

EVALUATION OF NATURAL ATTRACTIONS OF THE ISLAND OF GRAN CANARIA FOR GEOSCIENCE TOURISM REQUIREMENTS

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ABSTRACT

The study analyzes the natural attractions of the island of Gran Canaria and subsequently how to improve their usability for tourism. In the analysis, such natural attractions were chosen like natural monuments and beaches belonging to the Blue Flag programme. Other natural attractions were chosen according to their originality. The assessment of the selected attractive places is based partly on quantified criteria (distance, elevation, area, length, etc.), and on expert assessments using the criteria that affect the properties of the evaluated objects relevant to tourism. The principles of description of the selected indicators for the evaluated attractions vary by type of objects and the existing conditions of their spatial distribution and tourism facilities. The proposed methodology for evaluating natural attractions has proven suitable for the needs of the selection of attractions for geoscience and montanistic tourism products. The necessary data are readily obtainable both from maps and from our own observations. On the basis of the analysis, certain modifications of the selected attractions were recommended, and an cognitive excursion route oriented on natural attractive places of the island was designed.

Keywords: Natural attractions, system design of analysis, recommendations for adjustments of attractions, proposal for sightseeing tours.

1 INTRODUCTION

A natural or cultural-historical object is characterized by both its intrinsic value, because that is studied and protected by various forms, and by external value, which is applied in tourism. These two attributes are different, and in the evaluation also other aspects are used. The attractiveness of the object or destination may be based on different principles and criteria [1]. Therefore, there are many proposals that are more or less distinct. The attractiveness of destination tourism consists generally in the expression of the region attractiveness in relation to tourist decision-making process on the objectives of travel and stay.

Generally, the analysis must be based, as in other fields of human activity, on such attributes that affect the evaluation significantly [2]. Some local phenomena, relationships and characteristics but may become possible under the distinctive levels of geographic, landscape-natural, cultural heritage and other local systems on the valuation of municipality territory. These attributes, however, can complement the possibilities and attractiveness, for which the given destination becomes a target of tourist visits. Genius loci of certain places becomes acting intangible and immeasurable. It may happen that the implementation conditions of tourism are more important than the localization conditions. In such instances, a strong representation of human factor, an initiative of their own creators and operators of facilities and products with a direct or indirect relation to tourism has to be submitted. It is therefore obvious that no formal model can affect tourism in terms of sheer completeness [3]. From the point of view of geoscience and montanistic tourism, it is of prime importance to appreciate the attractiveness of natural attractions and their accessibility and facilities for visitors.

The procedures for evaluating the attractiveness of a tourist destination can be divided into two main groups, namely supply- or demand-oriented ones [4]. The supply-oriented procedures consider attractiveness of tourist destination as the attraction consisting of existing resources, which affects potential visitors. They are based on the evaluation of the number, availability, distribution and presentation of all primary and secondary factors of tourism offer in the destination. In contrast, the demand-oriented approaches are mostly based on analyzes of visitor's needs, behavior and interest in the destination.

Such procedures can also be divided into the group which is based on the quantitative assessment of objectively measurable variables, and the group of procedures which are based on the expert valuation of attributes.

The study analyzes natural attractions of the island of Gran Canaria and subsequently how to improve their usability for tourism. The characterization of tourist attractions on the island of Gran Canaria is based on own knowledge (the authors visited geoscience and anthropogenic attractions of all the large islands of the

Canary Archipelago) and the sources listed in the literature (sources related to the island of Gran Canaria). From the whole Canary archipelago, it is the second most visited tourist island where you can find diverse nature from the long beaches in the south to the valley formed by lava flows inland. Gran Canaria offers to visit the pine forests in the mountains, craters, sand dunes in Maspalomas, the capital city Las Palmas, an original village, thematic parks, nightlife and much more (Fig.1). In the analysis, such natural attractions were chosen like natural monuments and beaches belonging to the Blue Flag programme. Other natural attractions were chosen according to their originality.



Fig. 1 Tourist attractions of the island of Gran Canaria (own processing with Google map)

2 SYSTEM OF ISLAND TOURIST ATTRACTIONS EVALUATION

The system of tourist attractions evaluation criteria must take into account the characteristics important for determining the significance of the studied objects for their inclusion into tourism products.

The assessment of the selected attractive places is based partly on quantified criteria (distance, elevation, area, length, etc.), and on expert assessments using the criteria that affect the properties of the evaluated objects relevant to tourism. This type of assessment is described by many authors, for example [5 -6].

The overview of the criteria and their evaluation are given in the following Table 1. The principles of description of the selected indicators of the evaluated attractions vary by type of objects and the existing conditions of their spatial distribution and tourism facilities.

Tab. 1 Overview of the criteria and their evaluation

aspect	category	score
distance from tourist resorts	0 – 90 km (every 10 km)	1 - 9
protected natural phenomenon	natural monument	5
	integral nature reserve	4
	Blue Flag program	4
	special nature reserve	3
	rural park	2
services	parking	2
	restaurants, kiosks, rest	1
altitude, size, length	mountains calderas rock formations gorges playas sand dunes	1 - 5
accessibility by road		0 - 7
accessibility from road		0 - 3
uniqueness of place		1 - 5

2.1 Evaluation of distance

The starting point for determining the distance is the town of Maspalomas, which is located in the heart of tourist resorts in the south where most tourists come to visit annually. The limitation of the last category is determined by geographic conditions (Table 2).

Tab. 2 Evaluation of distance

distance [km]	point	distance [km]	point
0 - 10	9	51 - 60	4
11 - 20	8	61 - 70	3
21 - 30	7	71 - 80	2
31 - 40	6	81 - 90	1
41 - 50	5		

2.2 The altitude, size, length

The evaluation varies depending on the type of monuments. In the category of “mountain”, the scoring is differentiated according to altitude, in the category of “rock formation”, the scoring is done by height of the rock formation, in the category “caldera”, the scoring is differentiated by diameter, in the category “beach”, the scoring is differentiated according to the length of beach, in the category of “sand dunes”, the scoring is differentiated by size (Table 3).

Tab. 3 Scoring according to altitude

mountain [m.a.s.l.]		caldera diameter [m]		rock formation relative height [m]	
category	point	category	point	category	point
under 400	1	under 200	1	under 100	1
401 - 800	2	201 - 400	2	101 - 300	2
801 - 1200	3	401 - 600	3	301 - 500	3
1201 - 1600	4	601 - 800	4	501 - 700	4
above 1600	5	above 800	5	above 700	5
beach length [m]		gorge area [ha]		sand dunes area [ha]	
category	point	category	point	category	point
under 400	1	under 150	1	under 150	1
401 - 900	2	151 - 300	2	151 - 300	2
901 - 1400	3	301 - 400	3	301 - 400	3
1401 - 2100	4	401 - 500	4	401 - 500	4
above 2100	5	above 500	5	above 500	5

2.3 Evaluation according to the classes of roads

The accessibility by road is evaluated according to the classes of roads, by which it is best to ride to natural attractions, according to the marking of the attractions by the road near the attractions and the type of road near the natural attractions (Table 4).

Tab. 4 Evaluation according to the classes of roads

accessibility by classes of roads		hiking trails from the road and markings	
type	point	type	point
≥ 50 % highway + road I. and II. class	4	asphalted	3
≤ 50 % highway + road I. and II. class	3	paved	2
road I. and II. class	2	unpaved	1
road III. class	1	without walkways	0
marking of attractiveness on road	point	road surface	point
marked	2	asphalted	2
unmarked	1	other	1

2.4 Protected natural object

The scoring is differentiated according to whether the object is a natural monument, or whether the object is on the territory that is protected by another protected natural space. The uniqueness of the object describes its originality and typical special features. This item is determined by the subjective evaluation of expert valuation.

2.5 Services

It evaluates the attractiveness of site amenities provided by tourist services such as restaurants, shops, food stalls, rest stops and parking nearby attractions (Table 5).

Tab. 5 Attractiveness of site amenities

protected objects		services	
type	point	type	point
natural monument	5	parking	2
integral nature reserve	4	rest stop	1
Blue Flag program	4	shops, food stalls	1
special nature reserve	3	restaurant	1
country park	2		

3 DESCRIPTION OF NATURAL ATTRACTIONS

The selection of the natural attractions included in the analysis was based on own knowledge and on the study of literature about tourist attractions and nature of the island. The selection of natural attractions was made under the above tables according to their required characteristics and their valuation. The following table gives examples of the data for the evaluation of natural attraction types.

Tab. 6 Evaluation of natural attraction types

natural attractions	distance from tourist resorts	protected natural area	services	altitude, diameter, height, size, length	accessibility by road	accessibility from road	attraction uniqueness	monument type
Montaña de Amagro	86 km	natural monument	resting place	501 AMSL	Highway > 50 %, nonasphalted roads	unpaved hiking trails		mountain
Pico de las Nieves	47 km	rural park	refreshments stall, parking lot	1949 AMSL	Highway < 50 %, marking, asphalted road	unpaved hiking trails	highest mountain	mountain
Caldera de Bandama	54 km	natural monument	resting place	1 000 m	Highway > 50 % marking, asphalted road	paved hiking trails	Largest caldera	caldera
Aguayro de Roque	26 km	natural monument	-	540 m	Highway < 50 % nonasphalted roads	unpaved hiking trails	-	rock formation
Barranco de Guaya-deque	34 km	natural monument	restaurant, shop, parking lot	725,5 ha	Highway > 50 % marking, asphalted road	paved hiking trails	cave of indigenous peoples, most famous gorge	gorge
Dunas de Maspalomas	2 km	special nature reserve	refreshments stall, parking lot	403,9 ha	roads I., II. classes, marking, asphalted road	unpaved hiking trails	unique and extensive sand dunes	sand dunes
Playa de las Canteras	57 km	Blue Flag program	restaurant, shop, refreshments stall, parking lot	2 000 m	Highway > 50 % marking, asphalted road	-	proximity to the capital	beach

In a similar manner, the data for all considered natural attractions of defined types was created. For such a procedure, 5 mountains, 6 rock formations, 2 calderas, 2 gorges, 1 field of sand dunes and 6 beaches, totaling 22 attractions, have been rated. The summary of valuation of the individual natural attractions of the island by type and suitability for tourism products including their order is contained in the following table.

Tab. 7 Natural attractions of the island by type and suitability

natural attraction	type of sights	score	total position
Barranco de Guayadeque	gorge	33	1.
Playa de Maspalomas	playa	31	2. – 3.
Playa del Inglés	playa	31	2. – 3.
Dunas de Maspalomas	sand dunes	30	4.
Caldera de Bandama	caldera	29	5.
Pico de las Nieves	mountain	27	6.
Roque Nublo	rock formation	26	7.
Riscos de Tirajana	rock formation	25	8. – 9.
Playa de las Canteras	playa	25	8. – 9.
Playa de San Agustín	playa	24	10. – 11.
Playa de Amadores	playa	24	10. – 11.
Playa de Mogán	playa	23	12.
Arinaga	mountain	22	13.
Roque Bentayga	rock formation	21	14. – 16.
Aguayro de Roque	rock formation	21	14. – 16.
Montañón Negro	mountain	21	14. – 16.
Montaña de Tauro	mountain	20	17.
Caldera de los Marteles	caldera	19	18. – 19.
Fuente de Los Azulejos	rock formation	19	18. – 19.
Barranco del Draguillo	gorge	18	20.
Roque grande de Tenteniguada	rock formation	16	21.
Montaña de Amagro	rock formation	15	22.

4 SUITABILITY OF NATURAL ATTRACTIONS FOR USE IN TOURISM

According to the attributed scores, the best natural attraction of the island for use in tourism is the gorge Barranco de Guayadeque. This gorge is suitable mainly due to the offered services (parking, shops, and restaurants), expanse, paved walkways, marking a rarity of the gorge (cave of indigenous people). Other attractions suitable for use in tourism are: Playa de Maspalomas, Playa del Inglés, and Playa de las Canteras. From the category of rock formation, appropriate rock formations – Roque Nublo and Riscos de Tirajana are appropriate. Among other categories, the sand dunes of Maspalomas, Pico de la Nieves, the highest peak of the island of Gran Canaria, and the Bandama caldera (Caldera de Bandama) are suitable. All these attractions have received over 65% of points that could be achieved.

Finally, another appropriate natural attraction for use in tourism can be Montaña de Amagro, a rock formation, which is the least suitable attraction mainly due to its distance from tourist destinations, the lack of attraction marking along roads and the lack of services nearby the attraction (only resting place).

5 RECOMMENDATIONS FOR PARTICULAR CATEGORY

Based on the evaluation grounded on the local investigation, the recommendations for adjustments of the individual attractions amenities are given below. In the category of “mountain”, as for the natural attraction montaña de tauro there is no parking or resting place in close proximity. Therefore, to increase tourist interest it would be appropriate to build at least a small parking lot. In addition, as for pico de la nieves, no marking of the attractions is along roads. We recommend to introduce the marking of the attraction along roads. In all attractive places in this category there are unpaved hiking trails. It would be useful, at least for pico de la nieves as the main attraction of the category, to build paved hiking trails.

The conditions for the category of “caldera” in terms of accessibility by road and from road are sufficient and no changes or recommendations are necessary. Near the calderas, no services are provided such as stalls or restaurants and there are no parking lots, but only resting places. It would be useful to build a parking lot at Caldera de Bandama as its visit rate is higher than the attendance of Caldera de los Marteles having resting places sufficient for the visitor capacity (the amount of visitors estimated according to the frequency of occurrence in the books, according to the area and type of protected natural areas).

The conditions for the category of “rock formation” from the perspective of accessibility from road are insufficient for Roque Nublo. This rock formation is a symbol of the island and one of the main attractions. Therefore, it would be appropriate to build at least some parts of paved or asphalt hiking trails. For the attraction Fuente de Los Azulejos accessible from road, the conditions cannot be assured because the attraction is placed on a rock and thus it is inaccessible by foot, and possible climbing actions could damage it.

Another recommendation is to create, at least close to the attraction Riscos de Tirajana, marking along roads. For the rock formation of Roque de grande Tenteniguada it is not necessary due to the proximity of the Marteles caldera.

The conditions for the category of “gorge” are sufficient for Barranco de Guayadeque and inadequate for Barranco del Draguillo. Insufficient marking is mainly along roads. There are no catering facilities, but this is due to low attendance. We recommend creating attractions marking along the roads.

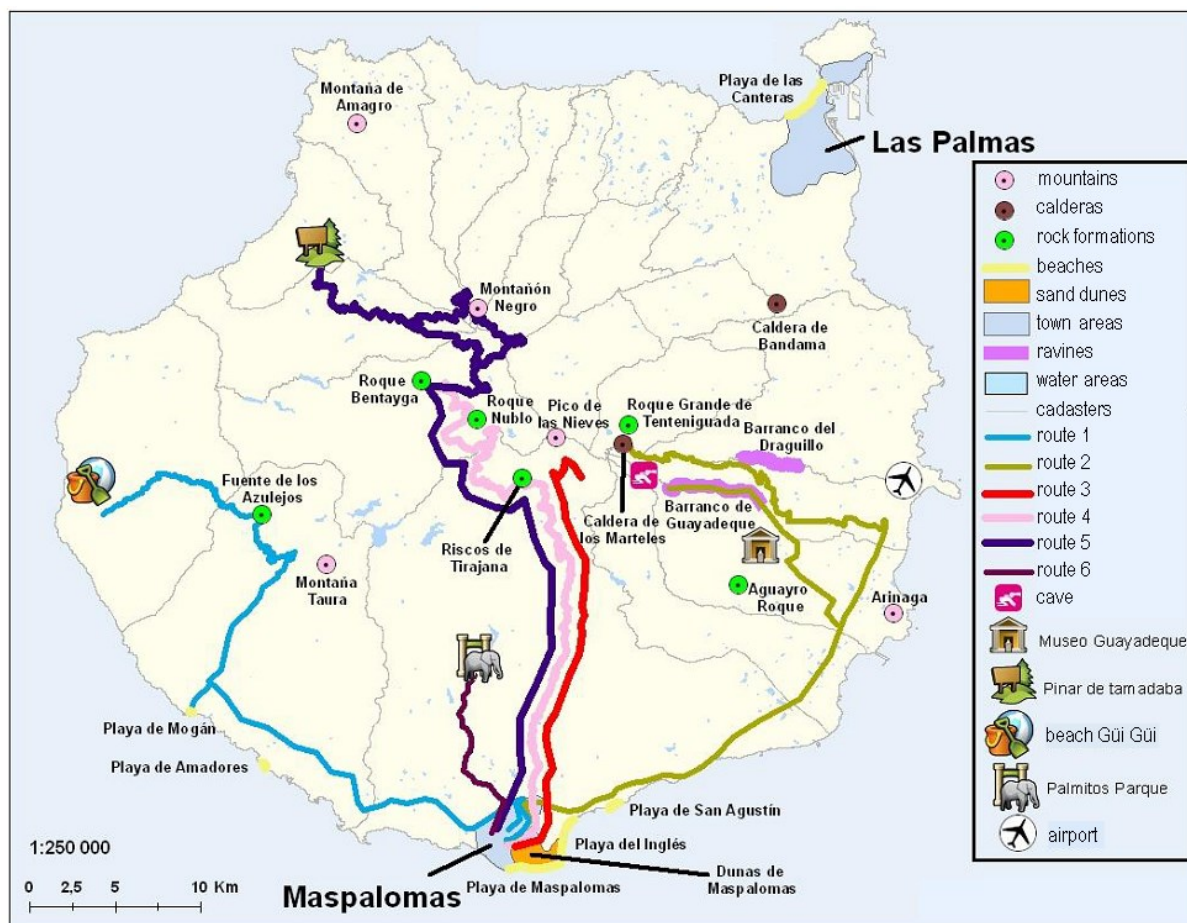


Fig. 2 Scheme of proposed tours (own processing with Google map)

The conditions for the “sand dunes” are sufficient. There is no need to make any changes, because it is a specific area in which any change could cause depreciation of the sand dunes and the landscape.

In the category of “beach“, it is not necessary to make any changes because the beaches offer adequate services such as restaurants, shops, food stalls and parking. The quality of these beaches is confirmed by the fact that these beaches comply with the criteria for “Blue Flag” accreditation.

The island of Gran Canaria belongs among the most popular tourist destinations, but is primarily used for relaxing holidays at sea, and not for cognitive activity. Site-seeing trips focused on natural attractions of the island of Gran Canaria is generally low, as shown by the analysis of travel agencies offers from Germany, Austria, Spain, England, Czech and Slovak Republics. Only three natural attractions compared in this work are at least half of the searched tours visited. These are rock formations – Roque Nublo, Roque Bentayga and Mount Pico de las Nieves. For this reason, a proposal was drawn for tours focussing on the natural beauty of the island of Gran Canaria, which includes the routes described in Figure 2.

6 CONCLUSIONS

The proposed methodology for evaluating natural attractions has proven suitable for the needs of the selection of attractions for geoscience and montanistic tourism products. Such approach is the basis for the selection of natural objects suitable for geoscience and montanistic tourism. The necessary data are readily obtainable both from maps and from our own observations.

Thirteen natural attractions are used in the proposed tour. In addition to these attractions, the proposed tour contains the Beach Güi Güi as a natural attraction because of the popularity of hiking trails.

This proposal supplements the weak supply of seeing tours on the island of Gran Canaria. The methodology used for the evaluation and selection of natural attractions is generally applicable for assessments of other islands of the Canary archipelago, or of other territories.

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