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Methodological System to Determine the Development Potential of Rural Tourism in Extremadura, Spain

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Abstract: There are methodologies that seek to know the tourism potential of the territory. However, their use has been very scarce and consequently, tourism plans lack a real vision of the possibility of developing tourism. In the case of Extremadura, Spain, a specific methodology has been proposed that considers types and subtypes of variables, both in terms of heritage and tourism facilities. In addition, these variables are ranked in five classes, and their importance is weighted according to the opinion of the demand. The results offer a global vision of the potential, coinciding with the area determined by official organizations in the country, but also facilitate the specific study of specific tourism sub-types. They also show that there is not always a clear relationship between the attractiveness of the environment and tourist facilities. It is concluded that it is important to bet on these evaluation methodologies to enhance the knowledge of any territory to determine its capacity to develop tourism. On the other hand, it helps tourism plans to be applied in the territory to consider the potential of each municipality to promote tourism.

Keywords: evaluation methodology; tourism potential; tourist attractions; tourist facilities; Extremadura

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1. Introduction

The tourism system is enormously complex when it comes to understanding it in its full dimension. It is made up of the interaction of several factors, each of which is, in turn, made up of numerous elements. Among the first are, due to their importance, the heritage assets [1] of any nature and not only the tourist resources, which are joined by the supply of accommodation and complementary services, the demand and the context that sustains it, where the territory and all its social, economic, physical, and even legislative aspects play an important role. Heritage plays a significant role in tourism development [2–5], although it generates numerous impacts on sustainability itself [6], on the resident population [7,8], and, of course, economy [9].

Current literature considers tourism as a complex system [10,11], which is difficult to understand due to the constant interrelationships and feedback of its components.

Like any system, it is both subject to and modified by the interrelationships that arise between its components so that when one of them is not strong enough, the system does not function or becomes destabilized [12]. In fact, it has been shown in numerous investigations that the existence of an accommodation supply does not always imply an attraction for demand. Moreover, even when resorting to such complex analysis processes as spatially weighted regression, it is not possible to find valid models in places that lack sufficient attractiveness for demand. In such a case, if there are no resources or even heritage, it is difficult for this tertiary activity to develop [13].

Although all the factors are important given their participation in the system, it is perhaps the touristic resources that contribute most to the initiation of the activity. It is

not in vain that they have been cataloged on numerous occasions as the raw material of tourism [14–17].

The literature states the crucial importance of resources; they are not always considered in their full magnitude [18]. Rather, they are treated as mere secondary elements because they are contemplated as enumerative lists rather than as authentic tourism factors catalyzing the tourist attraction of the territory.

The definition of a tourism resource is complex since there are many authors who have made their contributions. However, the one that identifies it as a good and service that, through the activity of human beings and the means at their disposal, makes tourism activity possible and satisfies the needs of the demand is usually considered valid [19].

Therefore, the role that they should really play is claimed. However, for this, it is necessary to know their attractiveness through their tourism potential, measured through the corresponding techniques, something that is only partially dealt with at present. However, this type of technique was widespread in studies conducted in past years, when for decades, numerous methodologies were designed that made it possible to know their role in the tourism system [20].

The measurement of the potential offered by the territory for the implementation, maintenance, or improvement of tourism activity is marked not only by the presence of attractions but also by their variety and territorial concentration, their accessibility, and many other aspects of a territorial nature. Naturally, the quality of the resources themselves [21–23] and other particularities, such as market trends, freedom of access, costs, capacity, etc., also have a great deal to do with tourism potential.

The analysis of tourism resources has always been an inherent part of the planning process itself since the certainty of the preliminary diagnosis of the area under study depends on it. The reality, however, often shows a different picture. There are numerous examples of tourism plans in which this phase is so superficial; in others, it does not even exist. It follows that if a key stage in the planning process is eliminated, the entire project is likely to be meaningless.

It is common to observe in tourism planning manuals and guides of all times the scarce role played by resources, more properly speaking attractions or heritage, in one of the most complex processes faced by tourism [24].

Some authors assert that the techniques for evaluating tourism resources become indispensable when determining their valuation, which allows planning actions to be conducted [25].

Being aware of this, numerous authors have tried to measure in some way the possibilities that space has for the performance of tourism. As a result of this eagerness, a large number of methodologies have emerged that attempt to go deeper into this quantification, for which they have selected different variables, weighted their value, and included a variety of actors. They have also opted for a diversity of techniques, with special emphasis on quantitative techniques and the application of tools such as Geographic Information Systems or artificial intelligence based on fuzzy logic procedures.

In concrete terms, the analytical evaluation of tourism potential can be applied to a wide range of evaluation techniques whose common denominator is the hypothesis that considering the presence or absence of certain components and evaluating each one of them, an evaluation of the tourism quality of a particular resource or an area with a tourist vocation can be reached. In short, it is a matter of assessing the intrinsic value of the resource itself based on its main characteristics [23].

The evolutionary process of these evaluation methodologies continues today, incorporating the advances and solutions that have arisen along with scientific progress. However, at times, the level of complexity is such that it is difficult to apply the proposed procedure. Moreover, some of these ways of evaluating tourism potential are beginning to be questioned because they tend to omit the preferences shown by the tourist. There is no doubt that demand, even if it is changing, can determine the success or failure of any initiative, which must certainly also be considered [20].

When the need to know the tourism potential to carry out planning processes began to be considered, the climate was referred to as the main factor conditioning the development of tourism activity. Indeed, climate potential has been considered in numerous studies and geographical areas [26–29] and using different techniques, although the most common was multiple regression based on temperature, sunshine, and rainfall [30,31].

The progress, not always understood, followed by the different evaluation methodologies, has already been described by some authors, who have made a lengthy compilation of the existing ones [23]. Despite this, there are references that emphasize a series of important milestones corresponding to the growing analytical attitude, the diversification of actors, the revaluation of subjectivity, contextual relativity, and the inclusion of environmental issues. However, they also stress the need to seek an inclusive, viable, and dynamic technique [25].

These milestones translate into an increasing complexity of any procedure that seeks to evaluate the tourism potential of the territory. Increased factors and elements are incorporated in the formulation [32–35] such that they can no longer be analyzed with simple statistical techniques. More complex ones must be used, such as multiple regressions [32] or principal component factor analysis [31].

As researchers from different scientific disciplines are incorporated, they contribute increasingly specific tools and techniques. This has meant that multidisciplinary groups are undertaking these evaluation tasks due to their complexity. This increases considerably when we stop looking exclusively for quantitatively measurable aspects to accept something as important as the experiences and subjective changes experienced by the demand. In this sense, the decisive role played by these perceived feelings in the practice of tourism, whether during the contemplation of a landscape, a monument, or the tasting of food or drink, is specified. Education itself is even proposed to achieve greater enjoyment and respect for heritage [36–38].

Moreover, comparisons are inevitable, so the evaluation must always be contextualized in a broad territory so that it is possible to discern competitiveness by opting for characteristics that are differentiated from the rest. Likewise, the environmental component, as a factor of attraction and conservation, can no longer be disregarded and must be centered on the conception of tourism as a sustainable activity.

In view of the above, after several decades, a methodology accepted by the scientific community has not yet been found; rather, there are varied references that pursue aspects related to the researcher's branch. However, there is a certain consensus on the requirements that any evaluation methodology should meet [25].

However, the attempts do not cease and pursue a methodology that is inclusive, considering the resources and heritage assets, the different supply factors, the preferences of the demand, but also others related to the location (distance, accessibility, etc.). They also seek to ensure that it can be conducted in a relatively simple way and that it is open to possible changes in the situations or scenarios experienced. Moreover, it is becoming common for qualitative and territorial aspects, which transcend the tourism event itself, to be considered when assessing the tourism potential of the territory [20].

The main hypothesis put forward in this research is that the development potential of the rural tourism modality in the analyzed context varies significantly in the territory. Sometimes, it is not supported by tourism facilities and planning.

The general objective focuses on the design of a methodology to evaluate the potential of the territory for the development of rural tourism. Naturally, this methodology must meet specific standards, such as being adaptable and applicable to the study area of Extremadura, Spain. Achieving this general objective implies that others of a specific nature must be achieved. These include knowledge of the region's heritage, both natural and cultural, the use of different evaluation methodologies, as well as the identification of the demand and its preferences, the territory, and the tourist facilities.

To try to corroborate the initial hypothesis and fulfill the objectives proposed in the research, several sections are included, in addition to the introduction. A specific

section deals with the study area, the materials used, and the methodology designed to evaluate the tourism potential. Another section shows the results obtained after the application of the proposed methodology. The final sections present a discussion and the conclusions obtained.

2. Materials and Methods

2.1. The Study Area

Extremadura is an autonomous community in the interior of Spain, with a border situation in the west with neighboring Portugal, bordering this country for 422 km [39]. This gives the area closest to this border a special, borderline character, the result of the intense interrelationships that have taken place in these places—often warlike—since the middle of the 12th century and which have impregnated its territories and people with a unique cultural mix. As an example, we can highlight an intangible asset such as A Fala [40], a type of Romance language linked to Galician-Portuguese [41]. In addition to the Portuguese country, Extremadura is bordered to the north by the community of Castilla y León, to the east by Castilla-La Mancha, and to the south by Andalusia (Figure 1).

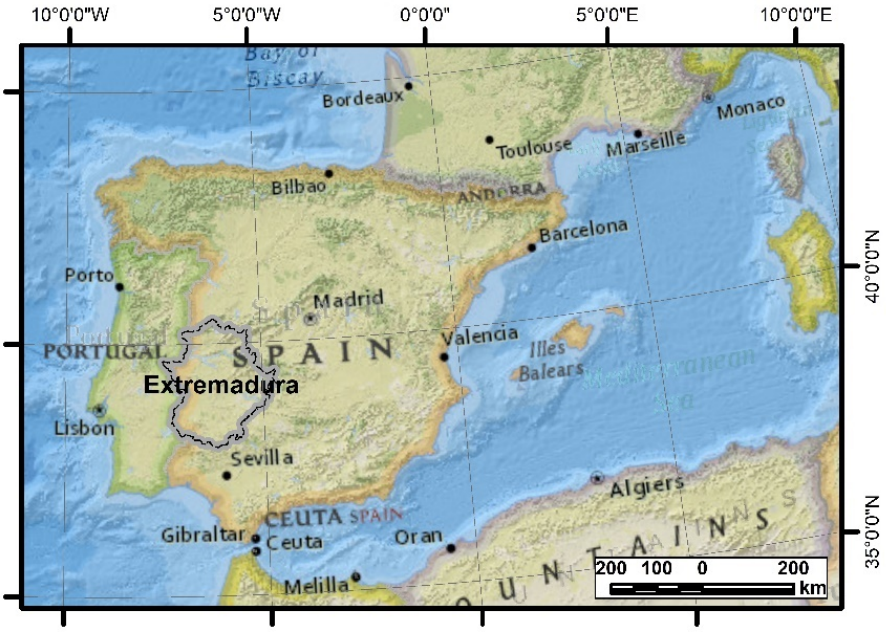

Figure 1. Location of Extremadura in the Iberian context. Sources: National Geographic, Esri.

It is currently articulated by 388 municipalities, which are distributed over 41,634 km^2, in which a total of 1,063,987 inhabitants resided in 2020 [42]. Its population density, 25.6 inhabitants/km^2, is very low in relation to national averages, which are close to 100.

Extremadura has an important natural and cultural heritage distributed throughout the territory, although it must be recognized that they endow the region with two different tourist aptitudes, as numerous studies have shown [42–45]. These are the vocation of cultural tourism and nature tourism, both in a broad sense. The wealth accumulated in the form of heritage is extremely diversified and quite unknown even to the residents themselves at times, as it is common for real treasures to be hidden in some population centers or outside them.

Part of this heritage is concentrated in the main points of attraction, as evidenced by the hotel occupancy surveys compiled by the National Statistics Institute (INE). They coincide, in addition to the rich cultural legacy they treasure, with important population centers, among which the historic cities stand out. These, as recognized in the specialized literature, accumulate a heritage of outstanding value for demand, which is why they are major centers of tourist attraction [46–49].

Within the community, the city of Cáceres and the Monumental Complex of Mérida, declared World Heritage Sites, belong to this group, as does the Mudejar Monastery of Guadalupe.

This cultural heritage, recognized by United Nations Educational, Scientific and Cultural Organization (UNESCO), is complemented by other resources, equally attractive for the demand itself, such as those located in the cities of Badajoz, Plasencia, Trujillo or Coria, and Zafra, and even others such as Montánchez, as well as other towns in the north and south of the region.

These centers receive the highest volume of tourists and record the highest number of overnight stays in hotel establishments, according to the Hotel Occupancy Survey [50] published by the INE. Within this type of accommodation, the variety of hotels and other lodgings is noteworthy.

The importance of these centers lies not only in their powerful attraction but also in the fact that they function as dissemination centers promoting mobility in the destination, even if it is not planned and arises from the visitors' own initiative [51].

According to the Spanish Historical Heritage Law, Extremadura has 392 monuments, 33 historic sites, and 73 museums of different ranks [44]. The former allows the design of tourist itineraries in some areas so that they can become part of the tourist market [45]. In addition, 18 archaeological zones would also be invented, many linked to prehistoric remains and others of Roman origin. This historical and cultural heritage is complemented by 8 historical sites and 9 sites of ethnological interest, together with 4 types of intangible heritage.

The quantity and quality of this historical heritage suggest that Extremadura, apart from the emblematic cities, has an enormous potential in rural areas for the development of tourism, which transcends the landscape and natural wealth itself, acting as a necessary and ideal complement.

Nevertheless, there is no doubt that Extremadura is a region with a rich cultural legacy, which is complemented by a set of privileged ecosystems in most of its territory. These spaces are protected by different specific figures through Law 8/1998, of 26 June 1998, on the Conservation of Nature and Natural Spaces of Extremadura, modified by Law 9/2006, of 23 December [52].

In total, the protected areas total 1,257,787 ha, no less than 30.6% of Extremadura's territory, although only some show a certain capacity for attraction, such as the Monfragüe National Park, a reference for ecotourism and ornithological tourism and the Garganta de Los Infiernos Nature Reserve, the most emblematic [53].

These are joined by other areas, also of strong attraction for the tourist demand. These are the most important mountainous areas, coinciding with the western foothills of the Central System, the Montes de Toledo, and Sierra Morena.

In addition, numerous water courses flow through this mountainous territory, over which a tourist infrastructure has been built that is highly demanded by summer tourists: natural swimming pools and bathing areas. At the same time, important reservoirs mark the territory.

The presence of a rich and varied range of attractions overlapping in the territory or proximity helps to achieve greater attractiveness thanks to the synergies established between nearby destinations. This circumstance results in a potentially higher attractiveness, thus understanding tourism potential the main resources and attractions, but also adding other aspects related to supporting or facilitating factors [54].

In short, the attractiveness of a given place depends not only on the presence of tourist attractions but also on the supply of tourist products and services. This fact has been highlighted by numerous researchers who have tried to develop multiple ways of effectively calculating the attraction potential of destinations using a wide variety of techniques [55–58].

2.2. Materials

2.2.1. Alphanumeric Fonts and Bases

It is evident that the research is nourished by official sources, which oversee providing the necessary information for its development, offering the greatest possible rigor. For this reason, and to acquire the alphanumeric data, three sources of recognized value have been chosen, either because of their long trajectory or because they are in charge of compiling the corresponding information to supervise the activities.

These sources are the following: the National Statistics Institute (INE), the Registry of Tourism Activities (National Statistics Institute, INE), and the Tourism Observatory (Junta de Extremadura). The INE provides all the information at an aggregate level that is analyzed in the research, highlighting the number of travelers, overnight stays, establishments and vacancies, average stay, employment, and even the degree of occupancy, general and weekend. The General Registry of Tourism Companies and Activities is under the regional government's Department of Tourism. In this General Register of Tourism Companies and Activities of Extremadura, all data relating to providers of tourism services and activities will be registered ex officio, under the terms set out in Article 52 of Law 2/2011, of January 31, Development and Modernization of Tourism in Extremadura [59]. It provides all the information referred to the accommodation and complementary offer with the maximum detail—specifically, those oriented to accommodation and catering establishments, intermediary companies and tourism activities.

Finally, baseline information collected by a technical team from the University of Extremadura from 2013 to 2017 has been obtained thanks to the agreement with the Ministry of Economy and Infrastructure of the Regional Government of Extremadura, as stated in the agreement "Generation of tourism knowledge of tourism demand and supply in Extremadura". This has made available more than 65,000 surveys on tourist demand visiting tourist offices spread throughout the region, of which 13,850 were collected during 2017 and allowed mobility to be analyzed.

Much of this information has been used to set up a large database that was subsequently implemented in a Geographic Information System to carry out the territorial and statistical analyses of the parameters considered throughout the research.

2.2.2. Sources and Cartographic Bases

The two cartographic databases come from the National Geographic Institute (IGN) and the Spatial Data Infrastructure of Extremadura (IDEEX), both of which are official.

On the one hand, part of the cartography has been recovered from the official IGN portal [60], from where the National Topographic Database of Extremadura at scale 1:100,000 (BTN100) has been downloaded and encoded.

This mapping comprises a set of referenced geographic data that can be implemented in a GIS, thus allowing an overview of various natural and human factors in the area. It is a continuous geographic database with a resolution of 20 m in which the information is stored according to its geographic coordinates. It uses as a geodetic reference system the European Terrestrial Reference System 1989 (ETRS89), which is also the official geodetic system in Spain for cartographic purposes [61]. It gathers geographic information from different official sources, and its structure is based on the classes of geographic objects that can be represented at the scale. It employs simple geometry (points, lines, and areas). It has no explicit topological labels, although it does map precise spatial relationships between the different geographical objects so that the topology can be derived directly. The data are classified into seven themes, each of which comprises different classes of geographic objects, and, in turn, each class is stored in a different table [62].

On the other hand, this cartography has been completed with the one published by the Spatial Data Infrastructure of Extremadura [63], which also provides data, metadata, and geographic information, part of this information is downloadable in *.shp* format so that it can be integrated into any Geographic Information System.

Both data sources have been complemented with the manual acquisition of data referring to the location of the lodging and complementary offer, using a Garmin 62sc GPS (Garmin, Southampton, SO40 9LR, UK).

2.3. Methodology for Evaluating the Development Potential for Rural Tourism

Since the 1960s, numerous attempts have been made to develop a methodology for assessing tourism potential that would make it possible to identify the areas with the greatest potential for tourism development. They have been conducted in very different parts of the world, from Latin America, led by the Organization of American States (OAS) [64], to Europe, applying common guidelines in countries with very different characteristics (Ecuador, Poland, Spain, etc.). Among the usual characteristics were the determination of the main resources that functioned as attractors, the inclusion of complementary factors, and resorting to experts or to the demand itself. However, in the scientific community, there has never been the necessary quorum for a single way of knowing the tourist attraction capacity offered by the territory to prevail, although certain coincidences can be observed when referring to the resources or heritage to be considered.

To date, there is no methodology for measuring the attractiveness of Extremadura for the practice of rural tourism; not even the proposal of the LEADER Observatory at the time was sufficiently well received [65]. It is proposed, therefore, the design of a specific one for this territory and the tourist modality in question. To this end, it should be specified that it should comply as far as possible with the main requirements that are demanded of any methodology agreed upon in the literature.

The methodology presented in this article has been designed by the authors for the study area. However, it can be adapted to other territories, always bearing in mind that both variables and hierarchies and weightings should be adjusted to the specific conditions of the area of application.

In line with the above, it is proposed that it should be inclusive, considering the internal and external factors related to tourism and that it should be capable of interacting with supply and demand. Likewise, it is intended to be adapted to the Extremadura territory. This does not preclude its application to other areas by means of appropriate adaptations.

It also seeks operability since, given its relative simplicity, it can be applied quickly, especially if Geographic Information Systems are used for the calculation of certain variables and for further analysis through the implementation of the capabilities allowed by this type of software.

On the other hand, an attempt is made to confer the greatest possible objectivity, given that the inclusion of numerous variables stems from experience in the study of demand, which contributes to the realization of certain weightings. This is because not all variables have the same weight in the evaluation since it is conditioned by the opinion of the demand, by their tastes and preferences.

In addition, it pursues its feasibility, focused on the use of new techniques, but also the experience accumulated during more than two decades dedicated to the research of the tourism system in Extremadura.

Finally, this methodology is intended to be contributive, both in terms of its design and the analysis of the results obtained.

Its development has been conducted in four well-defined phases, which correspond to the selection of variables, their ranking, the construction of the table of equivalences, and, finally, the application of the proposed methodology to each of the municipalities that make up the study area. These four phases are conducted sequentially (Figure 2), from the theoretical conception of the methodology to its implementation.

During Phase 1, the variables were selected by dividing them according to the group, type, and subtype to which they belong. In this sense, the starting point was the discrimination between a group of internal variables and another of external variables.

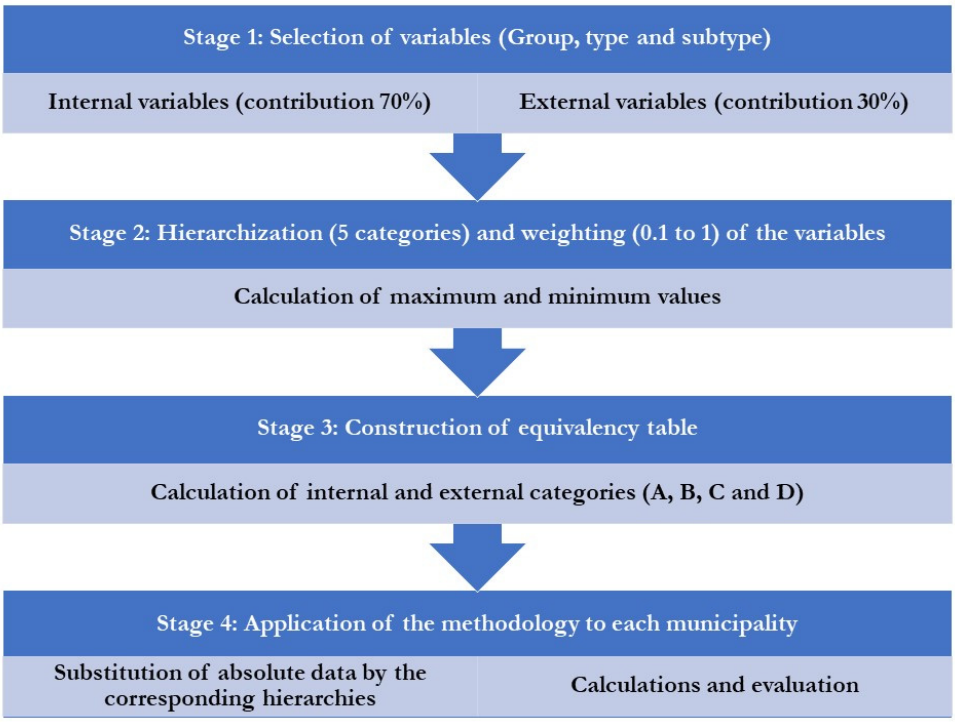

Figure 2. Synthesis of the procedures followed in the evaluation.

The first is made up of those variables that refer to the diversity of existing attractions, among which the relief, the hydrographic network, protected natural spaces, cultural and historical/artistic heritage, climatic comfort, and other factors of a variable nature stand out. Naturally, each of these types of attractions is divided into corresponding subtypes. This first group contributes 70% of the total score achieved by each of the municipalities that make up Extremadura.

The second group, much less numerous, is made up of tourist facilities, which concern the supply of both accommodation and complementary and other tourist services. Accessibility should also be considered as one of the main factors affecting the evolution of any destination. As with the internal variables, they are divided into subtypes, which serve to further specify the attractiveness of the territory in terms of supply and accessibility. Together, the external variables contribute 30% to the tourism potential of each municipality.

The choice of the selected variables was based on the existing literature and the preferences expressed by the demand. In addition, it has been accompanied by important fieldwork.

The different weight given to internal and external variables is since the former is a necessary condition for tourism development since it is already a cliché to point out that they are the raw material of tourism. On the other hand, the latter makes the difference between tourism exploitation or the maintenance of the mere potential provided by the former. At the same time, they are indispensable for the realization of this activity.

During phase 2, once the groups, types, and subtypes of variables have been decided, a hierarchical ranking procedure must be applied using 5 categories, each of which will be assigned a score. Thus, hierarchy 5, the most important, will have a score of 5; hierarchy 4, the second most important, will have 4 points; and so, down to hierarchy 1, the least important, which will be given a score of 1. Likewise, since each variable may have different importance in the group to which it belongs, they have been weighted at 10 levels with a score ranging from 0.1 for the least important subtypes to 1 for the most important. In other words, the scale has a range of 0.1; 0.2; 0.3; 0.4; 0.5; 0.6; 0.7; 0.8; 0.9 and 1, from the least important aspects to those of maximum interest. This weighting is based on the opinion of tourists.

Phase 3 corresponds to the elaboration of the equivalence table. That is the correspondence between a quantitative and qualitative assessment. To this end, the sums of the maximum and minimum values that can be reached by both internal and external variables are taken as a reference. In this way, the path of the variable is obtained, which makes it possible to establish 4 primary categories in each group of variables. These categories are A, B, C, and D; assuming that category A would be reached by obtaining an average equal to or higher than 4 in all the variables, category B would have an average between 3 and 3.999. In contrast, category C would be characterized by those municipalities with an average between 2 and 2.999, and category D would be those whose average values do not reach the value of 2.

These equivalences, valid for both the group of internal and external variables, allow for a combination of both in such a way that they give rise to 16 theoretical classes into which the municipalities can be grouped. Theoretically, they would be made up of the following categories:

- AA, when the average of the internal and external variables equals or exceeds 4. This is undoubtedly the best category because there is a balance between the internal capacity of attraction and the facilities that make it possible.
- AB, provided that the internal variables have an average higher than 4 and the external variables have an average between 3 and 3.999. In this category, there is a certain imbalance given that the internal potential of the attractions is high. However, it is not accompanied in the same way by the tourist facilities.
- AC, when the internal variables exceed an average of 4 and the external variables are between 2 and 2.999. In this case, there are important attractions, although tourist facilities are very scarce.
- AD, this category would imply a strong mismatch between heritage wealth and tourism facilities.
- In the BA category, this category corresponds to internal variables whose average ranges between 3 and 3.999, while external variables equal to or exceed 4.
- BB, provided there is a certain balance between internal and external attractions, presenting in both cases averages ranging between 3 and 3.999.
- BC, a category that includes those areas that have internal variables of intermediate value, with averages ranging from 3 to 3.999, and external variables that have very low values in all variables, ranging from 2 to 2.999 on average.
- BD, when the internal variables average values between 3 and 3.999 and the external variables do not reach the value of 2.
- CA is characterized by having averaged internal variables whose values range between 2 and 2.999, although the external variables are equal to or greater than 4.
- CB, in which the internal variables show averages that do not fluctuate between 2 and 2999, while the external variables range between 3 and 3.999.
- CC, a category reached when the internal and external variables average values ranging from 2 to 2.999.
- CD is a group characterized by having internal variables that vary between 2 and 2.999 on average, while the external variables do not reach the value of 2.
- DA is a class achieved when internal variables average less than 2 and external variables exceed 4.
- DB is a category characterized by internal variables with a low rating, less than 2 on average, and external variables whose average value ranges from 3 to 3.999.
- DC, a group in which the internal variables are deficient, averaging less than 2, while the external variables range from 2 to 2.999.
- DD is undoubtedly the worst category since both internal and external variables do not reach an average of 2.

As can be seen from these 16 categories, there is an important casuistry, despite the level of grouping into two groups of variables, internal and external, which does not prevent cases from being analyzed in isolation, taking into account specific variables. Apart

from this, it is also possible to assume that some of these categories, although logical at a theoretical level, are difficult to observe in reality since most of the nuclei with very high potential may not reach them in all the attractions considered. This concerns both heritage and tourist facilities, from which it follows that it will be difficult to find categories with internal variables classified as A. Likewise, it is evident that if a place has excellent heritage, it will be difficult for it not to be accompanied by a first-rate offer, as would hypothetically be the case in an AD class, and, conversely, when it has little heritage, it will be difficult for it to have a significant volume of the offer, as would be the case in a DA category.

During phase 4, the absolute values of each variable in each of the municipalities are replaced by the real score that corresponds to it according to the hierarchy that characterizes it. In addition, the appropriate calculations are made to determine the internal and external potential of each of the municipalities.

The selection and inclusion of the variables in types and subtypes, as well as their hierarchy and weighting, corresponding to phases 1 and 2, is of vital importance for the design of this specific methodology. For its configuration, it has been taken into account the existence of previous methodologies that consider part of these variables as primordial factors for making a tourist area attractive. In relation to this, 6 types of internal variables and another 6 types of external variables are proposed, in both cases well differentiated and supported by the literature [64,65].

Among the internal variables, the most attractive for rural tourism is the relief. It forms the most important landscape areas where some general physical-environmental processes can also be recognized [64].

In this sense, a distinction is made between mountains and their foothills, mountain ranges, foothills, riverbanks, and valleys, and, finally, sedimentary basins, as well as plains and peneplains. Each of these landscape domains has been hierarchized according to the Euclidean distance so that the places within a radius of 5 km of these domains are considered the most attractive and become less interesting as they become more distant. In fact, they become the lowest scoring when they are more than 30 km away.

On the other hand, each of these subgroups has been weighted with a different weight since a mountain area does not have the same value for the tourist as a flat area. This conclusion is reached after resorting to another methodology centered on consulting the demand by pairs of photos and analyzing its results by means of a Hierarchical Analysis Process. Accordingly, the mountains and their foothills were considered the areas that made the territory more attractive and were therefore weighted with a value of 1. On the other hand, the mountain ranges, of lesser importance than the mountains, were weighted by 0.7, the foothills by 0.5, while the sedimentary shores and basins and the plains and peneplains had a weight of 0.3 and 0.1, respectively.

Another major attraction for rural tourism is hydrography, where rivers, reservoirs, bathing areas, and waterfalls have been highlighted as key subtypes, all of which have been mentioned in the literature as factors of tourist attraction.

The hierarchization of these has been carried out, taking into account different aspects, depending on the subgroup. In this sense, the categorization of watercourses has been carried out following the criterion applied in the catalog of geographical objects of the BTN100 [62]. According to this, watercourses are grouped into rivers of principal interest, secondary interest, tertiary interest, and lesser interest, with their absence and a high distance to them remaining as hierarchy 1.

On the other hand, the reservoirs have been ranked according to the type of navigation they allow, considering the data available from the Hydrographic Confederations. Logically, based on this, those reservoirs in which all types of navigation are allowed, without any additional restriction, have been ranked with the highest score. They lose weight as restrictions are imposed, until ending with the lowest contribution when navigation is not allowed. The justification for this choice is due to the importance of river cruises as a booming activity in the autonomous community. In addition, some reservoirs are beginning to develop sports activities linked to the aquatic environment.

Along with these, the bathing areas approved by the Junta de Extremadura are also taken into account, to which different hierarchies have been assigned according to the distance to the population centers so that the closest ones obtain a hierarchy 5 and those that are more than 10 km away obtain the lowest rating, in line with summer tourism, in which these facilities acquire a very positive rating for rural tourists. At the same time, they also indicate that one of the motivations for selecting one destination or another is the greater proximity to this type of infrastructure.

Finally, the quality of the landscape projected by the hydrographic resource is taken into account, for which waterfalls are used as places where spectacular views can be enjoyed. However, the ranking of these is also based on distance. The weighting of the variables that bring together the hydrography is done by giving reservoirs and bathing areas a weighting of 0.7 and 0.8, respectively, because during the summer, they are the most attractive and even necessary for the practice of rural tourism due to the prevailing climate. Meanwhile, rivers and waterfalls have a weighting of 0.5 and 0.1, respectively, considering their lower capacity to attract and attract tourists.

The consideration of tourist demand for protected natural areas means that these acquire an important weight when it comes to measuring the attractiveness of the territory. This group was divided into subtypes with different types of protection, including national parks, natural parks or reserves, natural monuments, SPAs, and SCIs (SACs), according to the catalog of geographical objects of the BTN100 [62].

Each of these areas is classified into five different categories according to the distance criterion, which means that the nearest centers are the most highly valued. In fact, they are considered of maximum importance if they are located within a radius of less than 5 km, reaching the minimum when they exceed 30 km. However, in the case of the national park, this distance is doubled because there are studies that corroborate a much higher attraction capacity than the rest of the protected areas.

This variety of protected areas is weighted differently because of their current attraction capacity, which is expected to continue with this trend. In this sense, the national park is the most important figure, and therefore its weighting is set at 0.8, followed at some distance by the park or nature reserve, with a value of 0.5, and the natural monument, weighted at 0.4, while the ZEPA and ZEC are weighted at 0.3 and 0.2, respectively.

Along with natural areas, the demand for rural tourism in Extremadura attaches great importance to cultural and historical heritage. In fact, in the case of those who stay in a rural establishment, more than 92% recognize that they also practice cultural tourism. This circumstance, together with the presence of a notable heritage of this type in the community, including, of course, the rural nuclei, imposes this type of attraction as a necessary factor to evaluate the tourist potential. Specifically, 7 subtypes are contemplated, very well defined, and with an important acceptance on the part of the demand.

The most important element is considered to be the travel time to the cities that have the distinctive seal of World Heritage Site awarded by UNESCO. In this sense, the centers that are less than 15 min away enjoy the greatest attraction, only to decline to a minimum when the journey time exceeds one hour by car. The rest of the heritage present in the territory does not reach its attractiveness. However, it should be noted that the historical sites, the assets of cultural interest in their facet of monuments, the main museums, and collections, as well as the cattle trails, castles, and archaeological sites, are considered. All of them have been ranked according to distance, giving the highest hierarchy to those centers that are less than 5 km away and the lowest to those that are more than 30 km away.

Naturally, not all of the components of cultural heritage have the same weighting when it comes to determining tourism potential. In this case, the distance to heritage cities has a weighting of 0.5, followed by historical-artistic sites (0.3), while the rest of the components have a weighting of 0.2, except for cattle trails, which only have a weighting of 0.1.

The literature has also emphasized the consideration of climate as a conditioning factor in tourism development. In fact, there are numerous climatic comfort indexes

which have been taken into account when developing the evaluation methodology. In this sense, and given the extension of the area analyzed, only the average maximum temperature averaged between the months of June and September has been considered. Logically and consequently, with the temperatures reached during this time of the year, the highest hierarchy has been given to the lowest thermal average, while the places where the thermal records are higher have the lowest hierarchy. In addition, given the importance of temperature for tourism during the peak season, its weighting is high (0.8), inferring the enormous importance given to this aspect.

Although the five types and their corresponding subtypes are important for determining the tourist potential of any territory in Extremadura, it is worth adding others, very varied but which also contribute to making it attractive, even if only for a very concrete and specific segment of tourism. These include the existence of big game hunting reserves since the literature has shown the importance of hunting activity in the region, although it is still little exploited from the tourist point of view, with a low weighting of 0.2. The presence of trails, long-distance, short-distance, and local trails, all with a weighting of 0.1, is also considered, as they are a complementary activity demanded by hikers, although not normally by tourists.

The optimal visitation period is another factor considered since there are areas whose physical and heritage conditions can attract tourists all year round, thus acquiring the highest hierarchy. On the contrary, when there is not even an optimal season, it is considered with the lowest hierarchy. Given the importance of this period, its weighting is 0.7.

The uniqueness of the territory, on the other hand, as with the vegetation species, was obtained using the methodology of combining pairs of photos and also treating the results with a Hierarchical Analysis Process. From the result of the demand opinions, 5 different hierarchies were established, and both variables were weighted by 0.7.

On the other hand, their attractiveness was assessed by means of a questionnaire, with 5 possible answers (excellent, very good, good, normal, and unattractive), which were assimilated to each of the hierarchies in descending order. The weighting chosen, given its importance, was 1.

Proximity to the main tourist points defined by the INE in the Hotel Occupancy Survey (EOH) also occupies a prominent place since there are studies that reveal the diffusion of tourists staying in them toward rural environments [50]. This variable was ranked according to the distance of displacement so that those centers that were close had a higher hierarchy than those that were farther away. It was also weighted by 0.4.

In line with the previous variable, the distance to the main tourist area was also considered, following a similar pattern, based on travel time and, therefore, proximity. Likewise, the weighting of this variable, given its importance in attracting visitors from the surrounding area, was 0.6.

The size of the population also has an impact on the tourism potential of an area. There are two reasons for this. The first is that the legislation itself imposes a demographic limit to be able to install rural tourism lodgings in the population center, although not in the municipal district. The second is due to the fact that the nuclei with a greater number of inhabitants are not the preferred ones for rural tourists. In this sense, this variable is hierarchized according to population intervals in such a way that the maximum hierarchy corresponds to the nuclei that do not exceed 2000 inhabitants, while the minimum coincides with those that exceed 20,000.

Geosites are also part of the attractiveness of an area since the analysis of the activities carried out by the demand includes a percentage of it dedicated to geotourism. However, since it is not a majority activity, its weighting is limited to 0.2 and is ranked according to the distance to each of these attractions.

Finally, viewpoints, observation points, and greenways are considered attractive to demand, although their weighting is limited. Specifically, a weighting of 0.1 is established and is ranked according to distance.

The 37 variables analyzed serve to calculate the internal tourism potential that characterizes each of the Extremadura municipalities and, as mentioned above, contribute 70% to the calculation of the total attraction capacity.

On the other hand, the external variables referring to tourist facilities are centered on two large blocks. On the one hand, there is the supply of accommodation and complementary services, and on the other, accessibility. Their contribution to tourism potential is limited to 30%.

The supply of lodgings is divided into the three main groups indicated in the literature and tourism legislation: hotel lodgings, extra-hotel lodgings, and, of course, rural lodgings. Each of these types has been divided into the main subtypes that each of them brings together, ignoring the different categories into which they are divided. At the same time, they have been hierarchized in the appropriate manner, taking into account the number of vacancies existing in Extremadura as of 31 November 2021, the most recent data available.

On the other hand, they have been weighted differently, taking into account that there are accommodations that have a higher valuation due to the interest they awaken for rural tourists, a condition extracted from the surveys carried out on demand. Thus, the maximum weighting is given to hotels, to all the variety of rural establishments (hotels, houses, and apartments), and to tourist apartments, which have burst into many tourist spots. On the other hand, the lowest hierarchy corresponds to the lack of vacancies in each of the types of accommodation considered.

Taking this aspect into account, rural establishments are weighted with 1; hotels, on the other hand, have a weighting of 0.6; at a lower level is the variety of hotel-apartment and tourist camps, weighted with 0.4; while hostels and guesthouses are weighted with 0.2.

Restaurants, considered in this case as restaurants and establishments with café-bar category, have also been hierarchized according to the number of existing seats and reserved for the lowest hierarchy the lack of such establishments. In addition, restaurants have been divided according to their category, creating two specific subtypes, those of 3 and 4 forks on the one hand and those of 1 and 2 on the other, setting the weighting at 0.6 for each case. The number of coffee-bars has been ranked according to the number of establishments, although their weight has been reduced to 0.1.

There is another offer, which is also very attractive to tourists because it allows them to obtain information and carry out a variety of activities. The hierarchies have been established according to the number of companies in some cases and distances in others. Specifically, activity companies and tour guides have been ranked according to their number, again taking the situation in the region as a reference. On the other hand, tourist offices, interpretation centers and wharves are ranked according to distance so the nearest centers are ranked higher than those farther away. The weighting of activity companies is 1, while that of tourist guides is limited to 0.5, as are tourist offices and interpretive centers.

Accessibility, in general, makes up the other large block of external variables measured through communication routes and other infrastructures. Obviously, the highway stands out with the highest weighting (1), followed by national and regional highways, with values between 0.6 and 0.3. On the other hand, bus and train stations and the airport, given their shortcomings and limitations, have a low weighting of 0.1 for land transport and 0.2 for air transport. In some cases, this is due to the fact that very few tourists travel by bus and train, which, apart from being a real adventure, is not competitive either in terms of price or travel time. The airplane, unfortunately, has an enormous limitation as far as destinations are concerned, so it cannot have a higher weighting either. Nevertheless, we hope to soon have to change these weightings, at least in the case of the train.

In summary, the weightings corresponding to the internal variables considered add up to a score of 15, while the external variables compute 12.2. This can be understood by multiplying by 0.7 the sum of the weights corresponding to the internal variables, which implies 70%, and doing the same with the sum of the weights given to the external variables, multiplying them in this case by 0.3. Naturally, if both are added together, they should

represent the theoretical 100%, although if we test by multiplying by 0.7 and 0.3 to obtain the appropriate percentages, we can see that this is not the case, as shown below:

$$a = (15 \times 0.7) + b = (12.2 \times 0.3)$$

$$\rightarrow 10.5 + 3.66 = 14.1$$

$$\rightarrow 14.1 \times 0.7 = 9.87 \rightarrow FALSE$$

where a is the sum of the weights assigned to the internal variables multiplied by 0.7 to represent 70% and b is the sum of the weights set for the external variables multiplied by 0.3 to represent 30%. This makes it necessary to establish a correction coefficient (c) so that they really represent 70% and 30%, respectively. This factor is obtained very simply since it is no more than a simple proportion:

$$c = (15/12.2) \times 0.3 = 0.368852459$$

Substituting b for c in the above formulation 0.3 (0.368852459) shows that the values obtained do represent the 70–30 ratio established for each set of variables.

$$a = (15 \times 0.7) + c = (12.2 \times 0.368852459)$$

$$\rightarrow 10.5 + 4.50 = 15$$

$$\rightarrow 15 \times 0.7 = 10.5 \rightarrow TRUE$$

The maximum and minimum values corresponding to the hierarchy are obtained by multiplying by 5 (hierarchy 5) and by 1 (hierarchy 1), which allows us to establish the path of the internal and external variables. It follows that the maximum theoretical internal potential will be 52.5 and the minimum 10.5; mutatis mutandis, in the external variables, would correspond to 22.5 and 4.5.

Both the variables proposed for internal variables (Table 1) and external variables (Table 2), their ranking and weightings, as well as the calculations of maximum and minimum values, make up the proposed methodology. These tables can be consulted in more detail in the Supplementary Material, which includes the hierarchy and weighting of each of the variables included in the calculations.

The explanation of the proposed methodology ends with a table of equivalences (Table 3), where the path of internal and external variables is used to establish 4 different categories for each one of them. This makes it easier with a few simple codes to know in a generic way how attractive the attractiveness is of each municipality.

Considering the values obtained, in order to have an A category in the internal variables, the sum of these variables must be equal to or greater than 42.000 points; category B, on the other hand, would be limited to scores between 31.500 and 41.999. Category C would be made up of values between 21.000 and 31.4999, and D if the sum of these variables is between 20.999 and 10.5.

On the other hand, the values that the external variables must reach must add up to at least 18.000 points to obtain category A; between 13.500 and 17.999 to obtain category B; while if the sum fluctuates between 9 and 13.499 it would correspond to a category C; and it would be D in the case of having values between 8.999 and 4.500.

Once the methodology has been presented, it can be concluded that it meets the requirements of the initial approach, so that all that remains is its application and analysis, both of which can be achieved easily if we consider that the set of procedures followed is contained in a spreadsheet.

Table 1. Internal variables considered (type, subtype, and code).

Type	Subtype	Code	Type	Subtype	Code
Relief	Mountains and their foothills	VI1	**Summer thermal comfort**	Average average maximum average temperature from June to September	VI22
	Saws	VI2	**Others**	Big game hunting + 1000 hectares.	VI23
	Piedemontes	VI3		Long Distance Trails	VI24
	Lakesides and valleys	VI4		Short distance trails	VI25
	Sedimentary basins/plains and peneplains	VI5		Local Trails	VI26
Hydrography	Rivers (up to 2 km)	VI6		Optimal visiting period (demand preferences)	VI27
	Reservoirs	VI7		Singularity (pairwise)	VI28
	Bathing areas	VI8		Attractiveness according to demand (questionnaire)	VI29
	Waterfalls	VI9		Proximity to main tourist attractions (EOH)	VI30
Protected natural areas	National Park	VI10		Proximity to tourist area (EOTR)	VI31
	Park or Nature Reserve	VI11		Population size	VI32
	Natural Monument	VI12		Vegetation species	VI33
	ZEPA	VI13		Geosites	VI34
	ZEC	VI14		Viewpoints	VI35
Cultural/historical-artistic heritage	Distance to World Heritage City (time)	VI15		Observation points	VI36
	Historic-artistic site	VI16		Greenways	VI37
	Assets of Cultural Interest (Monuments)	VI17			
	Museums and collections	VI18			
	Livestock trails at 2 km	VI19			
	Castles	VI20			
	Archaeological sites	VI21			

Table 2. External variables considered (type, subtype, and code).

Type	Subtype	Code	Type	Subtype	Code
Hotel accommodations Accommodations (bedplaces)	Hotel	VE1	**Others**	Activity companies (no)	VE13
	Hotel-Apartment	VE2		Tourist guides (no)	VE14
	Hostel	VE3		Tourist Offices	VE15
	Pension	VE4		Interpretation centers	VE16
Non-hotel accommodations (vacancies)	Tourist apartment	VE5		Wharfs	VE17
	Camping	VE6	**Accessibility**	Highway	VE18
Rural lodging (vacancies)	Rural hotel	VE7		National highway	VE19

Table 2. *Cont.*

Type	Subtype	Code	Type	Subtype	Code
Rural lodging (vacancies)	Rural house	VE8	**Accessibility**	Autonomous highway	VE20
	Rural apt.	VE9		Main bus stations	VE21
Restoration	3 and 4 forks restaurants (seats)	VE10		Train stations	VE22
	1 and 2 forks restaurants (seats)	VE11		Airport	VE23
	Coffee-bar (no)	VE12			

Table 3. Equivalences for categorization.

	∑ VI Maximums	∑ VI Minimal
Category A (≥4)	42.000	52.500
Category B (3 to 3999)	31.500	41.999
Category C (2 to 2999)	21.000	31.499
Category D (<2)	20.999	10.500
	∑ VE Maximums	**∑ VE Minimal**
Category A (≥4)	18.000	22.500
Category B (3 to 3999)	13.500	17.999
Category C (2 to 2999)	9.000	13.499
Category D (<2)	8.999	4.500

3. Results

Extremadura has an important heritage on which to base the development of its rural tourism. In this sense, the results of the design and application of the specific methodology to evaluate the potential offer a real panorama of the current situation. There are nuclei that, in spite of meeting certain conditions to host tourist products, do not achieve it and lack supply. On the other hand, other areas are characterized by the opposite. In short, in many places there is a lack of balance between internal and external parameters, between the suitability of the territory (internal variables) and tourist facilities (external variables), which would be ideal.

The capacity of the territory to promote the development of tourism in its rural modality depends to a great extent on the patrimonial wealth that it treasures. This is measured through its internal variables. Among them, special interest has been given to physical aspects (relief, hydrography, protected natural spaces and climatic comfort) and to cultural heritage in its broadest sense, as well as to other territorial aspects such as accessibility, proximity to centers of attraction, the demographic entity of the municipalities analyzed and, of course, the opinion of the demand.

All this has made it possible to measure the internal tourism potential of the rural environment from the widest possible point of view, taking into account that the demand is very varied, follows different trends and shows an interest in everything that rural life implies. In this sense, a key aspect is emphasized: the places with the greatest potential will be those that have an excellent natural and cultural heritage, even though we are aware that the vocation of the territory is more biased in one direction or another.

Under these premises, very satisfactory results have been obtained, considering that a very broad and disparate territory is covered, while the subject matter addressed is also diverse and complex (Table 4).

Table 4. Number of municipalities comprising the internal potential categories.

	Municipalities
Category A (≥4)	0
Category B (3 to 3.999)	68
Category C (2 to 2.999)	254
Category D (<2)	66

In this sense, it can be affirmed that there is an important potential for the practice of rural tourism, as evidenced by the existence of numerous municipalities that have a B category, since the A category is non-existent, since rural tourism has been chosen in its broadest vision, considering both natural and cultural attractions.

This category B is made up of 68 municipalities that average between 3 and 3.999 points in all the internal variables analyzed. This potential would allow the implementation of specific rural tourism modalities, oriented to specific products, depending on the case.

On the other hand, category C, which includes all the municipalities with an average of between 2 and 2.999 internal variables, is made up of 254 municipalities, although there are significant variations and possibilities for the development of products adapted to the potential in those variables with hierarchies 4 and 5.

Lastly, category D, which includes municipalities with an average of less than 2 in the internal variables (66 entities). These are the municipalities with the least resources and possibilities.

It is observed that despite the existing rigor at the time of establishing this category B, there are 68 municipalities (17.5% of the total), that manage to reach an average higher than 3, from which the important internal potential for the start-up or promotion of rural tourism initiatives can be deduced. In addition, there are other nuclei with interesting attractions. Specifically, 129 municipalities exceed the average established for the averages of internal variables.

Undoubtedly, these are the municipalities that together have the best potential, since they have an important natural and cultural heritage, in its broadest sense, together with other elements that make them particularly tempting for the demand, such as their attractiveness or the uniqueness of their spaces.

Any of them has the fundamental attractions -according to the literature and the opinions expressed by tourists- and are therefore undoubtedly references for the potential development of rural tourism. Nevertheless, and despite the important development of rural tourism in Extremadura in recent years, it should be noted that the distribution of this potential is not random but presents certain patterns of territorial homogeneity (Figure 3). Normally, they coincide with mountain areas or with very singular spaces, such as the Monfragüe National Park, jewel of the Mediterranean forest; Guadalupe and Mérida, both World Heritage Sites, which bring together a wide range of natural attractions that make them part of the select group of territories that can develop a highly diversified rural and cultural tourism.

Bearing in mind that the evaluation of the tourism potential that has been offered refers to the set of attractions analyzed, it should be noted that there is also an extremely high potential in some types of internal variables. These should also be considered as factors favoring the creation of specific tourism products, even in those with a D category, as is the case in the southwest of the province of Badajoz, where there is an abundance of dehesas and Iberian products, or La Tierra de Barros, with an ecotourism product, to cite a few examples.

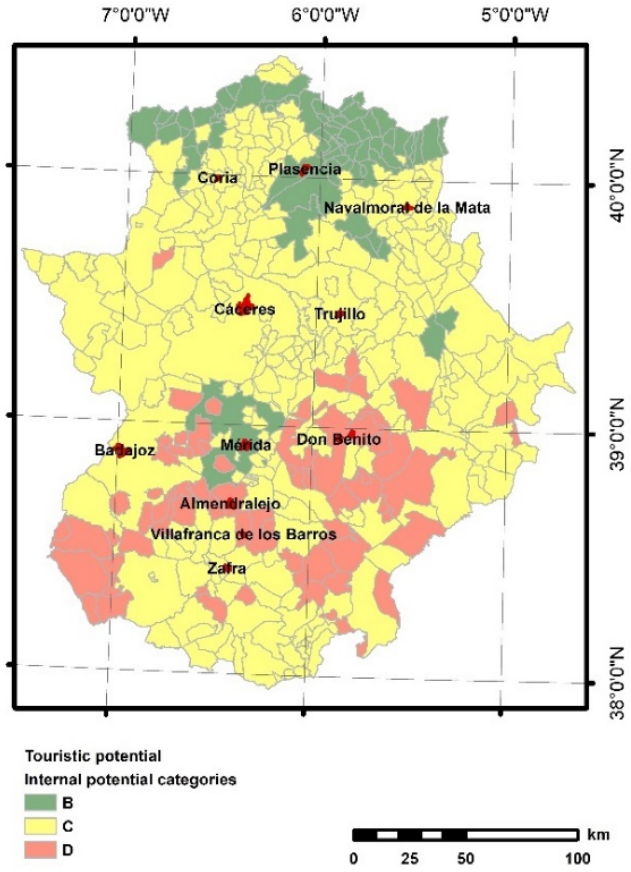

Figure 3. Territorial distribution of internal categories.

In line with this, the potential for summer tourism linked to water and the activities that can be conducted in this environment and that go beyond the bathing areas themselves is highlighted. However, sometimes they are not incredibly attractive during the rest of the year [66]. In this sense, the reservoirs have a key role to play, which was highlighted a little more than a decade ago with the implementation of river tourism in the Cedillo reservoir, a firm commitment of the Cáceres Provincial Council, which today is redoubling its efforts to promote tourism in reservoirs, an attitude recently emulated by its counterpart in Badajoz.

Among the towns that can develop this type of tourism to a great extent are the following: Orellana la Vieja, Valdecañas de Tajo, Casar de Palomero, Plasencia, Valdastillas, Guijo de Granadilla, Mérida, Medellín, Pinofranqueado, Cadalso, Santibáñez el Alto, Zarza de Granadilla, La Pesga, Mohedas de Granadilla, Casas del Castañar, El Torno, Moraleja, Casas de Don Pedro, Orellana de la Sierra, La Zarza, Cedillo, Herrera de Alcántara or Alcántara among many others located in the vicinity of the reservoirs that allow some kind of use through navigation, either motorized or non-motorized, apart from other water sports that could be put into practice. Naturally, if they are complemented with natural swimming pools, the great attraction of the summer for the rural tourists of Extremadura, the potential reaches a very good level so that a tourist modality as specific as this one can be put in march.

An analogous situation is observed when specifically analyzing the potential for the practice of ecotourism, where the environment of the Monfragüe National Park is of special relevance, although municipalities stand out that are close to other protected sites such as the Nature Reserve or Natural Parks, as well as SPAs, where ornithological tourism can have a wide development [53]. In this case, the best positioned municipalities are Higuera, Romangordo, Aldeanueva de la Vera, Casas de Miravete, Almaraz, Tejeda de Tiétar, Cabezuela del Valle, Navaconcejo, Valencia de Alcántara, Deleitosa, Mesas de Ibor,

Campillo de Deleitosa, Torrejón el Rubio, Serradilla, Jaraicejo, Serrejón, Jarandilla de la Vera, Garganta la Olla, Losar de la Vera or Cuacos de Yuste to mention a few.

In addition, there is another important potential for lovers of cultural heritage in its broadest sense, and that goes beyond the World Heritage Cities since there is not in vain an important network of Historic-Artistic Sites, numerous Sites of Cultural Interest in the category of Monument, but also museums, castles, archaeological sites, etc., which give a significant number of municipalities a remarkable attraction. Moreover, the possibility of establishing routes around these towns has been observed in the literature [45,51]. Some of these nuclei are Valencia de Alcántara. Alcántara, Malpartida de Cáceres, and, in general terms, all those considered as Historic-Artistic Ensemble or are in their vicinity.

Even though these varieties or adaptations of rural tourism are the most important, we should not forget others, such as geotourism, around the Villuercas-Ibores-Jara Geopark [67], hunting tourism in the vicinity of large hunting grounds [68], and even tourism with sporting overtones through the network of trails distributed throughout Extremadura, whether they are long distance or more modest, but equally beautiful.

The tourist potential also concerns a set of external variables, which provide the internal ones, the heritage, in short, with greater richness. They are made up of the offer, whether in terms of accommodation and restaurants or in terms of the activities that can be carried out and the complements. In addition, the accessibility of the territory plays a significant role.

Considering the types of variables that make up the set of external variables, it should be noted, in general terms, that there is no municipality that holds category A, which means that the joint average of all its components does not reach 4 (Table 5). This implies that there are no places where there is a completely mixed offer, which only confirms the dichotomous vocation of the territory, where some places are clearly committed to cultural tourism, offering hotel accommodations. Others do the same with the different modalities of rural tourism, focusing on rural establishments.

Table 5. Number of municipalities included in the categories of external potential.

	Municipalities
Category A (≥4)	0
Category B (3 to 3.999)	5
Category C (2 to 2.999)	75
Category D (<2)	308

Despite this, there are five municipalities that hold the category B, which also means high averages in all external variables since they exceed the value 3. These are the main destinations of Extremadura, highlighting Cáceres, Mérida, Badajoz and even Plasencia. Hervás joins them, an example of a rural municipality with a mixed vocation of culture and nature. However, the latter component predominates despite being one of the most renowned Jewish quarters in the country.

Category C already implies having more modest averages for the set of variables, being between 2 and 2.999, which implies that the offer is not as complete and is more polarized, either towards certain types of lodging and restaurants or by other components integrated into the evaluation of these tourist facilities. Specifically, this group is made up of 75 municipalities.

On the other hand, a total of 308 municipalities are in category D, the worst endowed, averaging less than 2, which suggests a mismatch between internal and external potential, something that will have to be verified and refuted or confirmed by other studies.

A more leisurely analysis of the potential of the external variables shows that the several types of external variables (accommodations, restaurants, activities, and accessibility) present important variations. This prevents, in practice, the achievement of good ratings for the complete set due to the variety of items considered.

A detailed study of the distinct types of lodging, divided into hotel, extra-hotel and rural, reveals a pattern that should be taken into account: the repetition of the main tourist destinations in some of them. Hotels are not predominant in rural tourism, and, of course, neither are they predominant in rural areas, where other types of lodging are more common.

A comparable situation can be detected when analyzing restaurants since the highest category of restaurants is exclusive to the main cities and cultural tourism destinations. However, rural centers and those focused on rural tourism do have a notable representation of lower-level restaurants, as is the case with cafeterias and bars.

However, it is a matter of concern that tour guides have a token presence in those environments more prone to rural tourism, although fortunately, the opposite is true when it comes to activity companies.

In addition, accessibility is not so much a result of these criteria as imposed policies that divide the region into central areas, which are well connected, and the periphery, where road accessibility tends to worsen and gradually deteriorate.

The municipalities that have the greatest external potential for tourism development depend on numerous factors, making it possible to glimpse the dual behavior.

Among the municipalities with the greatest external potential are the main cultural tourism destinations (Cáceres, Mérida, Badajoz, Plasencia, Zafra, and Trujillo), which, as some research has shown, can attract tourists and visitors to the rural environment. However, there are also others with a marked rural character and, consequently, with a vocation in consonance with it. Thus, it is worth mentioning Hervás as one of the most outstanding, which also has excellent accessibility by road, Guadalupe, and the regions of La Vera or Jerte, etc.

In any of these cases, lodging is of special relevance. In fact, the differences between the main types (hotel, extra-hotel and rural) become evident with an analysis of the most outstanding municipalities in the potential of each of these varieties of lodging.

On the other hand, the territorial distribution is evident in Figure 4, where category B covers the large centers of tourist attraction, while category C is related to established rural tourism destinations, which are well communicated. However, category D predominates in the rest of the territory.

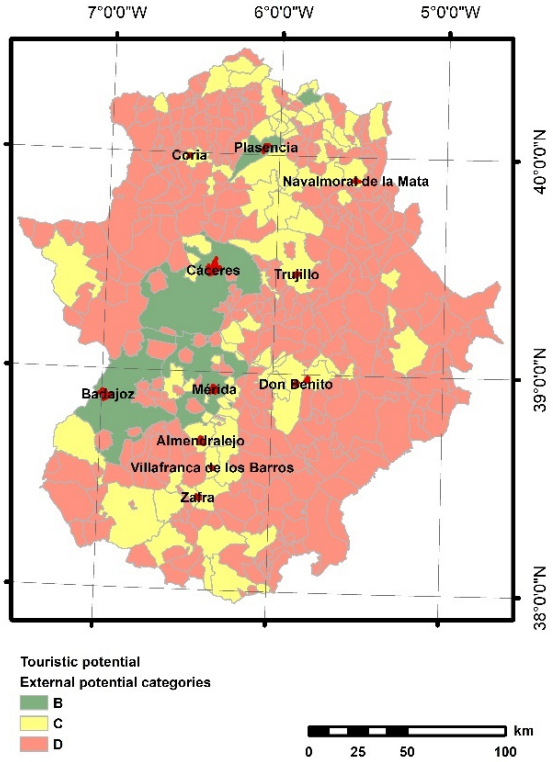

Figure 4. Territorial distribution of external categories.

The situation revealed by the internal and external variables requires an additional analysis of the combination of both types since they serve to compare the attractions with complements, which better visualize the relationship established between the two aspects.

When this is done, it becomes clear that, despite the logical dispersion of results, there is a clear positive trend, as shown by an R-value^2 of 0.950, from which it follows that the higher the internal potential, the greater the external potential. If one prefers, the greater the wealth and variety of heritage, the more notable the tourist facilities. This is the logic of tourist activity, although this generic relationship should be qualified and individualized since a vague interpretation of this correspondence could be misleading.

In line with the above, it can be observed that when internal and external potential are analyzed in combination, there are numerous categories, curiously the most outstanding ones, which do not include any municipality (Figure 5). In fact, there is none of the possible combinations of the best category in terms of both internal and external variables, A, which requires averages equal to or greater than 4 in all its variables.

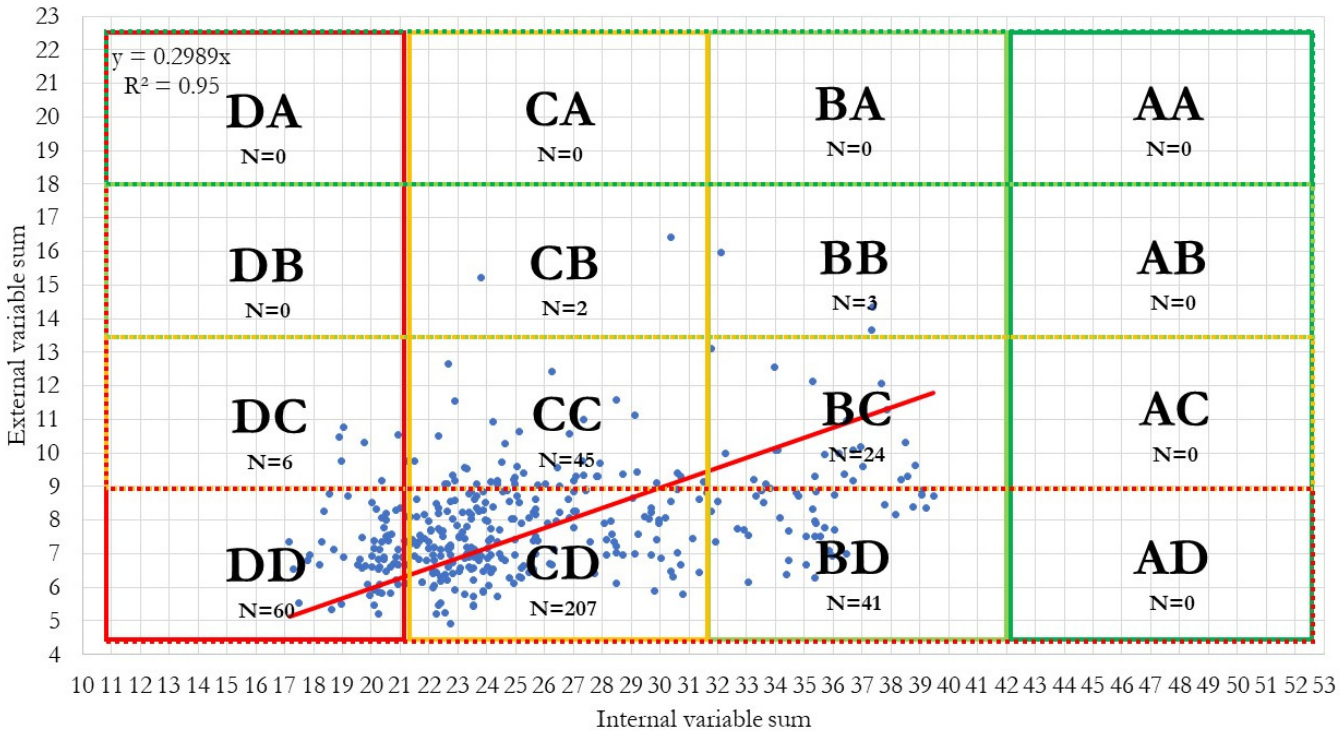

Figure 5. Distribution of categories of internal and external variables.

This makes it clear that Extremadura's vocation in its maximum expression is associated with cultural tourism and rural tourism since there are no destinations that offer the best in both types of heritage in a combined way. Thus, it is understood that among the referents of cultural tourism are the World Heritage Cities, and as exponents of rural tourism are the mountainous areas, also characterized by having bathing areas, protected landscapes, etc.

Something similar occurs when analyzing the supply of lodging and complementary services, detecting a certain polarization of these towards some environments or others. However, when not pursuing attractive groups of such a prominent level, it is possible to detect combinations, as is the case with the groupings of categories B, internal and external. In fact, there are BC, BB, DB, and DB categories, with the components of those with less specific weight being more numerous. Even so, it should be borne in mind that category B is composed of those averages of all the variables that exceed the value 3 on the scale of 1 to 5, corresponding to the hierarchies used.

On the other hand, the lower level combinations, those that occupy categories C and D, are more numerous, which again corroborates that it is necessary to derive the joint analysis of the tourist potential in a more detailed one, where there are varieties of heritage that are capable of sustaining a quality tourist product, in line with what is observed in the territory.

A more detailed statistical analysis makes it possible to show the relationships established between internal and external variables, which yields even more conclusive results. For this purpose, the use of measures of association, which per se is not inferential statistical tests but descriptive statistical measures that demonstrate the direction, strength, or degree of relationship between two or more variables, is used [69].

Correlation analyses are the most suitable for measuring relationships between variables since they follow a procedure that seeks to evaluate the relationship between individual differences (cases or subjects) according to two or more random variables studied since the fundamental aspect of the comparison technique is to evaluate the nature of the differences between individuals and not between groups or treatments [70].

There are numerous techniques for measuring this degree of relationship between variables. However, we have chosen to apply Kendall's Tau-b coefficient, based more on the hierarchical intervals of the observations than on the data themselves. This causes the distribution of τ to be independent of that of the x and y variables, provided that the data represented by these two variables are (1) independent and (2) continuous [71].

In fact, this technique is defined by the equation:

$$\tau = (S_a - S_b) \ / \ [n(n-1) \ / \ 2]$$
$$n = \text{number of cases in the example}$$
$$S_a = \text{Sum of highest ranks}$$
$$S_b = \text{Sum of lowest ranks}$$

The results provided by this technique show that there are significant relationships at the 0.01 and 0.05 level between the 37 internal variables and the 23 external variables considered to establish Extremadura's potential for rural tourism. However, these relationships are different according to the type and subtype analyzed.

For this reason, individualized analysis of five sub-typologies of tourism and one of hiking that can be practiced in the rural areas of Extremadura is proposed. These are the one linked generically to this broadly conceived rural tourism, where relief and hydrography make the difference with respect to the rest of the territory; the one similar to ecotourism, in which the primary role corresponds to the observation of nature and very specifically of birdlife; the one related to culture, in which the proximity to recognized cultural tourism destinations, as well as the presence of other components of this play a key role. Similarly, specific modalities are analyzed, such as geotourism or hunting tourism, as well as hiking, which is promoted through numerous routes and trails (Table 6).

Table 6. Variables that make up different varieties of rural tourism.

Subtypology	Variables
Generic (relief and hydrography)	VI (1, 2, 3, 4, 4, 5, 6, 7, 8, 22 and 28)
Ecotourism (nature)	VI (7, 10, 11, 12 and 13)
Cultural	VI (15, 16 and 17)
Geotourism	VI 34
Hunting tourism	VI 23
Trekking (hiking)	VI (24, 25, 26, 35 and 37)

Specifically, the internal variables used for the conceptualization of each of the subvarieties are already the sum of these variables once they have been weighted according to the weight of each of their component variables.

In this sense, when comparing the internal variables referring to relief (VI1 to VI5) with those linked to the supply of lodging linked more clearly to rural establishments,

the coefficients undergo notable changes, and even the sign of the relationship varies, depending on the altitude linked to each type of relief. Thus, the relationship is positive when the mountain or piedmont subtype is used and very negative when compared with sedimentary basins and plains.

Likewise, they show positive relationships with the presence of piers and, unfortunately, reveal the problem that exists in communication infrastructures, with the highest areas offering the worst connectivity. In contrast, the opposite is the case in the flatter and lower altitude areas. It is also noteworthy that there are no strong associations between relief in all its forms and hotel accommodations. These same relationships are observed when climatic comfort is analyzed since the thermal component is strongly influenced by the relief and, more specifically, by the altitude and the location itself [72].

On the other hand, the hydrographic network shows differentiated behavior with respect to the external variables since they only have a positive and quite marked relationship with rural lodgings in the case of bathing areas and waterfalls, both with a majority presence in the areas near the main mountainous reliefs of the north of the province of Cáceres. In this case, it is also clear that communications by public transport, by bus or rail, are an important obstacle.

Both types of attractions are assimilated into the generic variety of rural tourism, where the most important thing is to have cool temperatures during the summer because of being located in the vicinity of mountain systems and areas adapted to bathing in the form of natural pools or beaches (Figure 6).

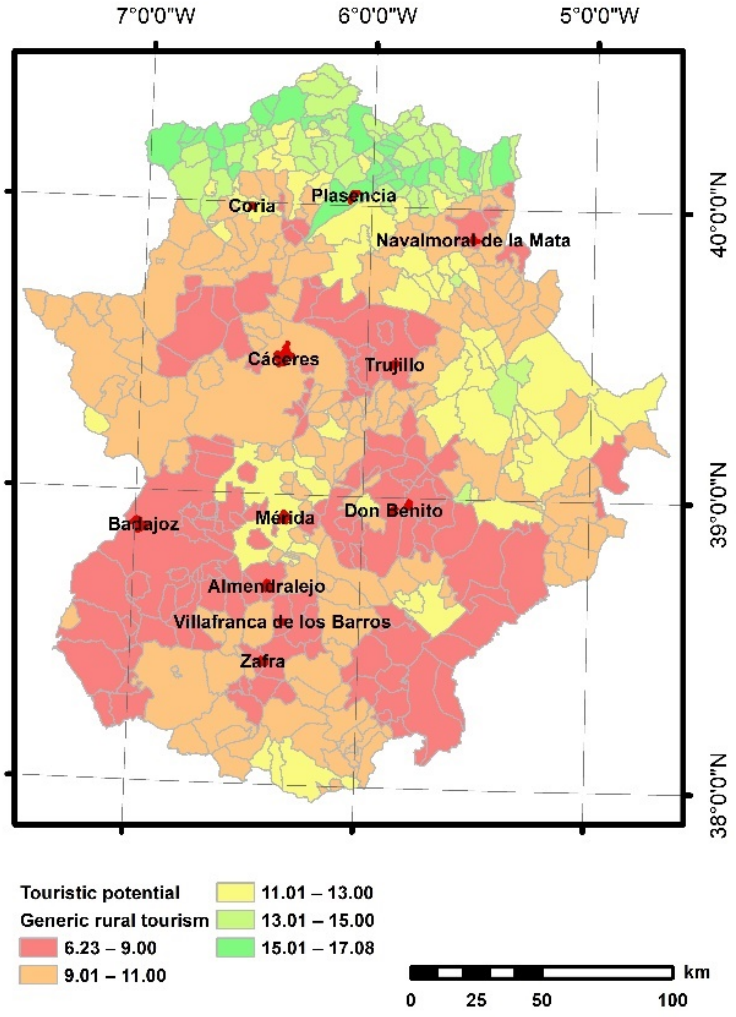

Figure 6. Generic rural tourism based on relief and hydrography.

On the other hand, the variables linked to protected natural areas maintain positive relationships with rural establishments, specifically with hotels and rural houses, while remaining indifferent to the rest of the lodging and restaurant offers.

They also maintain a certain relationship with the activity companies, some of which work in these environments, and with the interpretation centers, many of which are dedicated to disseminating and explaining the ecosystems of these areas (Figure 7).

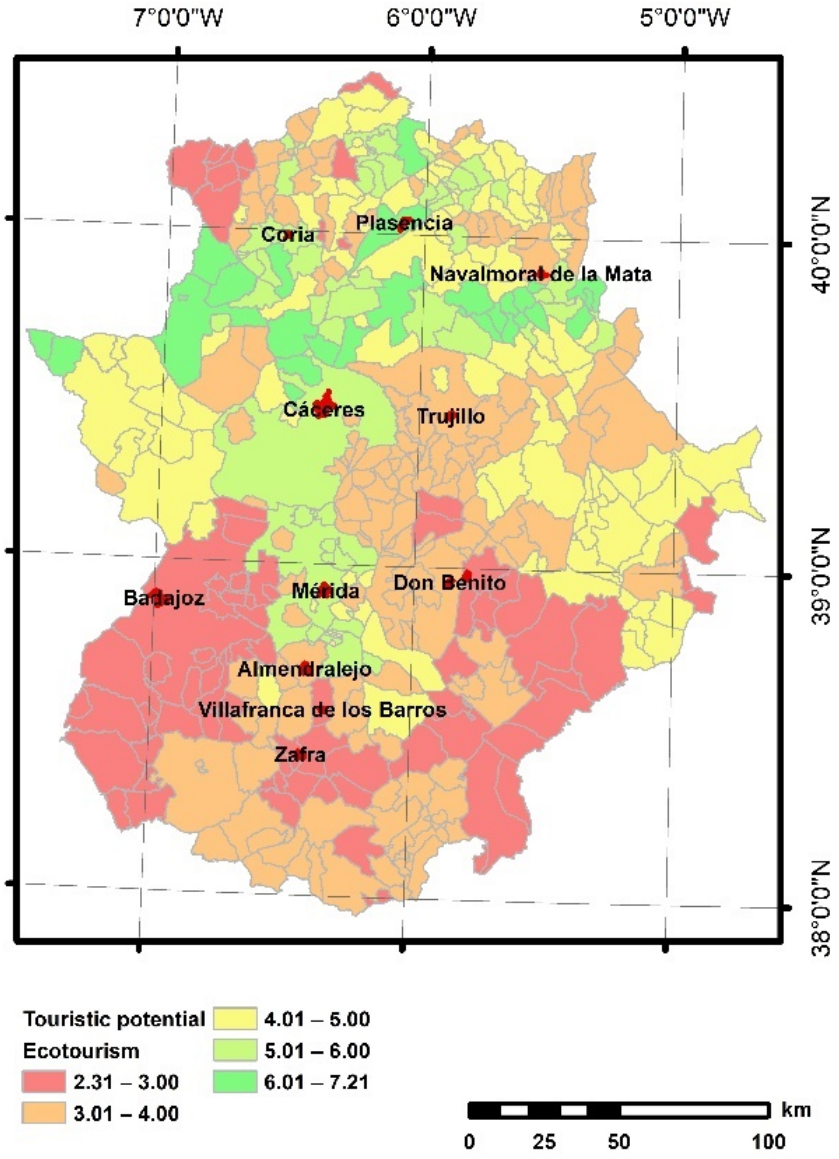

Figure 7. Ecotourism based on the Natural Protected Areas Network.

The most extensive ones still have problems with accessibility by public transport (Figure 8).

In contrast, the variables grouped in the type of cultural heritage and its corresponding subtypes maintain positive relationships with the supply of hotel accommodations and restaurants. They also correlate positively with accessibility or tour guides.

All of this shows that there is a homogeneous group of areas that have a very well-defined vocation, where tourism facilities are better than those existing in other areas, although they are not as intricately linked to rural heritage as they should be (Figure 9).

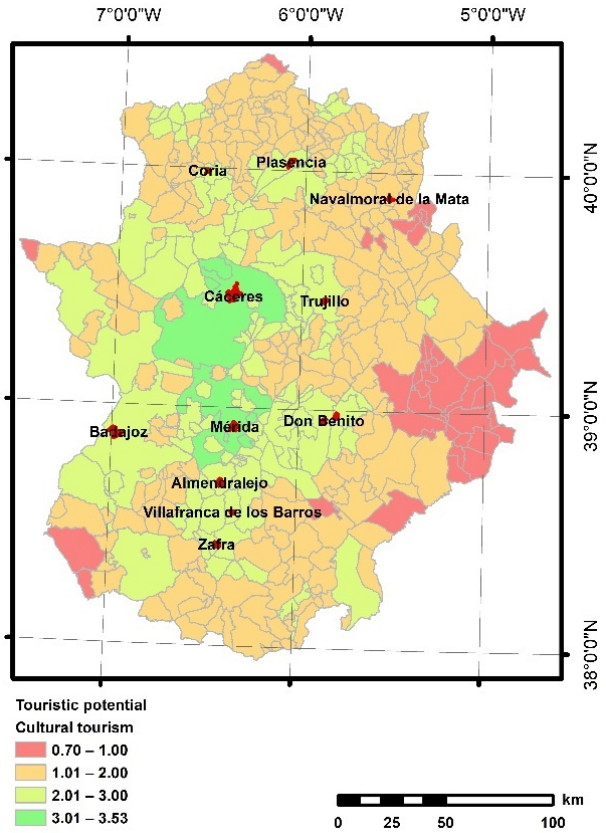

Figure 8. Cultural tourism in rural areas.

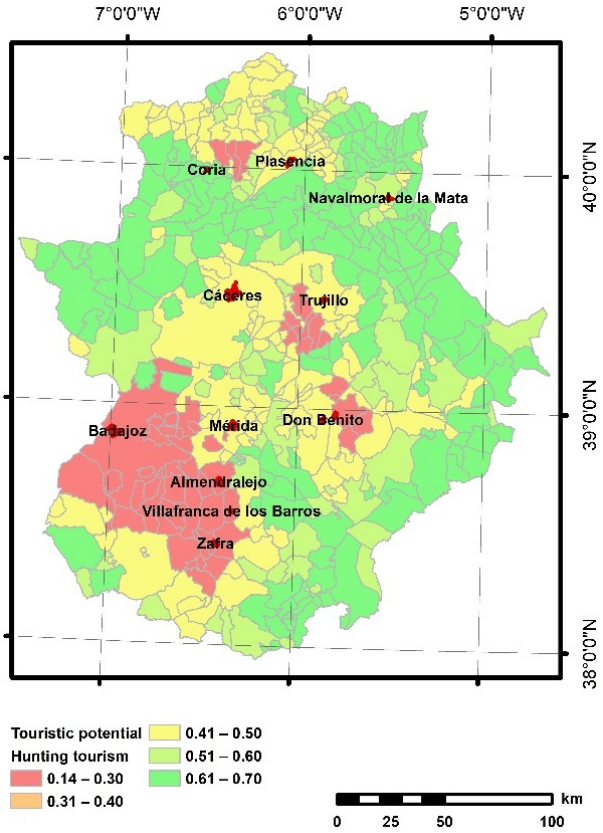

Figure 9. Hunting tourism.

The rest of the internal variables include numerous aspects that play a decisive role in tourism activity or some of its specific modalities.

For example, big game hunting preserves, which should be used to promote hunting tourism, are severely restricted when negative relations are observed with communications or the little linkage that exists with the supply, both in terms of lodging and restaurants. This is an indication that an enviable natural heritage is being wasted by not developing a specific tourism product.

The same applies to geotourism, despite the laudable efforts made by the Diputación de Cáceres and the Villuercas-Ibores-Jara Geopark itself (Figure 10).

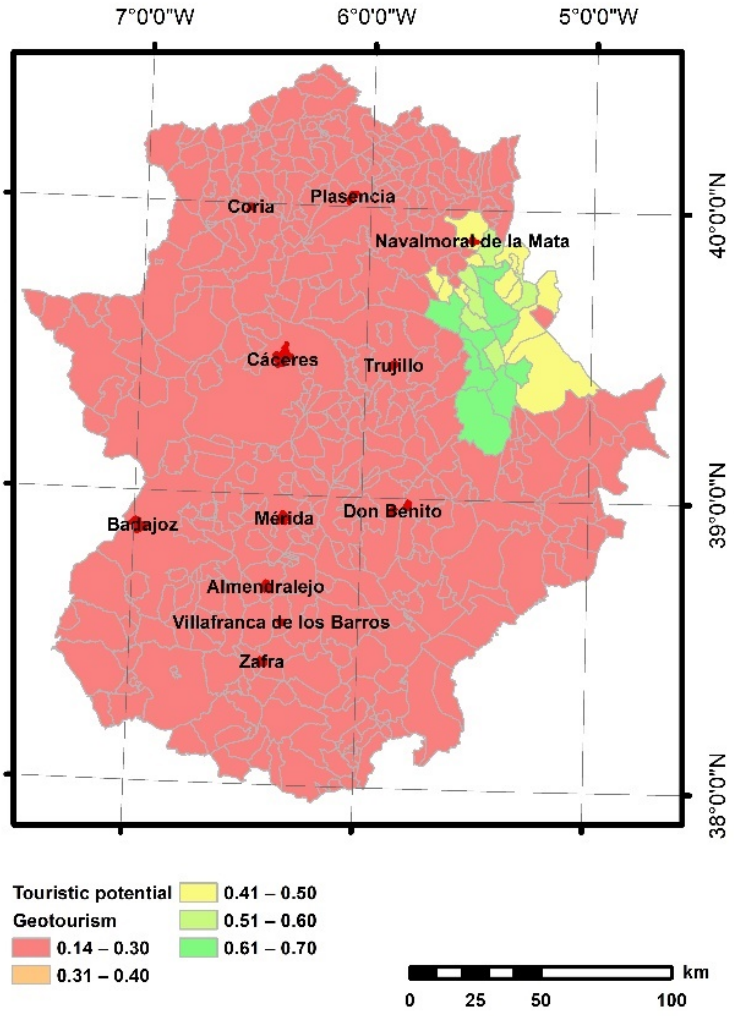

Figure 10. Geotourism.

Two variables emanating directly from the opinion of the demand, such as uniqueness and demand attractiveness, highlight the key role played by the physical components of the landscape as first-level attractions, which is also corroborated by the presence of a supply of accommodations, as can be seen from the coefficients obtained.

Likewise, certain relationships are observed that invite reflection. The first is the low importance of the relationship between geosites and external variables, which is surprising if we consider the commitment to promote geotourism as an important variety in the Villuercas-Ibores-Jara Geopark [73,74] in the northeast of the region. The second is the strong relationship established between the supply of rural accommodation and the viewpoints and observation points, which demonstrates the clear intention of the tourism policies pursued by the administration. This can be extended to the policy of transforming old railroad lines for the construction of greenways.

Trails, on the other hand, do have a positive correlation, according to Kendall's statistics, with bathing areas, reservoirs, and activity companies. From this, we can deduce the role they play in areas with a strong link to rural tourism, whether generic or more specific, as in the case of sports tourism. It should also be noted that they are related to areas with jetties, which does not corroborate the previous statement (Figure 11).

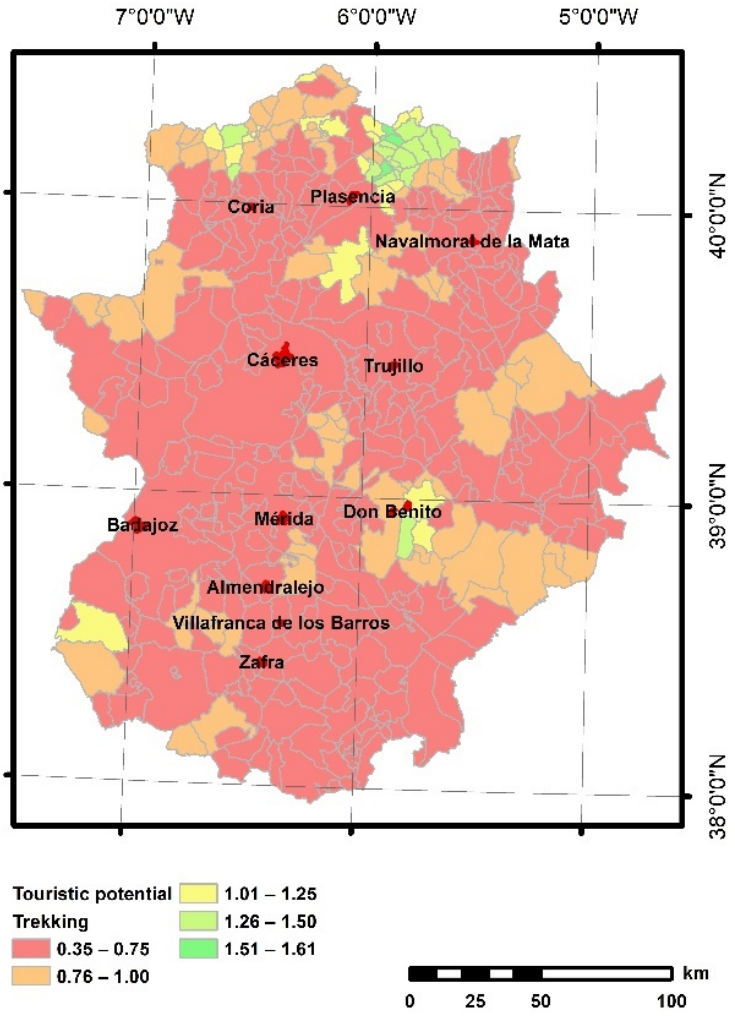

Figure 11. Hiking.

This brief outline of the relationships established between internal and external variables provides a first approximation to the reality of the tourism system, which has just been evidenced by the measurement of the territory's tourism potential.

What lies behind it is the presence of differentiated vocations, dual behaviors at the beginning, the peculiar inclination for associations between cultural heritage and hotel accommodations, and, on the contrary, natural heritage for rural ones.

This accumulation of circumstances, moreover, acquires greater complexity when the supply of restaurants, activities, etc., intervenes. However, the most important thing is that behind each of the variables, internal and external, there is a territory that shades the relationships with the immediate environment, in line with the first Law of Geography [75]. Despite this, linking the territory to these analyses is unfeasible unless one resorts to spatial statistics, which is beyond the scope of this study. This is of particular interest if one considers that it is not the same thing to represent a result on cartography, as it is to erect geographical proximity as another explanatory component and, therefore, with a high weight in the calculations to be made.

4. Discussion

Assessment methodologies developed over the past century have addressed the main components of the natural environment [32,76,77]. They have also included other complementary attractions [33,34], especially in the Anglo-Saxon literature. However, the most evolved conceptions bet on an integral vision of tourist attractions in combination with tourist facilities [23,78]. In this sense, previous attempts have not been well received, at least in terms of the application of their formulations. This lack of practical application of these methodologies to real cases also affects those proposed by organizations such as the European Union through the LEADER Observatory [65] or the Organization of American States (OAS) [64].

The latter methodologies consider it necessary to advocate a wide range of factors. The LEADER Observatory focuses its methodology on rural areas and considers the analysis of supply, demand, trends, and competition as key. Meanwhile, OAS establishes a clear distinction between intrinsic and extrinsic variables, i.e., those corresponding to the attractiveness analyzed and the tourist facilities offered by the environment. Despite offering a global vision of the tourism system, more developed in the methodology proposed by LEADER, they do not value possibly in the correct way preferences of the demand. This is because they focus on the questionnaires, where tourists respond to characteristics that are abstract. It should not be forgotten that there are concepts whose representation in the tourist's mind can be variable. In this regard, there are authors who propose that the use of photos, compared in pairs and analyzed by the Hierarchical Analysis Process, offers better results [79]. The hierarchical analysis of the results facilitates the mathematical interpretation of a complex fact by dividing it into simpler parts. Thus, the author of the methodology himself argues that it is easier to make decisions when there are two options than when there are more. For this reason, he designed a mathematical way of expressing preferences in a hierarchical way [80].

The theoretical development of methodologies for the evaluation of tourism potential over almost six decades contrasts with the scarce applied development. This practical ineffectiveness leads one to think that evaluation methodologies have become a theoretical ornament and have not stood out as a suitable tool for planning [81–83]. This statement is understandable if one takes into account that tourism plans rarely take into account the tourist attractions or the potential of the territory to develop tourism. This is even more striking when dealing with specific typologies such as rural tourism. Consequently, this study proposes a methodology that, in part, combines the most relevant aspects of others. It is based on the components of the natural environment, in line with the proposals of Warszynska [32], Vedenin, and Mirosnichenko [5], but also complementing it with other concepts such as those proposed by OAS or the LEADER Observatory. In addition, questionnaires are used to obtain information on demand preferences. In this sense, the methodological proposal that has been made also considers the use of photos, comparing them in pairs and extracting the hierarchy of resources from the Hierarchical Analysis Process.

With respect to the proposed methodology, it should be noted that numerous internal variables have been included, which consider the existing heritage in the area analyzed. In total, 37 variables have been selected, referring to natural and cultural attractions. They have different hierarchical rankings depending on their presence in the municipalities analyzed. Obviously, their contribution to the overall potential of the towns is different. On the other hand, 23 external variables are collected, linked to the tourist facilities offered by the territory. They are linked to the supply, both in terms of accommodation and complementary services, but also to accessibility, an aspect that has been highlighted in numerous studies [51,53].

The application of this methodology offers interesting results. A number of municipalities stand out in which the evaluation of the attractiveness of their resources is very satisfactory. However, on occasion, it is not accompanied by a similar evaluation of tourist facilities. The opposite situation also occurs, where some potential is observed in the exter-

nal variables but not so much in the internal ones. Along with this, important territorial variations are also observed, even detecting certain patterns of behavior. This demonstrates that the development potential of rural tourism in the context analyzed varies considerably in the territory and, on occasion, is not supported by tourism facilities. This corroborates the main hypothesis.

On the other hand, given that the main objective of the research was to create a specific evaluation methodology, it is worth being critical of it. In this regard, the authors of the study argue that the methodology developed meets the main requirements of the literature [25]. In it, the intervention of numerous actors stands out since different specialists have participated in its design. Together with them, the opinion of tourists has been considered, which has made it possible to select the hierarchies of numerous variables and also their weighting.

Furthermore, the proposed methodology is contextualized in the autonomous community of Extremadura and includes enriching aspects of other pre-existing ones. It also facilitates the analysis with its implementation in a Geographic Information System, which allows from analytical cartography to more complex applications that would link with the application of specific analysis techniques, such as spatial statistics. Precisely one of the future lines of research focuses on the application of such statistical techniques since they have demonstrated their interesting analytical contribution [13,20].

Despite all the effort made, it cannot be ignored that this methodology, as is the case with all those that have been reviewed, could be improved with the inclusion of a greater number of variables. Among them could be mentioned other aspects that could be key for certain types of rural tourism, such as agrotourism, in which agrarian landscapes would play a significant role. However, at present, this idea has been discarded because specific modalities, such as wine tourism or olive oil tourism, or even agrotourism, have very little development in the context of rural tourism in Extremadura. In addition, the demand preferences did not include any questions referring to specific agrarian systems. Therefore, the configuration and design of this evaluation methodology, which is intended to be dynamic, may be revised in the future, considering these specific sub-varieties of rural tourism and others.

Considering the above, it is understood that the initial hypothesis has been corroborated, establishing a specific zone in the north of the region as the area of greatest projection for the development of rural tourism. In this sense, it is endorsed by the National Institute of Statistics itself, which catalogs this same northern zone as an outstanding area for rural tourism [50].

5. Conclusions

Knowing the potential of the territory is fundamental for the correct development of tourism activities. However, after six decades of study, there is still no clear methodology applicable to many environments. Therefore, this research proposes a methodology based on the combination of the attraction factors proposed by the literature, as well as their importance as measured by the preferences of tourists. After its design and application, the following conclusions are drawn.

In the first place, existing methodologies are not always applied to tourism planning processes. This fact has repercussions on the fact that tourism policies are proposed in territorial areas where there is a lack of rigorous diagnoses of the sector. In addition, an analysis of the heritage that can function as an attraction for tourists is often omitted. In these cases, obviously, the attractiveness of the territory is unknown. As a result, some tourism plans do not start from a realistic situation.

Secondly, it is pointed out that the different methods developed by other specialists are not suitable or need to be adapted for Extremadura, either because they have been developed for other environments and at other times or because they are so complex, as is the case with the one proposed by the Leader Observatory, that makes them unfeasible.

Thirdly, a methodology adapted to Extremadura is proposed, where tourist attractions and facilities are particularly relevant. The importance of these aspects is defined by the opinion of the demand through questionnaires and, more precisely, the comparison of pairs of photos.

In fourth place, after the application of this methodology designed for Extremadura, it is demonstrated that there is a well-defined area in which the internal potential for the practice of rural tourism stands out over the rest. On the other hand, when compared with tourist facilities, situations appear that show certain contradictions or mismatches.

Fifth, once the generic attractiveness of the territory is known, specific tourism segments are established, in which the tourism potential is defined by extremely specific variables.

Finally, it is concluded that preliminary analysis of tourism potential is essential for planning.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/systems10050153/s1, Table S1: Internal variables considered; Table S2: External variables considered.

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