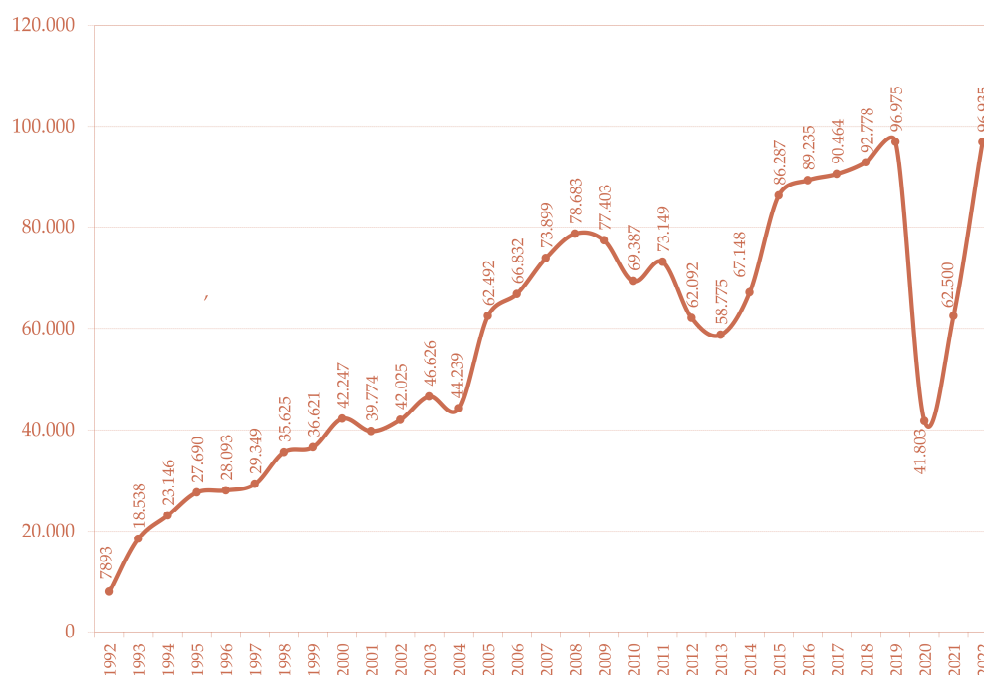


Figure 6. Visitors in PMR (1992–2022). Source: [98]. Authors’ elaboration.

In 2022, the RTMP received an average of 265 visitors/day. The visits are concentrated in autumn and spring (Figure 7). The minimum number of visits is recorded in January, when it falls to an average of 136 visits/day, while the maximum is in April (Holy Week), when it amounts to 376 visits/day. The demand is concentrated on the weekends (Int06, Int11). There is seasonality and a variable demand that does not involve spending the night (Int01, Int02, Int03, Int11), which is a general characteristic of IMHT [6,7,15].

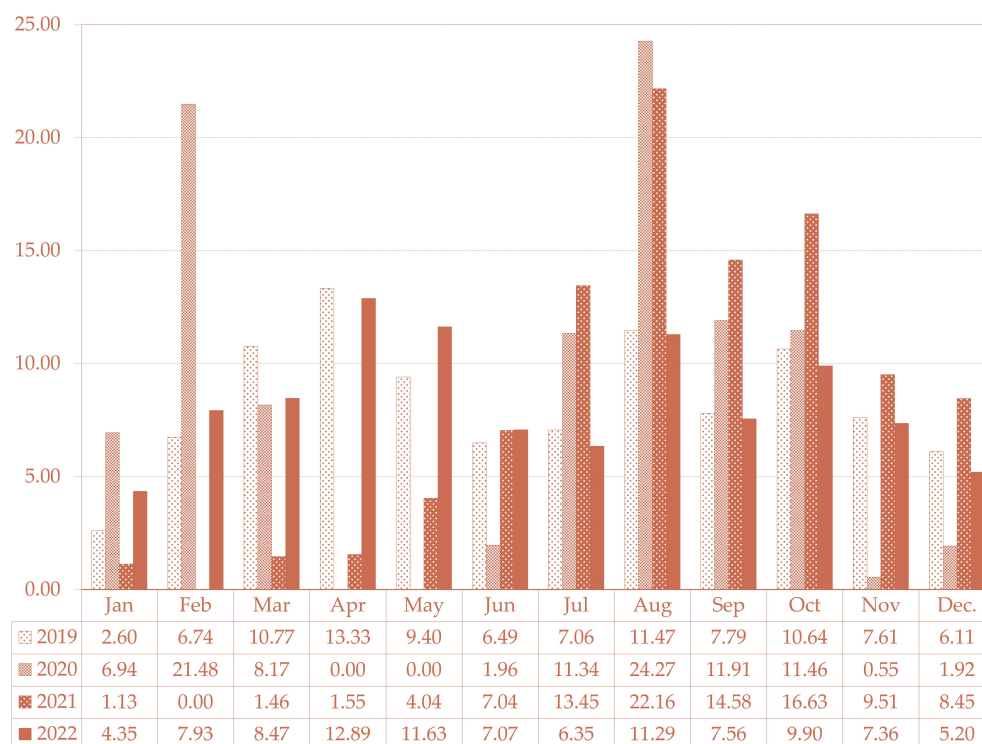


Figure 7. Distribution of visitors by month in percentages of RTMP (2018–2022). Source: [75,92]. Authors' elaboration.

IMHT affects a wide range of visitors [50,99] and promotes the educational aspect of the IMH [3].

The type of visitors to the RTMP remained stable (Figure 8). Individual/family visitors predominated and grew (>60.00%) and were mainly concentrated during vacations and on weekends (Int12). Educational groups (provincial and extra-provincial) maintained RTMP activity on weekdays [59], but their spending was minimal (Int06), and their relative weight decreased (the absolute number was stable). The number of organized groups tended to decline; the groups were generally from the nearest areas of Seville or the Costa de Huelva, with cruise passengers arriving in Huelva with a purpose joining them in 2013 [59]. University visitors are important qualitatively, but their relative importance decreases as they sometimes look for accommodation (Int11). The number of elderly groups grew. Thus, it is shown that IMHT affects a wide range of visitors [99] and promotes the educational aspect of the IMH [3], which highlights the visits of families with children as a way of approaching and experiencing engagement with heritage [100]. Autonomous tourism is predominated [60] by incidental use compared to that of the visitors who arrive with a purpose [59], although it is these visitors (educational groups, university students, cruise passengers, seniors) that increased the most, with relationships existing between the type of trip/number of people/decision making [99]. Considering the origin of the visitors to the RTMP, around 80% are national tourists; these are proximity groups (2–3 h away). Twenty per cent of the visitors are international (Int11)—German and British tourists who stay mainly on the coast during the sun-and-sand season (Int12). In general, the visitors link exoticism with the tourist experience and not with distance [101]; exoticism is less vulnerable in crisis contexts [102], as demonstrated during the pandemic.

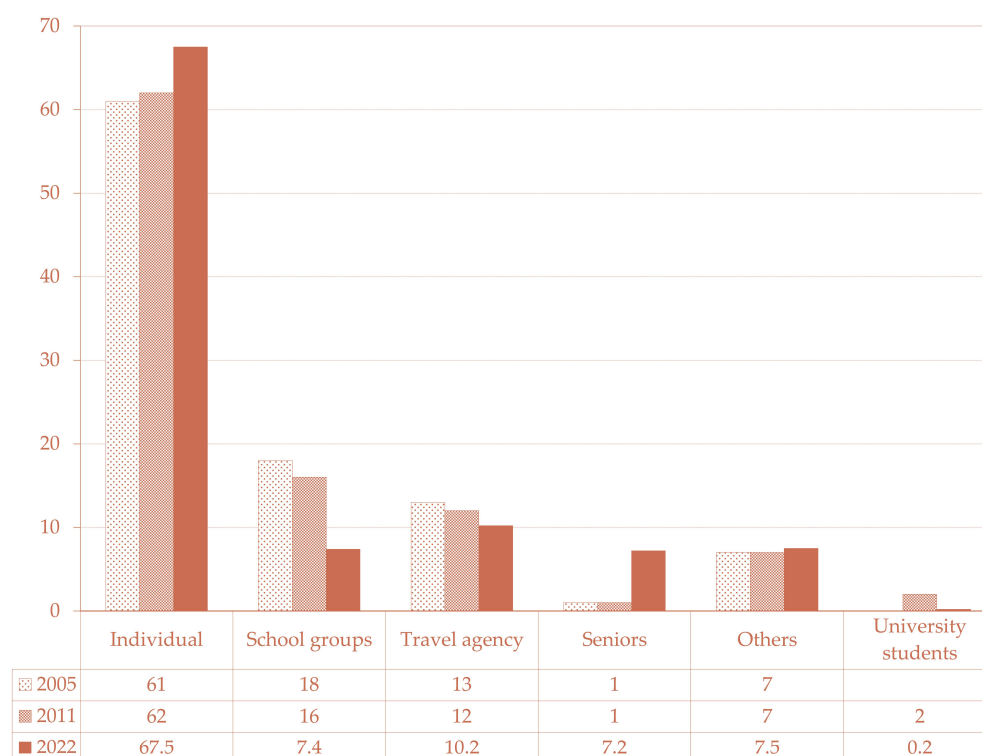


Figure 8. Types of visitors of PMR (2005, 2011 y 2022) (%). Source: [78,98]. Authors' elaboration.

IMHT is limited in Spain, where sun-and-beach tourism predominates [29]. This idea is repeated among the respondents (Int01, Int02, Int09), who discuss how coastal tourism has been prioritized and how IMHT in the RTMB is still in the start/development phase. In addition, they point to the need to provide the SIE (Int01, Int02, Int04, Int06, Int08), the improvement of communications (Int01), the promotion strategies (Int11, Int12) and marketing (Int01), and the segmentation (Int11) that will increase consumption, the number of visitors, the expansion of segments, competitiveness, income, experience, and satisfaction. There is research that looks at other successful tourism models that present a biased vision of reality [103] or apply the life-cycle approach to say that in the RTMB the tourism development process did not culminate or that it is in an initial phase [68,76]. However, it is necessary to pay attention to internal and external factors to understand the development of IMHT [3,6,7]. The attractiveness [6,58] and specificity of the place (Corta Atalaya, MTR, RTMM) make it known [90] and visited [29]. The relative ease of access by private vehicles and the distance to consolidated tourist destinations [30] with large accommodation capacity (Seville, Costa and Sierra) and to a large city (Seville) (Figure 9) favor the RTMP as a successful initiative [29].

Nonetheless, being an intermediate area influences the formation of a tourist destination [56,57] and the creation of the SIE given the predominance of visitors compared to overnight tourists [7,75]. In this way, it is a tourist space where transit supply and consumption are concentrated and where visitors arrive incidentally or with a purpose [59]. As an intermediate space, the RTMP is a cultural and heritage site, at the center of which are the RTMM and the Corta Atalaya; these are specific heritage examples which have traditionally appeared as roadside attractions and murals in transit [59]. Therefore, improvements in the SIE, communications, and marketing will not necessarily increase the arrival of tourists willing to stay. Although products that extend the activity all day and generate demand for accommodation can be generated, it is not easy to advance in the formation of destination [15,16] since attractions are created. Still, new activities and businesses are not generated, as observed elsewhere [3]. A paradox occurs: SIE investments have uncertain viability [6,40], but having them is believed to create their viability.

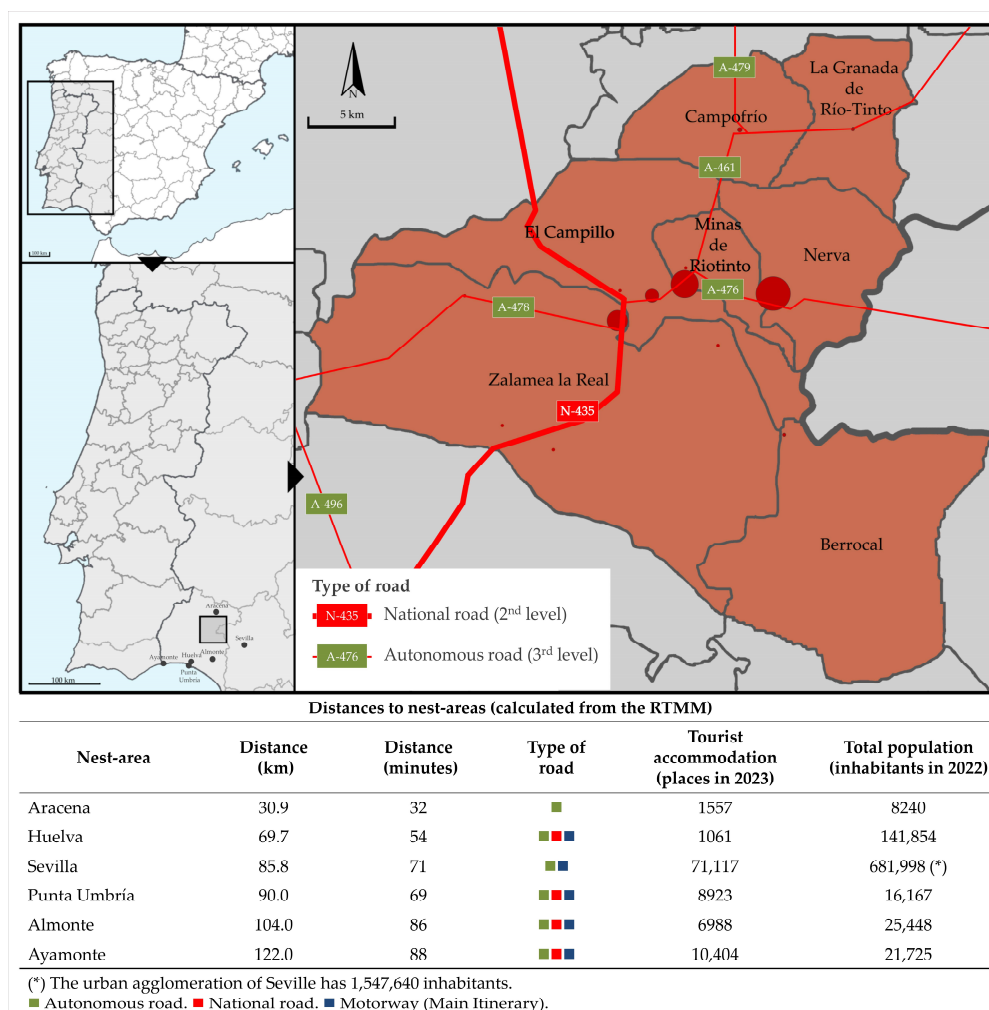


Figure 9. Communications and distance to nest/areas. Source: [84]. Distances calculated with GoogleMap©. Authors' elaboration.

3.3. Change of Scenery

The different studies on IMHT in the RTMB [29,40,76] did not address reopening the mines.

The first effect of the reactivation of mining on the IMH and IMHT was the emergence of a new actor, Atalaya Mining, which was related to the environment through ARF. For some of the respondents, mining activity for the RTMB meant employment (direct and indirect) (Int01, Int02, Int12), economic activation (Int01, Int02), and a slowdown of depopulation and ageing (Int01, Int02, Int06) and that the RTMB “has not succumbed during the pandemic, because the mine has continued working” (Int02). However, there is no unanimity, and for other respondents, betting on mining means betting on monoculture and dependency (Int06) since its scope is much more limited than it was historically (Int05). It influenced the development of other activities (Int09), with IMHT being an alternative to the mine (Int08). For some of the informants, observing the current mining activity from the viewpoint enhances IMHT (Int01, Int02, Int07); the landscape is an attraction and synergies are created (Int01, Int02, Int03, Int04, Int12), with live industry visits (school and company visits) at Atalaya Mining [104]. In addition, Atalaya Mining develops a vital heritage project within the HZRTN (Int07, Int12), applying compensatory measures of research, enhancement, dissemination, and public use in different areas [104] for the enhancement of tourism value of the IMH (Int03). There is a gender and territorial contrast in the opinions of the informants. The women's view of mining is that it is more harmful, although not exclusively, and the most positive views are in the municipality of Minas de

Riotinto. Some attribute the mine to a *Deus ex machina* role in a vision that coincides with other mining areas [11,12]. Others see IMHT as an instrument of diversification [8,10,14,75]. With visits, the industry sees an opportunity for the mine and the RTMB [43]. Moreover, the demand for housing by miners caused an increase in the benefit of real estate income and prevented the creation of tourist accommodation that would enter into competition [66]. It must be considered that mining is always temporary (it is subject to profitability), with short- and medium-term activity (in the RTMB, for now, until 2030), and implies that the land and landscape is to be used after mining; this is intrinsic to the life cycle of the mine itself [105]; so, it is necessary to consider “new mining” in the future; this is understood as the use of mining know-how for recreational activities [45–47].

3.4. Tourism and Sustainable Rural Development Processes

A priori, there is a close relationship between the heritage mission and the principles of sustainable development. Nonetheless, this can be misleading [94], and reflecting on the actual scope of enhancing the IMH and IMHT in terms of SRD is necessary.

3.4.1. Socio-Cultural Dimension

The role of the local population in tourist activity is essential [106] and can be exercised through heritage conservation associations [30]. The respondents perceive that the population has little social commitment to IMHT (Int01, Int11, Int12). Although heritage conservation associations exist [30], their intervention in IMHT is limited, partly due to the difficulty of presenting, financing, and executing projects (Int05). The reopening of the mine makes IMHT a secondary activity for the local population (Int06, Int09). The positive vision of those dedicated to IMHT is reinforced (Int05, Int11, Int12), which contrasts with the previous period (mining crisis), when the local population perceived more benefits than costs and a high degree of satisfaction with IMHT, while those who were dedicated to the IMH/IMHT were the most critical [98]. That is, the crisis and mining prosperity influence the social perception of IMHT. The social benefits are more limited than expected [20]. However, there is no perception of negative impacts, such as social saturation and overload [98].

The sustainable relationship between tourism and cultural heritage depends on the heritage capital approach, the authenticity, and the interpretation of heritage capital [94]. The heritage issue benefits from improving the IHM, but tourism, considered as simple growth, can endanger the physical nature of the heritage, its integrity, and its inherent characteristics [107]. The debate between the conservation and commercialization of heritage and culture [31,34,35], which is questioned in the development processes [108], does not appear in the RTMB, nor is it deduced from the responses of the interviewees. However, there is a risk, primarily when efforts are concentrated on increasing the number of visitors (Int02, Int04, Int11, Int12), which leads to trivialization [36] and the prioritizing of what tourists want [48] over the needs of the IMH [33].

Alternative interpretations of the IMH are necessary to adapt to the local and/or regional awareness of the IMH [27] and to avoid the disconnection of the mine’s knowledge from the present and future generations. However, this is complex in RTMB, given that the interpretive discourse changes with the reactivation of the mine, with a positive representation of the activity being put above its historical, social, and environmental meaning, as has been noted in the literature [12]. Thus, there is no monogenous understanding of the past; instead, different actors with different interests build values from the past, and it becomes the building of “the future they want” [11] (p. 207). On the other hand, the relationships between past, present, and future are considered opportunities for creative development [89]. However, in the RTMB, there has not been the innovative approach to developing living history activities [16,44], historical recreations [109], or sporting events in heritage spaces observed in other IMH places [110] or the transmission of the past by its protagonists [45–47].

Tourism has been perceived as an instrument to establish and/or attract the population to peripheral areas [58,59]. IMHT “has been an option only when the mine has failed, being the only alternative to depopulation” (Int05). The effects of the demographic crisis on the RTMB (Figure 10) have resulted in a lack of human capital [4,54]. However, the development of IMHT has not generated a positive demographic dynamic. Since 2015, only mining has limited the population decline in the central municipalities. However, some workers reside outside (Aracena, Huelva, or Seville) (Int05, Int06), regardless of the fact that some peripheral municipalities are growing (COVID-19 effect and cheap housing) (Int10).

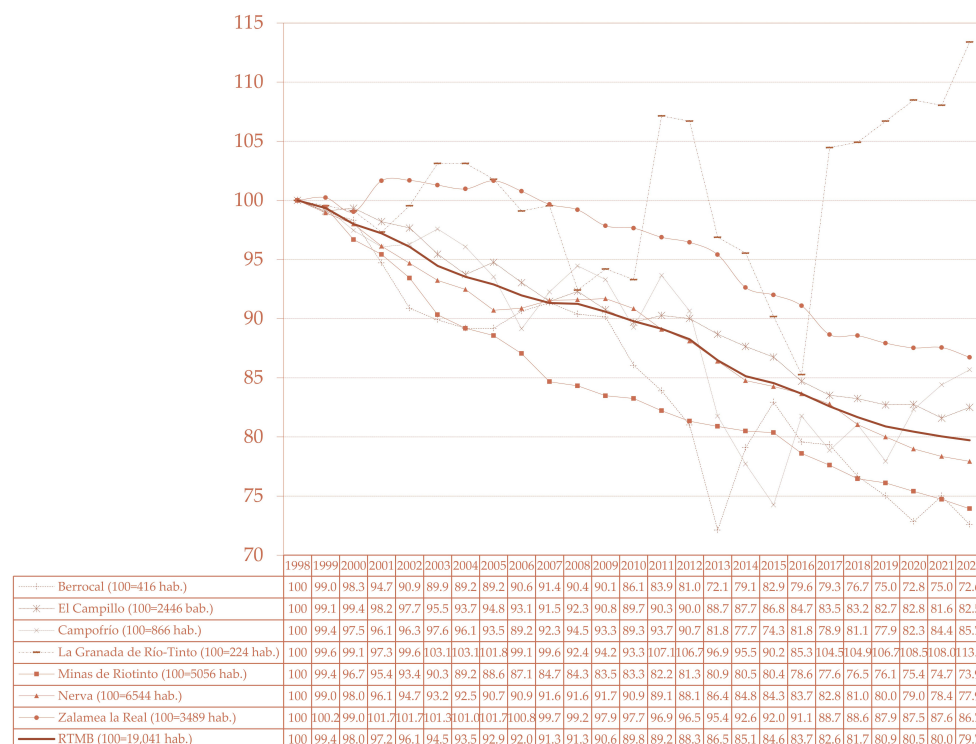


Figure 10. Evolution of the population (index numbers) in the RTMB (1998–2022), Source: [78]. Authors’ elaboration.

3.4.2. Economic Dimension

The economic dimension is the dimension of the SRD to which interviewees tend to pay the most attention.

IMHT is proposed as an instrument for the diversification of the economy [6,24,53] and contributes to reducing vulnerability [4]. This is how the informants (Int02, int05, Int11, Int12) interpret it, which is why all the IMHT initiatives are supported (Int02). However, some point out that “tourism has not been considered of as one of the pillars [of the economic development]” (Int05).

The issue of financing is essential [111] for the conservation, consolidation, and rehabilitation of the IMH. Some informants agree that financing is the main issue (Int04, Int08, Int10). The financing of tourism projects is carried out with the funds and fundamentally with co-financing from ERDF funds and other EU, LEADER, and PRODER programs managed through the LAG (Int02, Int06) and the regional administration (Int02, Int05, Int12). However, the success of the projects and investments has been variable since some “manage the funds they receive better” (Int01) and assume more responsibility than others [3]. Although there have been public funds focused on tourism, it is not known how to spend them (Int01, Int05); very few initiatives are launched (Int01, Int02), sometimes because of the excessively bureaucratic system that manages aid (Int11, Int12). Furthermore, public funds have disappeared or are limited since the international economic crisis (Int01, Int02, Int12). Although the commercialization of heritage products brings money to private

actors [32], there is a deficit of local private investment (Int06, Int11) and “the little investment made in tourism comes from abroad” (Int06), and there are problems finding real projects and public and private promoters (Int01). Only the RTF has managed 523 specific projects with solvency since 1987 for the recovery of the IMH and its enhancement of tourism [87], receiving external support with subsidies and aid (from the LAG, central administration, regional administration, and provincial council). The size of the existing IMH [15], the high costs of intervention [16], and the impossibility of obtaining quick returns on investment [6] mean that the weight on local private and public actors in project financing is less than that in external financing [1]. IMHT contributed to the stimulation of the formation of local service activities [51]. However, in the RTMB, a business network has not been created around tourism (Int02, Int11), with diversification and complementary income and non-business activities predominating over the main activities (Int01). In this way, the private initiative has not come to support the RTF initiative. At the same time, establishments created with public investment and private management have proven economically unviable (Int1, Int05, Int06, Int09, Int11, Int12). Thus, there are difficulties in making the restored IMH profitable beyond the RTMP visits that do not generate overnight stays, which complicates the business viability of restaurants and accommodation sites [59], and micro-projects offer micro-results [54].

Concerning the above, it is common in post-mining spaces that entrepreneurship is very limited in tourism [3,15]. It is essential to understand that in a scarcely entrepreneurial context, with little initiative and without a business mentality (Int01, Int02, Int03, Int11, Int12), having initiative is an exception because one has always lived off the mine (Int01, Int04, Int05, Int06, Int12) and “a secure salary is preferred (...) in the mine” (Int06). For this reason, there are very few entrepreneurs (Int04, Int08), and those who exist often come from outside (Int06). Also, the superstructure does not favor entrepreneurship when it comes from outside (Int06, Int11). Although other research aimed to study the business ecosystem in RTMB [76], in mining areas it is complex since the historical legacy forms capitalist rural societies [85], which are dependent on the companies whose top-down management generates a poorly diversified business sector [112], which, accordingly, results in a lack of a business culture [86].

Added to the lack of entrepreneurial culture is a culture of subsidy and apathy (Int11, Int12), generated by deindustrialization since “the business fabric has been generated around the mine” (Int12). Thus, there are underlying relationships between local culture and the agency [113], with the factory–city culture prevailing; this culture hinders change [113], with the opportunities for change being specific to the actor, as it is more resistant to institutional changes [113].

The predominance of visitors over tourists means that significant benefits are not generated, making visits of more than one day of crucial importance to create more added value (Int06). Quick gains are almost impossible [10], and to ensure that the population perceives a more significant economic impact of IMHT on development, an increase in overnight stays is necessary [28]. However, the RTF, based on mining liabilities, generated economic assets through the RTMP and was financed with tourist income and heritage services that are external to the administration and companies, etc. (Int12); the profits were reinvested in the conservation, maintenance, rehabilitation, and enhancement of the IMH (Int02, Int12), which consumed most of its resources [3]. Public investment does not contribute to its economic viability but rather to generating projects, breaking with the dependence on the public aid that is usual in these initiatives [15,40,41] and becoming a model of income optimization with direct reinvestment in the territory [106].

In general, the local population has low purchasing power (Int11). The RTMP would represent 2.00% (estimated) of the declared gross income of the municipality of Minas de Riotinto, contrasting with areas in which it has been estimated at around 7% of the income [114]. The mining reactivation has increased the declared gross income, although it has not yet recovered compared to the 2008 level when the highest growth in income was recorded (Figure 11).

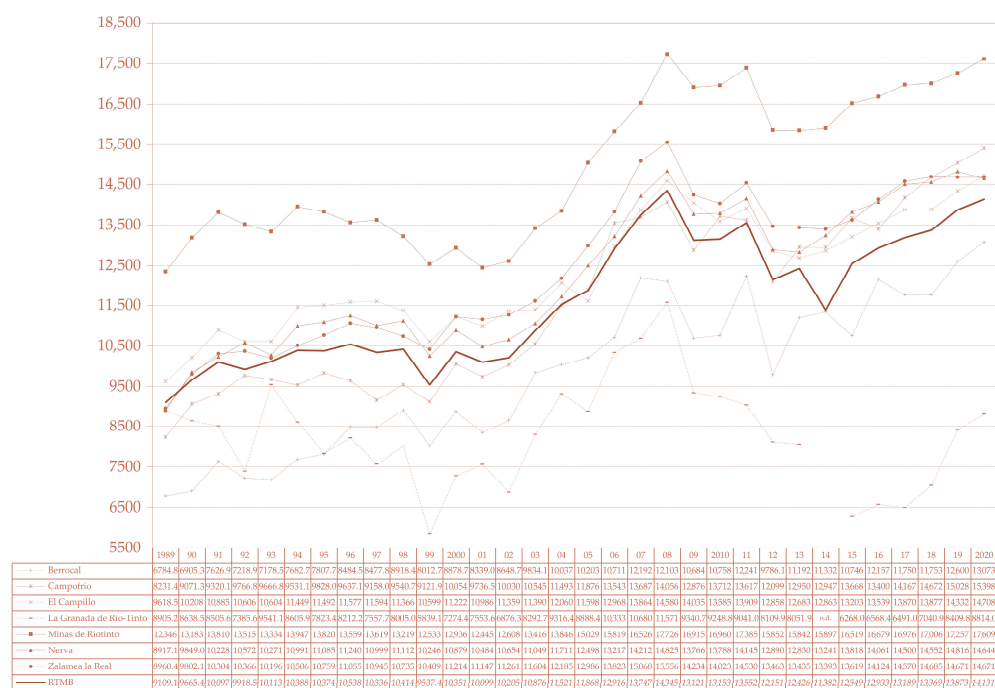


Figure 11. Evolution of the average income declared by RTMB (2006–2022). Source: [84] Authors' elaboration.

Regional public services, such as regional hospitals and education services, represent the bulk of employment, followed by the mine [79,115]. Direct employment in accommodation and restaurant companies is scarce and is often self-employment. Furthermore, some local populations are not interested in employment derived from IMHT (Int09) due to the lack of demand, seasonality, and precariousness, especially in restaurants (Int06). Therefore, as has been observed [55], work in the mine is very attractive and it competes for labor as it has the best salaries, making it challenging to attract and retain workers in the hospitality industry (Int11). Furthermore, the reactivation of the mine meant that the options for IMHT (Int09), employment, and businesses linked to IMHT (Int06) decreased because work in the mine was more attractive (better salaries), making it challenging to attract and retain workers for restoration and tourism (Int11). From ARF, it is understood that mining employment is attractive, but it does not compete with tourist activities (Int07). However, this competition has been observed in contiguous mining areas [77] and other spaces where IMHT and mining reactivation coexist [55,66,116].

The development of the IMH and IMHT is not a solution to the chronic problems of unemployment in post-mining areas [6,20,49]. It is considered to be an obstacle to the development of IMHT [53]. In the first year of the RTMP (1993), the RTF employed six workers, including management staff, administrative staff, and guides [6]. In 2021, the direct employment generated by the RTF was 32 to 38 workers and was divided between permanent and non-permanent workers [92]. The RTF employment rates were much higher than those of traditional museums. It mainly employed local workers with university and professional qualifications, predominantly women and young people (Int12), unlike other places that hire foreign employees [55]. The rehabilitation work of the IMH and its use in tourism have become sources of employment [75], both direct and indirect [6].

Overall, there has not been a change in the employment structure motivated by the IMH and IMHT and tourist activities since the increase in the service sector is due to public employment, in contrast to other mining areas [55]. Neither has it led to a general decline in the unemployment rate, which changed after the reopening of the mine (Figure 12). Thus, the importance of IMHT in employment is more qualitative than quantitative.

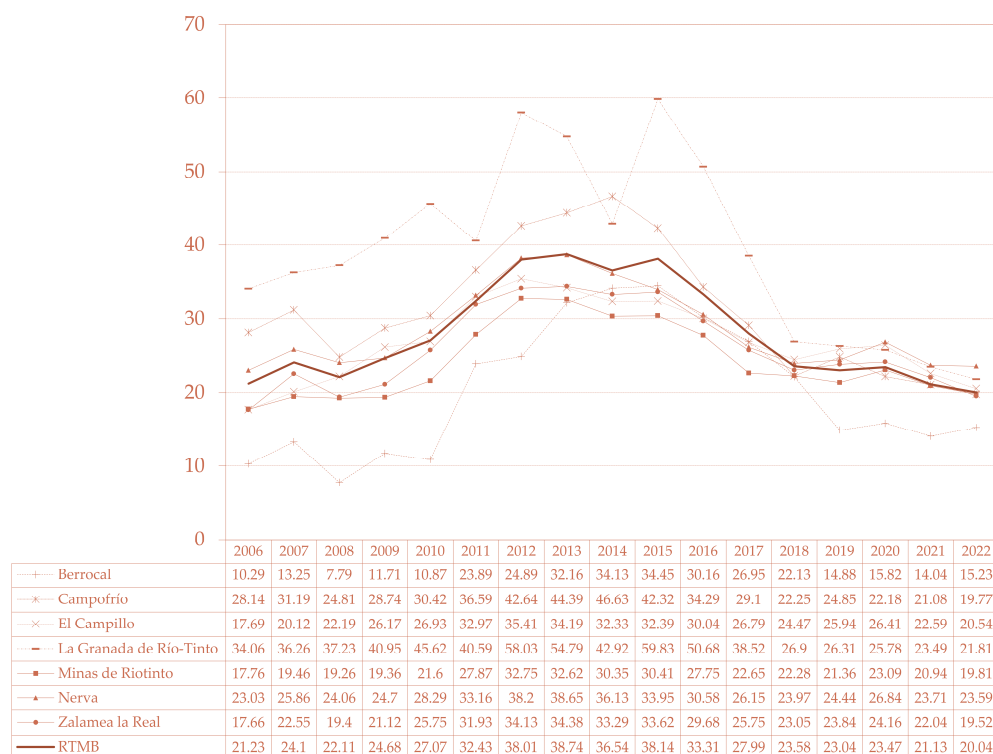


Figure 12. The evolution of the unemployment rate registered in the RTMB (2006–2022). Source: [117]. Authors' elaboration.

Education and training are fundamental in the sustainable relationship between tourism and cultural heritage [94]. The population generally lacks adequate training to occupy other positions in the tourism sector, and formal training is not offered. The existing non-regulated training disappears (Int12), and there is a lack of professionalization and experience (Int01, Int06). It is because the original function of the IMH was not tourism [53] and because of the existence of more attractive activities (public services and mining). However, the preservation of the IMH and the development of IMHT allows part of the highly qualified population, e.g., specialists in heritage, tourism, management, etc., to return and not emigrate [29]. The contribution to the recovery of the IMH and its enhancement of training is essential. Between 1988 and 2017, the RTF, in cooperation with other actors (Junta de Andalucía, the LAG, etc.) (Int02, Int12), executed 18 employment training programs (workshop schools, employment workshops, trade houses, and promotion and development modules, etc.) (Int12). In total, 714 students and workers have been trained [87]; many were subsequently employed in the RTF and RTMP, and self-employment has also been generated (Int12). Yet, the international economic crisis caused training funds to be reduced, and these instruments disappeared (Int01, Int12). The RTF was a pioneer in the application of these instruments for the conservation and recovery of the IMH and its enhancement for tourism [54,87], and “it has been the children and grandchildren of miners who have carried out this rehabilitation” [87] (p. 9).

The RTF was a pioneer in the application of these instruments for the conservation and recovery of the IMH and its enhancement for tourism [54,87], and “it has been the children and grandchildren of the miners who have carried out this rehabilitation” [87] (p. 9).

3.4.3. Environmental Dimension

In a degraded territory, ecological aspects are not widely addressed in IMHT [20]. In the RTMB, there is no debate about environmental sustainability in IMHT or mining activities. After the cessation of mining in 2001, there was no comprehensive recovery of the mining landscape [40,75], and IMHT in the RTMB pays less attention to the environmental aspect of the project than the economic and social aspects [40]. Furthermore, the regional

government established (1998), with opposition from the local population, a toxic and dangerous waste landfill [75], which has continued to cause incidents and controversies, demonstrating making wrong decisions with negative impacts [19]. Planning is needed to address the conservation, management, and restoration of the consequences of mining and SRD [112]. However, in the current context, Atalaya Mining continues its renaturalization processes [104], and extensive rehabilitation and restoration interventions are often unrealistic in open pit mining [105].

Mining cultural landscapes are continuous and evolutionary [83], and their productive function mutates into didactic and recreational ones [65], differentiating between archaeological mining landscapes and living mining landscapes. The most exciting thing in the RTMB is a reassignment of values to the mining landscape through its protection by the declarations of the PLRT (24.27% of the surface of the RTMB) and the MGMN (small size, 0.93 hectares), linking IMHT with the environmental dimension.

3.4.4. Political–Institutional Dimension

The governance context, stakeholder participation and role, local scale, and leadership issues [59,111] take on particular importance in the tourism value of the IMH, as the mining spaces are influenced by inherited social and economic structures [3].

Local participation is vital in sustainability processes [94] and SRD [63]. In the RTMB, there is no “population awareness” (Int11), nor is there a participation mechanism in the tourism promotion of the IMH and IMHT; this requires a top-down and bottom-up coordination structure or forum (Int01, Int11) through consortia resulting from the collaboration “that will lead and promote the RTF but that would incorporate the rest of the agents in the territory” (Int06). This approach would allow the participation of different actors from diverse organizations and levels [3,4] within the overall planning and organization [89]. In this sense, the cultural park for the management of the HZRTN [96] is an opportunity, but until now, there have been no relations between culture and tourism at the regional level.

All those interviewed agreed on the potential of IMHT in the RTMB and the need to create a tourist destination and to not apply any model because each area is different. IMHT is unique (Int03, Int04, Int06, Int08, Int09, Int10) and requires the highlighting of the IMH, the packaging, and the marketing of the product, but there is no agreement on how to do it [3]. The RTMB has no tourism planning nor any other document that includes a strategy and its objectives for tourism development (Int01, Int02, Int11). Thus, unlike other IMHT places [3,27,41], the development of IMHT is a consequence of the sum of interventions to preserve and finance the rehabilitation of the IMH (Int01, Int12). At the different scalar levels, joint actions have been developed without paying attention to particularities and specific situations, generating competition (Int01). However, regional public policies focus on the legal framework and indicative policies. A critical engagement with public policy and tourism planning practice by IMHT [24] is needed to achieve a sustainable relationship between tourism and cultural heritage [94].

As a whole, only the RTF has international references, objectives, a plan for IMHT (materialized in the RTMP, which is growing), a strategy to achieve them, and an overall vision; this is a “model for other initiatives [...] and a reference” (Int12), which was recognized by other respondents (Int01, Int02, Int07). It is identified by other informants, who consider the RTF to be the engine of conservation, preservation, and the tourism enhancement of the IMH, and is recognized by different stakeholders (Int01, Int02, Int04, Int05, Int06, Int07, Int08, Int10, Int11). Thus, the RTF is a cultural institution with local roots that plays the role of a central actor [76]. Still, it is a private entity following the post-production organization model and a production and extraction plant that also acquires a tourist function [23]. On the other hand, it did not exercise leadership for others and instead made decisions according to its objectives (Int06), with a growing disaffection from the central to the peripheral municipalities. However, the RTF led processes only for some informants (Int01, Int05, Int07, Int08), while for others, it only made decisions following

its objectives, causing “a screen effect” that does not encourage the development of other activities (Int06). The RTF only manages and makes decisions about its own assets or those it controls in the RTMP (Int12). It does not manage mining assets, and its business model does not compete with those of local restaurants and accommodation sites (Int11, Int12). In this way, it maintains an apparent balance with these activities, which differentiates it from other initiatives in which the central actor diversifies its sources of income [3]. However, it is not open to listening to other actors when planning its activity (Int11) since it follows the post-production organization model (of a production and extraction plant that acquires a tourist function) [23] that applies traditional and unilateral management, which generates a low-density network [76], making it necessary to reach agreements to develop new projects [118]. However, the perception of the RTF has improved among municipal actors compared to what was observed [76], especially among the most central ones in Minas de Riotinto and Nerva (Int04, Int08).

Municipalities lack competence in tourism policy in a neoliberal context but act as inhibitors or facilitators of IMHT development, providing local leadership in the context of business disinterest and top-down directives [119]. In the RTMB, it is difficult for municipalities to be promoters of IMHT (Int02) because they are small and have technical, financial, and personnel limitations (Int01, Int02). Furthermore, there are management difficulties due to the ownership of the IMH, which is not municipal (Int01, Int04, Int08). Consequently, it limits actions and requires transfer agreements (Int01, Int04) with the private sector or state and regional administration. Only the municipality of Minas de Riotinto is active in the recovery of the IMH (Int04). The actions of the IMH and IMHT respond to specific and final projects in which the municipalities act individually (Int01, Int04, Int06, Int10) without any coordination between them. They do not even follow a thematic line (Int10), and the creative solutions sometimes approach improvisation, acting according to impulses towards projects (Int04, Int06) and not responding to objectives (Int11). Thus, municipalities have not adopted a central role in the processes [120] to evaluate projects, attract investors, and know what is of interest [24].

For its part, Atalaya Mining is a multinational company for which the IMH and IMHT are marketing and public relations tools [43,67] linked to the corporate social responsibility (CSR) of the company [43,51]. Furthermore, living industry tourism shows its excellence and innovation [43], improving its image with the community, which tends to feel safer, counteracting its fears about pollution and environmental impacts [67], allowing knowledge transfer, performance improvement (brand loyalty, trust in the product when knowing the production process, and loyalty), and work image (future employees) [53]. Thus, a narrative is being produced through IMHT.

There is a need for sectoral and regional cooperation [3,4,15,24] since the sustainability of IMHT is directly proportional to the interconnection between the actors [2,24,27,40]. The positive relations between the RTF and Atalaya Mining stand out. Atalaya Mining, who joined the RTF board of trustees, overcame the disagreements between the RTF and the previous company owner (Int01, Int12). In addition, Atalaya Mining is a member of the LAG. Through ARF, it collaborates with the municipalities of the RTMB, RTF, and other entities in specific actions, which include the rehabilitation of the IMH and the promotion of IMHT [104]. These actors are the ones who develop a more positive vision (Int04, Int08). The municipalities and the RTF benefit from the cooperative relationship materialized in projects. They favored three-way cooperation agreements (Atalaya Mining/Municipality of Minas Riotinto/RTF), allowing the tourism reopening of Corta Atalaya in 2021. These synergies are based on mutual benefit, in which Atalaya Mining presents itself as “a good neighbour, a stable participant in community affairs” [67] (p. 89).

Nonetheless, these horizontal relationships are based on the mining company’s CSR without a formal cooperation structure. In general, the context of public–private and private–private cooperation in the RTMB has improved compared to what was studied by Perfetto and Vargas-Sánchez [76]. However, it is worth considering the weight of the personal relationships of the respondents in this perception.

In contrast, the competitive relations stand out between the different municipalities since there are no common objectives concerning IMHT (Int01, int06), and there is no forum for collaboration or leadership following the disappearance of the commonwealth (Int01, Int02, Int06). Frequently, local initiatives are individual and are related solely to tourism promotion [54], prioritizing the marketing of the place (municipality) over the RTMB. This results in the non-existence of a strong tourist image of the RTMB, one which is recognizable and identifying [89].

There is also no collaboration or participation between tourism companies (little associationism) (Int06, Int11), and it is essential to improve the relationship and involvement in networks between companies and those with the RTF. It becomes a central issue for IMHT management [120] and its aim of increasing visits [27].

Developing projects with internal and external actors generated a culture of cooperation [18], but through temporary networks, which concluded when the projects ended [103]. The connection among technicians (Int01, Int06, Int09, Int12) allows collaboration in informal networks. Despite the participation in networks and projects, there are no formal links with IMH managers outside the RTMB, which is often limited to signage projects. It is essential to apply “complementarity” between places with IMH to avoid competition and the creation of clusters [8] with a unified vision of IMHT, with the involvement of actors and interlocutors to create and consolidate routes [20] and a governance structure that allows its sustainability, as seen in ERIH.

At a theoretical level, IMHT must affirm the identity of the place [106] and contribute to its regional preservation [51], i.e., “the mining identity”. Given the role of social identities and the symbolic community, for the successful development of IMHT, it is fundamental to build community discourses and local identity models [30]. There is a tourist identity at different levels, and it is projected outwards (Int07). A tourist identity exists at different levels; it is projected and perceived outwards (Int07). The actors of the three central municipalities (Int01, Int04, Int06, Int08, Int11, Int12) identify with mining, the mining landscape, the IMH, and IMHT.

In contrast, the peripheral municipalities identify with rural tourism (Int10). They do not make any references to either the IMH or IMHT on their websites; there was a lack of interest in participating in this study, and their rural identity functions according to the needs of the municipalities (Int01, Int12). Thus, the feeling of identity (Int10) is diluted in a marked localism, and the mining identity is diluted from the center to the periphery. This effect is partly due to the agricultural tradition of these municipalities and the concentration of resources and heritage in the three central municipalities. It is also an issue due to the negative image that was formed after the mining crisis, which generated disaffection [55]. All of this shows that the heritage process has not been completed or partially achieved to the same extent that the mining identity has been built.

4. Conclusions

Based on the IMH, its conservation, and the enhancement of tourism value in the RTMB, the territory is reinvented [27]. The IMH and IMHT generated opportunities and energized an area in decline. However, mining recovery is a reality and produces a scenario change [11,12]. The mining company competes with IMHT and supports it [113] through CSR, which (re)creates a narrative while deploying its institutional and economic influence on society and the territory.

Compared to mining, which is always a temporary activity, IMHT offers continuity over time and has been an activity with a projection for decades, against all odds [103]. IMHT has broken with the paternalism of the Company but has not overcome its legacy.

In an early phase, IMHT represented a diversification of the activity [113] and contributed to multifunctionality in the face of mining monoculture. Still, its contribution to the SRD is minimal. From a socio-cultural perspective, the conservation and enhancement of the IMH is achieved through tourism, but its social and territorial identity scope is not limited. Tourist activity focuses on the RTMP, with a significant number of visitors, and

this allows the costs of the rehabilitation of the IMH and its maintenance and financing to be covered. However, they have not generated a network of tourist establishments and overnight stays, thus limiting their economic dynamics and their scope for employment. Environmentally, the degraded mining landscape prevails, with few restoration interventions, although protection figures allow values and functions to be reassigned to the landscape, which can be used as an opportunity. The concentration of the IMH and the initiatives means that the territorial scope is limited in the RTMB, which is aggravated by the lack of territorial policies and strategies that guarantee the beneficial effects of tourism. Thus, a private dynamic agent, the RTE, expresses its objectives in terms of preserving the IMH and developing IMHT. This makes it possible to take advantage of rural development policies, but it has difficulties cooperating and generating external dynamics. The rest of the actors act without clear objectives, which are often divergent. The lack of coordination makes it difficult to overcome the barriers imposed by the history and geography of the place [3].

Our study shows that it is one thing for IMHT to work and quite another for it to be a panacea since the tourism model and internal and external factors limit its growth. In the RTMB, its character as an intermediate space prevails, and interested parties must have a realistic image of the possibilities and limitations of IMHT [20] in the face of expectations that forget that the peripheral situation.

The limitations of the research include (a) the lack of a participatory methodology [32] that gives voice to the local population, which allows the “identity status” to be addressed in depth [30], and (b) the limited participation of peripheral municipalities in the study.

Future research should address (a) the processes of patrimonialization and the enhancement of the tourism value of the IMH; (b) the perception of demand with regard to the reopening of the mine; (c) demand satisfaction and the perception of the environmental dimension as determinants of overnight stays; (d) the perception of the local population about tourism and mining activities, taking into account gender issues; and (e) comparisons with other mining spaces, analyzing the weight of internal and external factors.

Author Contributions: Conceptualization, M.B.-R., G.Š. and F.J.G.-D.; methodology, M.B.-R., G.Š. and F.J.G.-D.; software, M.B.-R., G.Š. and F.J.G.-D.; validation, M.B.-R., G.Š. and F.J.G.-D.; formal analysis, M.B.-R., G.Š. and F.J.G.-D.; investigation, M.B.-R., G.Š. and F.J.G.-D.; resources, M.B.-R., G.Š. and F.J.G.-D.; data curation, M.B.-R., G.Š. and F.J.G.-D.; writing—original draft preparation, M.B.-R., G.Š. and F.J.G.-D.; writing—review and editing, M.B.-R., G.Š. and F.J.G.-D. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: The interviewees were informed of the purpose of this work and authorised the use of the interviews.

Data Availability Statement: The databases used in this study are reflected in references [78–80].

Acknowledgments: The authors thank all of the interviewees for cooperating in carrying out this research. We especially want to express our gratitude to Aquilino Delgado-Domínguez, and Francisco J. Cabello-López.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

ACI	Asset of Cultural Interest.
ARF	Atalaya Riotinto Foundation.
CSR	Corporate Social Responsibility.
EAFRD	European Agricultural Fund for Rural Development.
ERDF	Regional Development Fund.
ERIH	European Route of Industrial Heritage.

ESF	European Social Fund.
HZRTN	Heritage Zone of the Riotinto–Nerva Mining Zone.
IMH	Industrial Mining Heritage.
IMHT	Industrial Mining Heritage Tourism
Int01, Int02. . .	Interviews.
LAG	Local Action Group.
MGMN	Montera de Gossan Natural Monument.
MTR	Mining Tourist Railway.
PLRT	Protected Landscape of Rio Tinto.
q1, q2. . .	Interview questions.
RTF	Rio Tinto Foundation.
RTMB	Rio Tinto Mining Basin.
RTMM	Rio Tinto Mining Museum.
RTMP	Rio Tinto Mining Park.
SIE	Services, Infrastructure, and Equipment.
SRD	Sustainable Rural Development.
WHS	World Heritage Site.

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