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Content

Hunting Tourism as a Factor for Economic Development of Hunting Associations on the Territory of the City of Leskovac

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Abstract

The subject of this study is the impact of hunting tourism on the development of hunting associations in the territory of the City of Leskovac in Serbia. Non-experimental model of scientific research, survey, was applied in the paper, while the obtained results were processed by statistical data processing. Data are presented in tables and graphs. The total number of completed questionnaires by service users was 475. The largest percentage of hunters on hunting grounds were foreign tourists compared to domestic tourists, which accounted for 84.50% of the total number of hunting tourists in 2017, 87.1% in 2018 .year and 89 8% in 2019. The income generated from the stay of hunters' tourists was used by hunting associations for the purchase of certain game species and the modernization of hunting and technical facilities. The amount of revenue generated increased by 2.3% each year in 2018 and by 22.6% in 2019. Investments in 2017-2019 were up 20.1% in 2018 to 38.8% in 2019, while funds earmarked for wildlife procurement were significantly higher by 3.8% in 2018, and 50% in 2019. It can be concluded that hunting and hunting tourism must be focused on habitat conservation, environmental protection, and wildlife protection and a very important segment of the economic development of hunting associations and the entire territory in which hunting associations operate.

Keywords: hunting, hunting tourism, hunters, wild animals, hunting facilities.

Introduction

Hunting played an important role in the survival and development of humanity. In modern society, hunting is no longer a matter of survival and food security, but a recreational sport and hobby, an activity that provides economic, sports and recreational value of man. In a broader sense, many authors believe that hunting is a form of recreation and active stay in nature. Prticipants in hunting adhere to certain rules (Marić, 2003).

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Hunting tourism is characterized by certain specifics, but for its success it is necessary to have a certain available fund of one or more species of game. The development of hunting tourism is based not only on the number, but also on the type of hunting game, as well as on the trophy structure (Garača et al., 2019). Hunting associations have a big role in that. Serbia is a country of good hunting grounds, good hunters and good hosts. It owns over 320 hunting grounds on about 6.500.000 hectares, which are located on a land configuration from 70 to 2.000 meters above sea level. There are 44 commercial hunting grounds in Serbia, and other hunting grounds are managed by hunting societies, which also organize commercial hunting on their fields (LSS 2019). In order for a specific hunting ground to have all the necessary tourist references, it should meet the basic criteria set before a tourist destination in general, which is, by definition, "a more or less complete geographical unit with attractive, communicative and receptive factors, ie. all those natural, social, anthropogenic, cultural-historical, traffic and preconditions for accommodation, food, rest, recreation and entertainment of tourists (ie built tourist offer) " (Marić, 2003). Hunting tourism is one of the very specific forms of economic activity precisely because of the specificity of the supply and demand it provides to service users (Čomić, 1988) and (Law on Tourism, 2009). Hunting tourism is, in fact, a complete tourist product at a given destination (hunting ground) and assumes a synthesized sum of products, services and other tourist values in the function of satisfying hunting tourist demand of potential clients (tourists - hunters), as well as a measure of sustainable development of rural areas (Riznić et al., 2019).

Modern economic processes are increasingly eliminating traditional socio-economic relations and destroying antagonistic relations between developed and underdeveloped countries, and Prentović (2014) in his work. We further state that the dominance of world capital will increase the number of segmental groups, highly paid tourist consumers with the constant application of the rule of principle, "have" over "be", which means a new redistribution of tourist resources. This redistribution requires new investments in the development of tourist destinations, but also a new form of tourist product of the highest quality. Due to that, free time received a new redistribution in such a way that rich countries use it more and more for entertainment and recreation of their people, and poor ones more and more to create additional positional capital to satisfy the needs of the rich, but also to raise their own living standards. Modern trends in economic relations are changing and understanding tourism as a global process (Pivac et al., 2020). This means that tourism goes beyond the framework of "industry" and becomes a socio-economic phenomenon. Its further development, product formation and opening of new destinations are the result of previous experiences and new wishes of tourist consumers. Important economic factors of business and development of hunting tourism are its resources, which, individually, are numerous, but they analyze economic and tourism theories can be divided into four basic groups and up to: natural resources, physical capital, human resources, knowledge and hunting dog (Whitelaw et al., 2014).

The natural resources of hunting tourism are hunting game and its habitats where it exists, where game is the main resource of hunting tourism, because it is directly usable. According to Marić (2003) indirectly, "all natural elements and phenomena, regardless of their economic status (capital or resource) have their place and important role in maintaining the natural balance, ie the food chain. Therefore, those species of wild animals that are not included in hunting have an important role in the sustainability of hunting game, ie hunting resources. Wildlife habitats, which are also a natural resource, are in hunting grounds. Areas of hunting grounds, in relation to whether hunting is allowed on them or not, are divided into hunting and non-hunting areas. In addition, hunting grounds can be open in which unhindered sea-

sonal migration of game takes place and fenced, which, as their name suggests, are fenced with natural or artificial barriers, and game is prevented from leaving this area.

Material and technical resources of hunting tourism, material and technical facilities, as the physical capital of hunting tourism are intended to provide conditions for the implementation of hunting tourism activities.

Thanks to the realization of profits that are realized from the collection of certain game (and especially hunting trophies), hunting tourism is a kind of tourist economy, where natural resources (game) are directly consumed, which is not the case with most other selective forms of tourism.

Subject of researchis to assess whether the territory of the City of Leskovac and its surroundings have or have not the potential for the implementation of hunting tourism projects, including relevant factors that are part of the hunting area system. Also, this research will be focused on determining the capacity for the organization of hunting tourism that will affect: nature protection, conservation of biodiversity, economic benefits, as well as the sustainable development of rural areas.

Hunting tourism in Serbia

Hunting tourism in Serbia has a long tradition in a number of regulated hunting grounds, but as a small part of tourism it has not received special attention in the tourist literature (Lazić et al., 2008). Tourism is a trip for the purpose of recreation, pleasure or work and is usually of limited duration. Hunting tourism is a special selective form of tourism and, as such, represents "movement and active stay of tourists - hunters in a specific environment - hunting ground, as part of a healthy natural environment, for hunting (shooting, capturing, observing, photographing and shooting) game, thus satisfying their strong motive (Prentović, 2008). Hunting tourism is one of the most attractive segments of the tourist offer, especially for the foreign market. Until the beginning of the 1990s and the break-up of Yugoslavia, it was the most important in the field of tourism and catering, since it was a significant source of foreign exchange income.

Hunting tourism is characterized by certain specifics, but for its success it is necessary to have a certain available fund of one or more species of game. The development of hunting tourism is based not only on the number, but also on the type of hunting game, as well as on the trophy structure (Trišić, 2020).

The current situation was greatly influenced by the war during the 1990s, especially in the countries where the largest conflicts took place (such as Bosnia and Herzegovina) and where wildlife habitats were severely devastated and many wildlife populations were brought to the brink of extinction. Serbia, Slovenia and Croatia have the most developed hunting tourism.

The forerunners of tourist hunting in our country date back to the period between the two world wars, in the form of "guest hunts". The interest and stay of tourist hunters, especially English and Germans in the then Danube Banovina (today's Vojvodina) and the participation of the Association of Danube Banovina Hunters at the First World Hunting Exhibition in Berlin, represents the beginning of hunting tourism in our country. However, the beginnings of organized hunting tourism happened only after World War II, in 1952, when 9 foreign hunters visited the hunting grounds near Apatin and Bezdan. Since 1954, when the World Hunting Exhibition was held in Düsseldorf, hunting tourism in our country began its upward trajectory until 1991. In that period, there were about 10.000 foreign hunters in Serbia, from which a

foreign exchange inflow of 10 million German marks was realized. If these data are compared with the number of tourist hunters of the former SFRY (25-30.000) as well as with the realized annual income (according to some estimates 20 million dollars), it is clear that Serbia was the most developed in terms of hunting and tourism in relation to other republics. Since 1991, after the disintegration of the SFRY, with the introduction of sanctions and finally with the aggression on our country, hunting tourism has almost died out. The state of hunting and hunting tourism began to slowly improve at the beginning of this century, but despite the achieved results, hunting tourism in Serbia did not achieve the expected revitalization (Prentović, 2014).

According to Prentović (2005b), tourist hunting in our country dates back to the period between the two world wars and to the formation of "guest hunting". The state of hunting and hunting tourism began to slowly improve at the beginning of this century, and not to compare the achieved results, hunting tourism in Serbia was not achieved with the expected revitalization. Hunting tourism in Vojvodina has a long tradition. Vojvodina was the most developed hunting and tourist area in the former Yugoslavia and one of the leading hunting and tourist destinations in Europe, and it is still in the Republic of Serbia today.

An important segment of every (even hunting tourist) destination are adequate facilities for accommodation (accommodation, food) and services in the hunting ground. These are comfortable hunting houses, ie hunting huts, houses for housing hunting dogs, facilities for sports and recreation, cultural and entertainment activities. This also includes facilities and means

LU Dobra glava, 8%   LU Manojlovice, 9%   LU Dubočica, 41%

LU Zec, 22%   LU Razgojna, 4%   LU Porečje, 16%
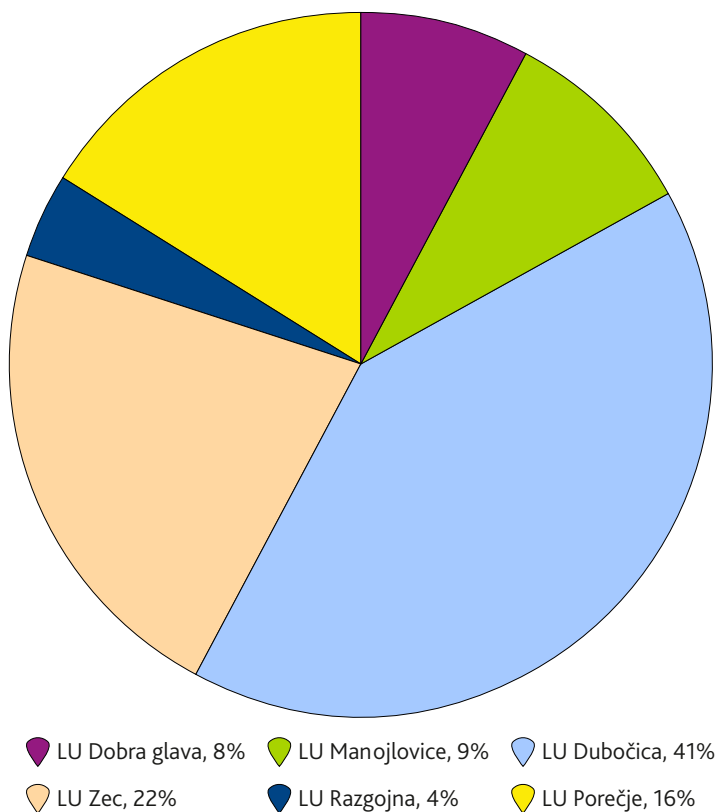
Figure 1. Structure of hunting grounds on the territory
of the City of Leskovac
Source: Survey output

for transporting tourists-hunters from receptive facilities to hunting areas where the program of a given tourist hunt is implemented, and these are appropriate communications within the hunting ground and means of transport such as: off-road vehicles, carriages, sledges, boats, speedboats, etc. vessels, helicopters, etc. The potential for the development of tourism in the city of Leskovac is the mountain Kukavica, which is located between the Vranje valley in the south, Leskovac in the north, or. Grdelica gorges in the east and the valley of Veternica, with the highest peak Vlajna (1441 m). Mount Kukavica has natural conditions for the development of mountain and hunting tourism, given the richness of game, of which the most important are wild boar and roe deer (Pesić et al.,2019; Stolić et al., 2019). Other species of game and birds, as well as the presence of predators, dominate these areas where J.P. "Serbia Forests" manages the established hunting ground "Kukavica", which is located at 1360 m above sea level.

The sex, genetic, age structure and number of populations of large autochthonous game species, which inhabit the forest areas of the municipality, are far below the possibilities of habitat potentials. The average game density is: roe deer 0.35 heads / 100 ha, partridge 10.44 heads / 100 ha, wild boar 0.20 heads / 100 ha, rabbit 9.28 heads / 100 ha and pheasant 6.57 heads / 100 ha.

Methods and data

The aim of the research is to assess whether the territory of the City of Leskovac and its surroundings have or have not the potential for the implementation of hunting tourism projects, including relevant factors that are part of the hunting area system. Also, this research will be focused on determining the capacity for the organization of hunting tourism that will affect: nature protection, conservation of biodiversity, economic benefits, as well as the sustainable development of rural areas.The paper applies a non-experimental model of scientific research, surveys, while the obtained results are processed by the statistical method of data processing.

The questionnaire shows that with 20 questions asked about the employment of hunting associations, owners of housing facilities that housed tourist hunters and directly tourists who were guests in hunting associations and used the services of hunting grounds, the research was conducted in the period from 2014 to 2019. They also used planning documentation from the archives of hunting associations to prepare the work.

On the territory of the town of Leskovac, there are 6 hunting grounds ("Dubocica", "Mano-jlovce", "Dobra glava", "Zec", "Porečje" and "Razgojna"), where the total area of the hunting area is 101.035 ha. The area of the hunting ground where hunting is allowed is 89.103 ha. In the hunting grounds themselves, eight shelters of 3.580 m2 for pheasants have been stationed, as well as 170 feeding grounds of 620 m2 for other feathered game. On an area of 839 m2, 65 feeding grounds for furry game were built.

Results and discussion

The research was conducted in 6 hunting associations on the territory of the City of Leskovac in facilities that were in the function of tourist hunters. The questionnaires were relevant evidence of how many tourists stayed in hunting associations and how much income was generated by providing services to foreign and domestic tourists. The questionnaire also shows the result of investments in hunting associations in hunting production, hunting technical facil-

ities and procurement of game. Here, it is very important to point out the key indicators that we will present in a table and graph.

Table 1. *Number of tourist hunters who stayed in hunting associations (2017-2019)*

Hunting Associatios	2017		%		2018		%		2019		%	
	D	F	D	F	D	F	D	F	D	F	D	F
Dubočica	17	35	12,6	25,9	18	46	11,7	29,9	16	52	8,6	27,9
Manojlovce	3	23	2,2	17,0	1	34	0,6	22,2	2	39	1,1	20,9
Porečje	-	14	-	10,4	1	15	0,6	9,7	-	13	-	6,9
Zec	-	18	-	13,4	-	15	-	9,7	1	21	0,5	11,4
Dobra glava	-	10	-	7,4	-	8	-	5,3	-	18	-	9,8
Razgojna	1	14	0,8	10,4	-	16	-	10,4	-	24	-	12,9
Everything	21	114	15,5	84,5	20	134	12,9	87,1	19	167	10,2	89,8
Total	135				154				186			

Source: from the archives of hunting associations-Planning documentation, D=domestic, F=foreign

Observation of the total number of completed questionnaires-users of services, 475 (135 in 2017, 154 in 2018 and 186 in 2019) foreign tourist hunters were the dominant guests in relation to domestic tourist hunters, participating with 84.50% in relation to the total number tourist hunters in 2017, 87.1% in 2018 and 89.8% in 2019.

The presented results also indicate a decreasing trend in the number of domestic tourist hunters from year to year. The reason for such a trend is the conditionally weak paying power of domestic tourists and the inability of domestic tourist hunters to respond to the exclusive offer in hunting grounds. Pešić and his associates came to the same knowledge (Pesić et al., 2017) and found that from the costs of mediation, transport, accommodation and food, through the payment of shooting tax, rental of weapons and equipment, to numerous other services provided to hunters during their stay in hunting ground and the hunting itself, received a great benefit that affects the result of a country's economy.

The concept of sustainable development is a relatively new concept aimed at overcoming the shortcomings of previous development models, primarily, neglecting environmental issues (Tešanović et al. 2015). Sustainable development strives to strike a balance between economic, environmental and social development. Hunters strive to make the most of wildlife growth while trying, at the same time, to fully maintain the foundation needed for reproduction. The principle of sustainability is even more clearly represented in forestry, and the mirror is in principle that no more trees are felled during the year, and what their nature can create, or even less (Riznić et al., 2019).

If we analyze the foreign exchange income from tourist hunters who stayed in Leskovac hunting associations, a trend of increasing income from year to year has been noticed. The revenues generated in this way contributed to the facilitated work of hunting associations. In this regard, Prentović (2005b) states that hunting tourism is the most profitable and most impulsive use of wildlife, as a natural resource. In that context, the same author added that hunting tourism is an export-oriented area of business and contributes to the realization of foreign exchange income of the hunting and tourism industry.

Table 2. *Income generated by the stay of tourist hunters in the period 2017-2019 (€).*

Hunting Associatios	2017		2018		2019	
	D	F	D	F	D	F
Dubočica	115	4.560	165	6.055	145	7.150
Manojlovce	35	2.850	15	4.350	20	5.050
Porečje	-	1.942	15	2.150	-	1.860
Zec	-	2.105	-	2.150	15	2.650
Dobra glava	-	1.150	-	940	-	2.240
Razgojna	12	1.942	-	2.320	-	3.140
Everything (€)	162	14.549	195	17.965	180	22.090
Total (€)	17.711		18.160		22.270	

Source: from the archives of hunting associations-Planning documentation, D=domestic, F=foreign

Revenues generated by the stay of hunter-gatherers were used by hunting associations for the purchase of certain types of game as well as for the modernization of hunting technical facilities. The amount of realized income increased every year in 2018 by 2.3%, and in 2019, by 22.6%. Financing of hunting associations is realized by collecting membership fees, which are paid annually. The realized income directly depends on the number of hunters, but those incomes are certainly insufficient for the improvement and modernization of the work of the hunting association. The funds generated by providing services to tourist hunters are earmarked for the construction of new hunting technical facilities and the purchase of game, mainly pheasant chickens. Due to the realization of significant financial resources, which, immediately after the realization, are returned to hunting with the aim of its further improvement, it is indisputable, as the competent authors point out, (Stojnić et al., 2015; Prentović, 2014; Marković et al., 2008) that hunting tourism is not only a significant form of business, but also a generator of further development of hunting, as a socially valuable economic activity.

At the same time, our income from hunting and hunting tourism is negligible and incomparably lower than the income from agriculture, but they are still very important for local communities. Revenues from hunting tourism could be multiplied if the problem with veterinary certificates and accompanying documentation for shot game originating from our hunting areas is solved.

Table 3. *Number, constructed facilities and purchased pheasant chickens 2017-2019.*

Hunting Associatios	Investments in hunting associations					
	2017		2018		2019	
	O	W	O	W	O	W
	pieces	birds	pieces	birds	pieces	birds
Dubočica	13	500	17	500	20	700
Manojlovce	10	200	10	300	20	400
Porečje	6	150	5	150	8	250
Zec	5	200	7	200	7	300
Dobra glava	5	150	6	100	8	150
Razgojna	2	150	4	150	5	200
Total	41	1.350	49	1.400	68	2.100

Source: from the archives of hunting associations-Planning documentation, O=objects, W= wildlife

Table 3 clearly shows that the professional services that manage hunting associations have placed special emphasis on the procurement of game because they have enriched their hunting grounds and met the needs of their members who are more interested in hunting feathered game, especially pheasants. While the rest of the feathered game, partridge, quail and pigeon hryvnia are left for the needs of foreign tourists. Investment and investment in the period from 2017-2019 in infrastructure was on an upward trajectory from 20.1% in 2018 to 38.8% in 2019, while the funds allocated for the purchase of game were significantly higher 3.8% in 2018, and 50% in 2019. In accordance with the financial income and possibilities, the professional services of hunting associations procure feathered game. The same attitude is shared by a group of authors (Marković et al., 2015) who clearly indicate that the care of game and domestic management of the hunting ground affects the occupancy of the economic capacity of the hunting ground and a more exclusive offer for tourist hunters. At the annual level, the number of purchased game was constantly increasing, by 4% in 2018 compared to 2017, and 14.4% in 2019. Also from the table we can notice that the number of hunting-technical facilities increases every year, and thus the conditions for stay and technical support to tourist hunters improve. Observing the number of constructed facilities, that percentage is much higher, even up to 200%. In this way, not only does the number of game in the hunting ground increase, but local hunters, members of hunting associations, raise awareness and responsibility towards natural resources, and thus increase the hunting and tourist offer, says Ristić (2004).

If ecological awareness were applied and certain strategic measures were implemented, the preservation of large forest complexes would succeed, while together with the integrated management and establishment of a protected area, the value of the four most important ecosystem services in this area would increase. located on the border of Serbia, Bosnia and Herzegovina and Croatia: wood production, flood defense, pork production and biodiversity protection (Stankov et al., 2014).

Conclusion

Hunting and hunting tourism must be aimed at preserving habitats, preserving the environment and protecting wild species. Hunting tourism is a very important segment of the economic development of hunting associations and the entire territory in which hunting associations operate.

Hunting tourism in the preservation of biodiversity, rural development and protected areas can have a positive effect if viewed through financial gain, educational impact on domestic hunters, revitalization of forgotten hunting grounds, reduction of certain invasive species, animation of local population, but also negative through the extermination of many species, disturbing life cycles and disturbing the peace in the hunting ground as well as killing and capturing animals.

Hunting management also implies the principle of economic sustainability, whereby revenues must not be generated at the expense of sustainability. It is necessary to return the realized income to the hunting ground through investments in nature protection and breeding and protection of wildlife. The basic income of the hunting ground is realized through shooting, sale of trophies, game meat or sale of live game, as well as from the services provided in hunting. Part of the realized income is invested in the function of sustainable development of hunting areas, through the following elements: procurement of necessary equipment and food, undertaking preventive measures for game protection (sanitary measures, guard service, etc.),

improvement of habitat conditions, installation of hunting facilities in the hunting ground, raising draws and shooting lines, winter feeding of game, etc.), formation of the parent flock, organizing tribunes and public debates on the protection of ecosystems, etc. Uncontrolled use of natural resources, wildlife and environmental pollution for current economic benefits have long-term negative consequences for all of humanity.

On the territory of the City of Leskovac, the interests of nature protection of agricultural land, forests and water, on the one hand, and the wildlife on which they live, on the other hand, are in conflict. Tourists have a significant contribution in generating income in hunting associations, foreign tourists are the dominant group in relation to domestic tourist hunters in terms of financial gain.

The number of hunters, both domestic and foreign, increases every year, and as a result of their presence, the financial profit, ie the economic effect of the mentioned resource, increases, and the distribution of profits is of key importance. Referral of income is a significant moment in preserving and providing the necessary resources for the procurement of game birds and the construction of hunting and technical facilities for game breeding and accommodation of foreign tourists.

The hunting potential of the area of the City of Leskovac has a tendency to grow and reach its maximum to achieve a greater economic effect, development of hunting associations, greater need for professional staff to be involved in this activity and improvement of infrastructure in hunting grounds.

References

Čomić, Đ. 1988. Spatial planning of tourism. *Turizam* 36(7-8), 183-187.

Garača, V., Vukosav, S., Stamenković, I., Bradić. M. 2019. Modelling of tourism region: Case of Novi Sad gravitational zone. *Tourism* 23(4), 178-189.

Lazić, L., Pavić, D., Stojanović, V., Tomić, P., Romelić, J., Pivac, T., Košić (Pavlica), K., Besermenji, S., Kicošev, S. and Đarmati, Z. 2008. *Protected Areas and Ecotourism of Vojvodina*. Prirodno-matematički fakultet, Novi Sad (in Serbian).

Law on Tourism (ZT) 2009. Official Gazette of RS, 36/09.

Marković, V., Matejević, M., Kovačević, M. 2015. *Establishment of hunting grounds and management in hunting.* Prirodno-matematički fakultet, Novi Sad (in Serbian).

Marković,V., Davidović, N. (2008). *Hunting tourism regionalization of Scandinavia, Contemporary tendencies in tourism, hospitality and gastronomy,* Novi Sad: Faculty of Sciences, Department of Geography, Tourism and Hotel Management (in Serbian).

Marić, R. 2003. *Hunting.* Institute of Economic Sciences, Belgrade (in Serbian).

Pivac, T., Blešić, I., Besermenji, S., Gavrilović, D. 2020. Attitudes of local population on the importance of events nourishing culture and tradition of Croats in Vojvodina. *Turizam* 24(1), 46-56.

Prentović, R. 2005b. *Hunting tourism.* Prirodno-matematički fakultet, Novi Sad (in Serbian).

Prentović, R. 2008. *Ethics of hunting tourism.* Prirodno-matematički fakultet, Novi Sad (in Serbian).

Prentović, R. 2014. *Hunting tourism activity.* Prirodno-matematički fakultet, Novi Sad (in Serbian).

Pešić, B., Stolić, N., Stančić, I., Lazić, M., Pešić, S. 2017. *Organizational and economic conditions for improving biodiversity and hunting in the Jablanica district*, in Ss. Cyril and Methodius, University Skopje, Book of abstracts 1(1) 18-19.

Pešić, B., Stolić, N., Zlatković, I., Zlatković, N., Pešić, S. 2019. Influence of ecological factors on the number of rabbits in the hunting ground "Kutlavica". *Ecologica* 26(93), 85-90 (in Serbian).

Riznić, D., Filipović, N., Milinčić, U. 2019. Development of sustainable rural tourism in the function of environmental protection from catastrophic phenomena. *Ecologica* 26(94) 146-152. (in Serbian).

Ristić, Z. 2004. *Feathered game as part of the hunting and tourist offer of Vojvodina* Doctoral dissertation, Faculty of sciences, Novi Sad. (in Serbian).

Stolić, N., Pešić, B., Zlatković, N., Milošević, B., Spasić, Z., Ilić, Z. 2019. Controlled breeding and nutritional criteria as a conservation programme of the grey partridge (Perdix perdix L), *Publicher-Bulgarian National Multidisciplinary Scientific Network of the Professional Society for Reserch work* 1, 232-237.

Stojnić, N., Panjković, B., Sabadoš, K., Kicošev, V., Kiš, A., Galamboš, L., Delić, J., Dobretić, V., Milenić, B., Perić, R., Stojšić, V., Pil, N., Stanišić, J., Plemić, Z., Predojević, J., Bošnjak, T., Mihajlović, N., Fojkar, O., Došenović, B., Marinković, L., Krnčević, G., Borčić, S., Novaković, S., Rilak, S., Dragaš, K., Pivaš, B. 2015. *Report on the state of nature in the Autonomous Province of Vojvodina for the period 2010-2014*, Provincial Institute for Nature Protection, 252, Novi Sad (in Serbian).

Stankov, B., Gačić, D., Stamenkovi, S. 2014. Remediation of the consequences of the catastrophic flood in 2014 in the hunting ground "Bosutske šume" (Vojvodina), *Ecologica* 26(96) 493-498 (in Serbian).

Tešanović, D., Vuksanović, N., Kalenjuk, B., Portić, M. 2015. Tourist ships on the Danube as an opportunity for export of meat and meat products, *Economics of Agriculture* 62(2), 527-542.

Trišić, I. 2020. Using Indicators to Assess Sustainable Tourism Development - The Case of Protected Natural Areas of Vojvodina (Northern Serbia), *Turizam* 24(4), 178-193.

Whitelaw, P.A., King-Brian E.M., Tolkach, D. 2014. Protected Areas, Conservation and Tourism – Financing the Sustainable Dream. *Journal of Sustainable Tourism* 22(4), 584-603.

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Tourists' Perception of Ecotourism Development in Lagos Nigeria: The Case of Lekki Conservation Centre

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Abstract

This study examined tourists' perception of ecotourism services in Lagos, Nigeria, with the specificity of the Lekki Conservation Centre. Specific objectives were to identify the elements of tourists' demand concerning destination loyalty in the study area. A total of 300 domestic and inbound tourists were sampled, over ten months, using a structured questionnaire. Descriptive statistics were used for data analysis. The findings revealed the availability of vital tourism-related products to meet tourist demand, a conducive tourism atmosphere, and a dispersed location of the species in the conservation center with the availability of quality tourism facilities. However, tourists' perception and experience were poor compared to available infrastructural components. The study concludes that managers of the centre have not employed quality destination management and marketing techniques to improve their image and enhance inbound tourism. Recommendations included the need for the provision of more facilities and species, and an improved means of transportation to enhance tourist accessibility to the centre.

Keywords: *destination image, destination loyalty, ecotourism, inbound tourism, sustainable tourism, tourist destination.*

Introduction

Ecotourism is a tourism sub-sector that is growing gradually in Nigeria. In the past decade, international tourist arrivals in Nigeria ranged between 6.11 million in 2010 and 6.01 million in 2015, with a 0.99% increase from 2009 to 2010 and a 25.28% increase from 2014 to 2015. However, a significant decline in the statistics was experienced subsequently as tourist arrivals had a drastic drop of 12.50% in 2016 at 5.27 million arrivals in comparison to the previous year (World Data Atlas, 2019). Total tourism revenue between 2017 and 2018 was USD2.615m and USD1.977m, respectively, signifying a growth rate of -24.4% from the previous year (CEIC, 2020). Nigeria is blessed with an abundance of natural and manmade tourism resources of astonishing quality (Nwokorie, Adiukwu, 2020). The attractions range from beautiful moun-

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tain sceneries, waterfalls, intriguing forests, to exotic birds and animals, exquisite cuisines, as well as intriguing game reserves and conservation centres (Nwokorie, 2015; Ijeomah et al., 2019; Obiora, Nwokorie, 2019). These attractions make the country an emerging and fascinating destination in the West African region.

While it has become imperative for Nigeria to diversify its revenue generation potentials following the recent decline in oil revenue, ecotourism is an aspect of tourism that has great potentials to attract huge foreign exchange from inbound visitations given the right approach. As Ijeomah and Eniang (2018, p.1) observed: "Tourism attractions in Nigeria when developed, properly packaged and promoted can satisfy the curiosity of every kind of tourists; and this will bring about increased revenue generation, local empowerment, foreign exchange earnings, creation of a market for local product and development of infrastructures."

For ecotourism to result in conservation and the wellbeing of the local people, Stronza and Pegas (2008) advised that local communities must enjoy the accrued benefits, including participation in management. While Nwokorie (2015) wrote that ecotourism benefits both visitors and host communities with little or zero impact to the environment, Ijeomah et al. (2019) saw that ecotourism is a facet of environmental tourism that makes a minimal impact on the environment, empowers host communities, respects the culture of the indigenous people and conserves biodiversity. Also, Arowosafe and Oladeji (2017) viewed that eco-tourism is an industry capable of generating employment, improving the standard of living of the host communities, and serving as income earners to the country. Ajayi and Eveso (2017) discussed that tourists' impact on the environment creates a reduction in the disruption of natural habitat and considers the local culture of the attraction visited. In as much as global statistics on tourism revealed that the total international tourism arrivals reached 1.18 billion in 2015 (UNWTO, 2017), a destination's pull factors, such as promotional activities, weather, beaches, scenery, facilities, and attractions are also important influences in setting expectations, and subsequently, in meeting the needs of tourists (Asbollah et al., 2017)

However, a variety of factors could determine patronage and number of visitations to a given destination and particular ecotourism site over a defined period. Visitors' sensitivity to climate, language barriers, accessibility to the ecotourism site, availability of accommodation, cuisine, and similar perception elements could be crucial determinants. Perception can be viewed as the total environment that is cognitively sensed, experienced, and becomes the basis for decision-making (Morin et al., 2009). Perception differs from an individual tourist at any time regarding any tourism product or towards different environmental settings, because perception is strongly linked to psychology and people construct. Their views are based on cognitive processes that capture and organize knowledge, experiences, and information through the senses (Lau, McKercher, 2006). However, Ayeni and Ebohon (2012) ascertained that the way tourists travel from one place to another, their activities and mobility within a specific region, the development of accommodation establishments, the supply of food and beverages, water and energy, and consumption patterns all have impacts at both global and local levels that can undermine tourism destinations from a socio-cultural and environmental point of view. Salako et al. (2018) and Sangpikul (2020) argued that tourists experience, satisfaction, and understanding about ecotourism is hinged on tour guide and the ability to stimulate visitors' interest in the resources in the eco-destination.

In Nigeria, tourists have different views about the destination. Ijeomah et al. (2019) discussed tourists' satisfaction concerning different eco-destinations. Very few of the wildlife in this sector are conserved in different parts of Nigeria because of human activities in the site such as poaching and deforestation affecting ecotourism sites. The human activities is why it

was necessary to conserve the sites for sustainable development. The implication of not conserving ecotourism sites could lead to the extinction of species (Stronza, Pegas, 2008), and the ecosystem where these species are found are gradually exposed to climate change, so the species could adapt to current climatic condition.

Investment in an ecotourism attraction could be stalled by tourists' perception if resources are improperly harnessed. The expectation should be met while enhancing the visitor experience. Ukabuilu et al. (2018) pointed out that the availability of exotic species, the safety of visitors, accommodation and welfare, visitor-friendly population, transport, and banking are variables that stimulate tourist satisfaction and influence visitors' perception of a destination. Worthy of note is the negative or positive word-of-mouth that could emanate as a result of whatever impression formed at a given destination, post-visit.

Objective of Study

The study is intended at examining tourists' perception of ecotourism services in Eti-Osa, Lagos, Nigeria (*the destination*), and identifying the important elements of ecotourism that could enhance tourist demand for improved destination loyalty at Lekki Conservation Centre (*the attraction*). Specific objectives of this study are to:

1. identify the nature of, and location of tourism assets in the study area
2. examine the relationship between tourists' security and tourist visitation to the study area
3. examine the relationship between the receptiveness of the local population and tourists' length of stay.

Review of related literature

Ecotourism and the Experience Economy

Understandably, ecotourism entails a lot, depending on the conceived idea of practitioners and the local society at any given time. Kiper (2013, pp. 774) agreed that ecotourism connotes different meanings to different people, because: "To some, it is the general term that encompasses nature-based adventure, soft adventure, and cultural tourism". As a component of sustainable tourism, ecotourism is seen as responsible tourism to environments with unblemished natural resources with very minimal damage to the environment. Accordingly, the International Ecotourism Society, defined ecotourism as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people and involves interpretation and education" (TIES, 2015).

Arguably, ecotourism is a vital component of the experience economy. This assertion could be justified by the volume of goods and services generated when tourists travel, and the level at which the lives of the local people are positively affected especially through job creation. Nwokorie and Adiukwu (2020) evaluated the level of entrepreneurship created through the provision of accommodation services for tourists and found out that infrastructural development is equally stimulated. Nwokorie and Igbojekwe (2019) wrote that informal job opportunities are also stimulated for local people through tourist activities within hospitality establishments. Also, Nwokorie and Obiora (2018) found out that hotels and tourism establishments are capable of improving the lives of the local people and stimulating sustainable development goals thereby enhancing the quality of lives within a given environment.

In ecotourism, the accumulation of diverse experience, however, is a major concern, both for the government, tourism businesses, local people, and the visitors, as tourist behaviour is a major predictor for tourism development. For instance, recent studies discovered that tourists and diners have become destination savvy especially as it concerns gastronomy and the outcome of culinary occasions, which has eventually triggered a contemporary debate on junk foods in the hospitality industry (Ares, Gámbaro, 2007; Alam, Sayuti, 2011; Andersson et al., 2017; Bjork, Kauppinen-Raisanen, 2017). As a result of the gap between food production and service procedures, and consumption, many hotel guests and restaurant customers are considering ethical issues in their food choices to enhance guest experience. This emerging trend has become a consideration for tourists' choice of hotel and restaurant selection in both developed and developing societies (Long, 2017).

Similarly, tourists' behaviours are normally shaped by the emergence of new tourism products and services, as well as emerging trends and new segments that shape the experience influencing the post-travel assessment of tourist destinations and hospitality services (Artal-Tur et al., 2019). Therefore, what motivates the tourist for subsequent visits to a destination are tied to their perception of area in terms of the attitude of the local people, the overall satisfaction they derive, fulfilment of their expectation, product quality, critical infrastructure, availability of desired resources, a combination of the components of sustainable tourism to improve the experience, and proximity of tourist site with requisite hospitality services (Juvan et al., 2017; Ukabuilu et al., 2018).

Sustainable Tourism

Tourism and the various components are expected to stand the taste of time, with recourse to the environment, to allow for future use. A synergy has to exist between visitors (the major users of tourism resources – natural and manmade) and the local people (owners and custodians of the tourism resources). For instance, while tourists are expected to respect the culture of the local people during the visit, residents are equally expected to treat the visiting tourists with esteemed regard. This is necessary for tourism growth because the perceived hostile disposition of the residents could be enough to discourage inbound visitations, whereas desecration of tourist sites (for instance) or pilfering of artifacts by visitors could cause disharmony between visitors and residents thus diminishing the perceived value of the destination. Responsible tourism should enforce a mechanism of connection between the three dimensions of sustainable tourism and the relationships among them, emphasizing the importance of the "stakeholders" in the process (Figgis, Wearing, Neil, 1999; Padin, 2012).

Accordingly, the United Nations Environment Programme (UNEP) and United Nations World Tourism Organization (UNWTO) defined sustainable tourism as "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities" (UNEP, UNWTO, 2005, p.12). The implication is that (1) environmental resources should be put to optimal use, (2) viable, long-term economic operations which provide economic benefits to all stakeholders should be ensured, and (3) the socio-cultural authenticity of host communities must be ensured (UNEP, UNWTO, 2005; Padin, 2012; Artal-Tur et al., 2019). The perception of inbound tourists on the overall attitude of the local people towards them, with an approach devoid of exploitation and resentment, is important for tourism to thrive in a given destination.

Ecotourism Principles

Ecotourism principles are hinged on fundamental issues relating to waste management, minimization of energy usage, site disturbance, impacts on wildlife, social and environmental impacts on visitors and local populations, and how the interpretation can affect their interactions and understanding of the natural environment (McGuffin, 2017). Two essential factors include the delivery of memorable interpretive experiences to visitors that help raise sensitivity to a destination's political, environmental, and social climates, the recognition of the rights and beliefs of the indigenous people, and work in partnership with them to create empowerment.

Learning about cultural differences helps to build understanding and respect across cultural lines. While residents expect the activities of inbound tourists to favour socio-economic activities and create benefits for conservation in the destination throughout their stay, visiting tourists expect interactions that would help them relate to the values, traditions, customs, and norms of different cultures. This interaction has a huge impact on how tourism affects the local population and influences tourists' perception of the destination. Such interactions, according to Oohlala (2013) include;

 i. cultural sustainability – which makes the destination fascinating and different
 ii. social sustainability – which makes the destination absorb extra inbound visitations with little or no social disharmony
 iii. ecological sustainability – which makes optimal use of environmental resources that constitute a key element of tourism development while maintaining essential and non-essential ecological methods, and helping in the conservation of natural heritage and biodiversity
 iv. conservation element – which conserves the diversity of plants and animals including actual species in an attraction
 v. local participation element – the mutual interaction between tourists and the local community which is an active decision factor.
 vi. education element – which enlightens the new tourist to the cultural norms of the destination being visited

Basic Ecotourism Components

The functional success of ecotourism depends on the availability of accommodation facilities, amenities, attractions, and accessibility to and from the main attraction (Dekhili, Achabou, 2015). These components are major predictors of successful tourism for a destination. Attractions do not exist in the abstract, and they could be manmade or natural. Available amenities in most situations, including accommodation, could form part of the attraction especially when they are built for aesthetic purposes (Vengesayi et al., 2009; Gisore, Ogutu, 2015). Access to the attraction is also a major consideration for the choice of destination for inbound tourism. Accessibility is mostly considered necessary as it aids the guarantee of security for visitors at a destination (Ukabuilu et al., 2018).

Security is equally essential for successful ecotourism undertakings. Nwokorie and Igbojekwe (2019) pointed out that security is a major concern for business and leisure visitors of a new destination who are not likely to compromise their safety during the stay away from home. More importantly for the visiting tourist is the presence of tour guides who are equally needed for directing visitors around the ecotourism sites (Vengesayi et al., 2009; Orimaye et al., 2018; Uka-

builu et al., 2018). Tour guides possess experiential knowledge and are an integral part of the eco-tourism experience. Apart from providing information on site history and other attributes, they also drive the social and cultural dimensions of the visit with information geared towards suppressing tourists' curiosity, thereby making the tourism activity a worthwhile experience.

The availability of tourist-related services is also a factor that influences sustainable tourism. There are cases where poor accommodation standards affect tourists' product choices and influence visitor perception. Gisore and Ogutu (2015, p. 18) wrote that "there is a lack of harmonized classification, grading, and rating scheme (system) for tourism and hospitality establishments and practitioners leading to the use of contradictory systems with mismatched service and product offers." Efficient transport, competitive prices of related products and services (including catering), other ancillary services (including internet services), as well as the receptiveness of local sellers (especially in dealing with language difficulties) are important factors to consider for successful ecotourism development (Dabour, 2003; Idumah et al., 2009; Asuk, Nchor, 2018).

Methodology

The study employed a 36-point questionnaire using a four-point Likert rating scale (in rankings of agreement and satisfaction, where applicable) which was premised on relevant literature and survey models of past researchers. The elements of the research instrument are expected to address the research objective and form the basis for testing the research hypotheses. Concerning previous research, the elements of the research instruments were adopted from the studies of Haddle (2005), Chan and Baum (2007), Aluko (2010), Dekhili and Achabou (2015), Gisore and Ogutu (2015), Nwokorie (2015), Handriana and Ambara (2016), Abeli (2017), Nwokorie and Obiora (2018), Orimaye et al. (2018), Ukabuilu et al. (2018), and Cui et al. (2019).

Study Area

Lekki Conservation Centre (LLC) was established in 1990 by Chevron Corporation for the Nigerian Conservation Foundation (NCF). The conservation centre is located between latitude 6°52 and 3°54' north of the Equator and longitude 2°45 and 4°20' east of the Greenwich Meridian (Figure 1). In the year 2014, the number of tourists in LLC rose to approximately 28,139 visitors (Nigerian Conservation Foundation, 2016).

Lekki Conversation Centre is in Eti-Osa Local Government Area of Lagos State, Nigeria, with other commercial municipalities surrounding the area, and prospects for marine tourism. The southern part of Eti-Osa is bounded by the Atlantic Ocean, the east is bounded by Ibeju-Lekki, the north by Lagos Lagoon and part of Lagos Mainland and Lagos Island, while the western part of Eti-Osa is bounded by Ojo (Figure 1). Eti-Osa has a population of 983,515 with a population density of 4,506 persons per km² – 2016 projections (Lagos Bureau of Statistics, 2016), and a total area of 299.1 km² – landmass; 154.1 km² and water; 145 km² (Lagos Bureau of Statistics, 2016; Salako et al., 2018).

Data Sources

The population for the study was targeted at inbound tourists from across continents. Initial reconnaissance showed that an average of 100 tourists visited the attraction each day. A sample of 399 was determined from a population of 400 using the Taro Yamane formula for sam-

ple size (Yamane, 1967). The research instrument was randomly administered and retrieved to and from the respondents, who were willing to complete the questionnaire, over ten months (April 2019 to January 2020). The time lag was due to the intermittent nature of inbound tourist arrivals, which also allowed the study to take responses across occasions and seasons without prejudice to the disposition of respondents to accept the survey.

As part of primary data, the global positioning system (GPS) and the geographical information system (GIS) were used to create a geo-database using Arc GIS 10.3 software, for mapping and specie location. Data were interpolated in which the location was further converted to a map.

Validity and Reliability Analysis

The pilot study and content validity approach were adopted to attest to the validity of the research instrument. A pilot study question was sent to 54 respondents, and their responses conformed to the actual expectations of the study, thereby considering the instrument as valid for the study.

For the content validity, the researchers ensured that the core variables of the study are represented in the research instrument. Therefore, the elements that defined the content validity of the questionnaire used in this study are that: (1) the questions presented in the research instrument conformed to the research objectives and hypotheses, and (2) all relevant components of ecotourism used for the conceptual assessment of the study have been rationally captured.

With the same group of respondents, stability reliability was used to obtain similar scores with repeated testing in a test-retest procedure that involved administering the same questionnaire to the similar respondents in equivalent conditions over some time (Maars, 2009). The reliability and coefficient results obtained (using Pearson's correlation) showed the reliability of the research instrument at 0.97 (Table 1).

Table 1. *Validity and reliability analysis*

Cronbach's α	Population	Result
.97134	54	Reliable

Source: Survey output

Method of Data Analysis

Inferential statistics were used in analyzing data to determine the means and standard deviation of the responses. Two null hypotheses were formulated for the study concerning the research objective and tested in Chi-square statistics to determine significant relationships between variables. While assuming a 95% confidence interval and 0.05 assumed significance (2-tailed) at the applicable degree of freedom (df), the decision rule is: accept (H_o) if $X^2cal \leq X^2tab$. Accepting H_o means that there is no significant relationship between two variables, while rejection means that there is a significant relationship (Schawnms, 1994; Egbulonu, 2007; Nwokorie, 2017; Nwokorie, Adiukwu, 2020.).

Results

A total of 315 questionnaires were returned, with 300 usable for analysis, representing a 75.19% response rate from the effective sample size (399). The number of the returned questionnaire is adjudged adequate for the study (Evans et al., 2004).

The questionnaire was divided into three parts for clarity and ease of completion. The first subscale elicited demographic details of respondents, while the second subscale elicited responses bothering on elements of the overall destination loyalty for the attraction which are used in addressing the research objective and hypotheses. The third subscale generated responses for visitors' perception of the quality of tourist services at the attraction, which are equally conditions that engender tourism intentions and destination loyalty.

Demographic information revealed that 63.67% of the respondents are males and 36.33% are females. All the respondents are adults with 41.33% between 18 and 25 years, while the remaining 58.67% are above 26 years of age. Inbound tourists made up to 77.33% of the visitors while 22.67% are local tourists. About 96% of the visitors have formal education, 38% have had ecotourism experience in the last five years, and 62% with ecotourism experience spanning over 5 years (Table 2).
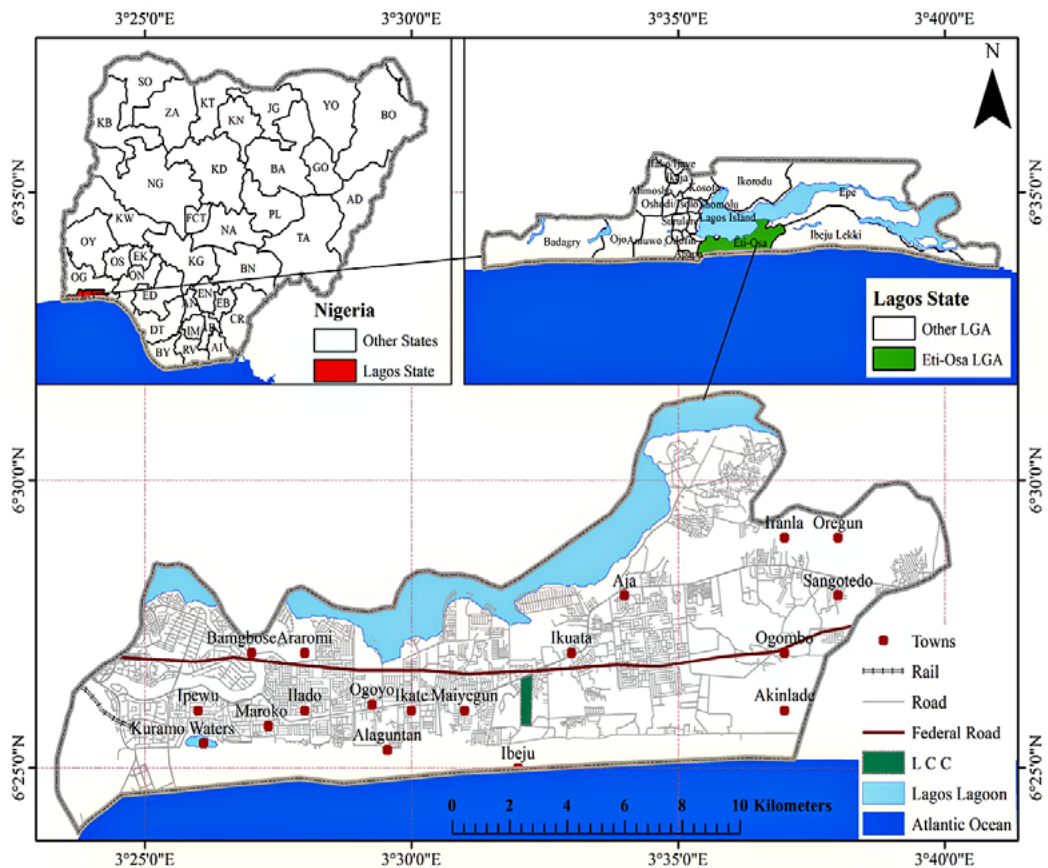
Figure 1. Geographical sketch of the study area
Source: Authors' survey

While the 'strongly agreed' and 'agreed' components of the responses are summed up as affirmative indications, the 'disagreed' and 'strongly disagreed' responses are summed up as negative indications. Similarly, 'very satisfied' and 'satisfied' responses are affirmative indications against the 'dissatisfied' and 'very dissatisfied' responses showing negative indications (Table 3, Table 4).

Table 2. *Respondents' demographics*

Item	Components & Responses			
1. Sex	Male	(%)	Female	(%)
	191	63.67	109	36.33
2. Age	18-25 years	(%)	26 years-above	(%)
	124	41.33	176	58.67
3. Nationality	Nigerians	(%)	Non-Nigerians	(%)
	68	22.67	232	77.33
4. Education	Formal	(%)	Informal	(%)
	287	95.67	13	4.33
5. Ecotourism experience	1-5 years	(%)	6 years-above	(%)
	114	38.0	186	62.0

Source: Survey output.

Table 3. *Analyses of responses*

Statement	Response					
	4	3	2	1	a	b
1. Attraction is accessible from the city	87 29.0	103 34.3	53 17.7	57 19.0	2.85	.585
2. Transport to the attraction is safe and efficient	61 20.3	58 19.3	69 23.0	112 37.4	2.22	.577
3. Excessive noise (at the attraction) H_2 component	59 19.67	63 21.0	97 32.33	81 27.0	2.33	.566
4. Existence of tourist litter	47 15.67	59 19.67	89 29.66	105 35.0	2.16	.583
5. Crime rate is minimal H_1 component	107 35.67	95 31.66	83 27.67	15 5.0	2.98	.608
6. Destination is safe and secure	111 37.0	102 34.0	55 18.33	32 10.67	2.97	.606
7. Residents' friendliness H_2 component	117 39.0	108 36.0	36 12.0	39 13.0	3.01	.614
8. Language challenges	16 5.33	12 4.0	71 23.67	201 67.0	1.48	.757
9. Local arts and craft	74 24.67	118 39.33	67 22.33	41 13.67	2.75	.572
10. Presence of diverse local culture	41 13.67	64 21.33	43 14.33	152 50.67	1.98	.616
11. Available local market	76 25.33	97 32.33	117 39.0	10 3.34	2.80	.579

Statement	Response					
	4	3	2	1	a	b
12. Accommodation	70 23.33	180 60.0	40 13.33	10 3.34	3.03	.618
13. Decent standard of visitor accommodation H$_2$ component	62 20.67	150 50.0	33 11.0	55 18.33	2.73	.599
14. Adequacy of the infrastructure component	57 19.0	35 11.67	116 38.66	92 30.67	2.19	.581
15. Prolonged length of stay H$_2$ component	75 25.0	130 43.33	32 10.67	63 21.0	2.72	.570
16. Ease of entrance (ticketing & protocol)	112 37.33	71 23.67	59 19.67	58 19.33	2.75	.577
17. Quality of tourism assets	108 36.0	114 38.0	50 16.67	28 9.33	3.00	.612
18. Proximity to water tourism	138 46.0	97 32.33	41 13.67	24 8.0	2.98	.608
19. Availability of exotic species	108 36.0	114 38.0	50 16.67	28 9.33	3.00	.612
20. Availability of tour guide	121 40.33	108 36.0	42 14.0	29 9.67	3.07	.626
21. Skills quality (for attraction employees with whom tourists interact)	121 40.33	108 36.0	42 14.0	29 9.67	3.07	.626
22. Two or more visits to the attraction H$_1$ component	76 25.33	133 44.33	31 10.34	60 20.0	2.75	.572
23. Attraction visibility on the internet	177 59.0	123 41.0	-	-	3.59	1.247

η= 300.

Source: Survey output.

Codes: 4 = Strongly Agreed; 3 = Agreed; 2 = Disagreed; 1 = Strongly Disagreed; a = Mean; b = Standard Deviation.

Decision Rule: Response is negative if mean ($\bar{x}$) ≤ 2.49, otherwise response if positive. The decision is based on effective sample size (≥100) for multiple sub-scale/statements and nature of data, as $\bar{x}$ is expected to increase significantly from a lesser degree; hence, the Mean-Value Theorem applies (Egbulonu, 2007; Nwokorie, Obiora, 2018, pp. 129; Nwokorie, Adiukwu, 2020, pp. 22).

Table 4. *Tourist perception of the quality of specific tourist services*

Service Quality	Responses to the satisfaction level				a	b	c
	4	3	2	1			
1. Security	111 37.0	102 34.0	55 18.33	32 10.67	2.97	.606	1
2. Parking space	57 19.0	35 11.67	116 38.66	92 30.67	2.19	.581	2
3. Tour guide	121 40.33	108 36.0	42 14.0	29 9.67	3.07	.626	6
4. Transport	61 20.3	58 19.3	69 23.0	112 37.4	2.22	.577	7
5. Relaxation area/centre	108 36.0	114 38.0	50 16.67	28 9.33	3.00	.612	4
6. Games	81 27.0	92 30.67	89 29.67	38 12.66	2.72	.570	3

Service Quality	Responses to the satisfaction level				a	b	c
	4	3	2	1			
7. General environment	134 44.67	131 43.67	21 7.0	14 4.66	3.28	.715	5
8. Culinary experience	184 61.33	105 35.0	4 1.33	7 2.34	3.55	.766	8

$\eta = 300$.

Source: Survey output.

Codes: 4 = Very satisfied; 3 = Satisfied; 2 = Dissatisfies; 1 = Very Dissatisfied; a = Mean; b = Standard Deviation; c = Ranking

Hypotheses

H_1: There is no relationship between tourists' security and tourist visitation to the study area.

H_2: There is no relationship between the receptiveness of the local population and tourists' length of stay.

Table 5. *Hypotheses Result*

H_0	df	Asymp. Sig. (2-tailed)	X^2tab	X^2cal	Decision
H_1	1	0.05	3.841	94.75	Rejected
Data elements for H_1 = Table 3, item 5&22					
H_2	3	0.05	7.814	94.46	Rejected
Data elements for H_2 = Table 3, item 3,7,13&15					

Source: Survey output

Discussions

Mean ($\overline{x}$) and standard deviation ($\sigma_{\overline{x}}$) were calculated for the responses to define the evenness of data distribution, the consequent closeness, and the statistical significance of the responses. Generally, the standard deviation of the responses showed that there are fewer variations in the data, hence the result is standard and statistically significant.

In Table 3, respondents affirmed that the attraction is accessible from the city with 63.3% ($\overline{x}$ 2.58; $\sigma_{\overline{x}}$ .586). However, they disagreed that transport to the attraction is safe and efficient with a negative response of up to 60.4% ($\overline{x}$ 2.22; $\sigma_{\overline{x}}$ .577). Prideaux (2000) stated that an inefficient transport system in preferred destinations has the likelihood of causing tourists to seek alternative destinations. While Sorupia (2005) harped on the need for planning to improve the system of catering for the needs of tourists such as easing their movement, the right accommodation, food, and the types of activities offered, Dinu (2018) noted that there would not be effective tourism without efficient transport.

Excessive noise and the existence of tourist litter were negatively indicated with 59.33% and 64.66% ($\overline{x}$ 2.33; $\sigma_{\overline{x}}$ .566 and $\overline{x}$ 2.16; $\sigma_{\overline{x}}$ .585) respectively. Han et al. (2017) found out that noise problem tends to undermine tourists' revisit rate and recommendations. Also, Krelling et al. (2017) linked destination loyalty of various categories of tourists to the existence of debris, in

which a significant rise in beach debris forced beach tourists to look elsewhere when searching for a vacation in a coastal region.

This study found out that the destination is safe for ecotourism experience. Respondents affirmed a minimal level of crime, with tourist safety and security having positive responses of 67.33% and 71.0% ($\overline{x}$ 2.98; $\sigma_{\overline{x}}$ .608 and $\overline{x}$ 2.97; $\sigma_{\overline{x}}$ .606) in that regard. Nwokorie et al. (2014) and Santos et al. (2018) indicated security as a major determinant of destination loyalty. Fortunately for the present study, the perception of respondents on the security status of LLC is significantly positive.

The residents of the destination were found to be receptive (75.0%; $\overline{x}$ 3.01; $\sigma_{\overline{x}}$ .614) while tourists face minimal language barriers (9.33%; $\overline{x}$ 1.48; $\sigma_{\overline{x}}$ .757). These are positive indicators for destination loyalty (Gisore, Ogutu, 2015; Marković, Klarić, 2015; Kyzy, Öztüre, 2018; Stronza, Hunt, Fitzgerald, 2019). The availability of local art and craft was also indicated for the destination with up to 64.0% affirmative response ($\overline{x}$ 2.75; $\sigma_{\overline{x}}$ .572). However, the presence of diverse local culture was elusive to a little extent at the destination, as respondents made 65.0% ($\overline{x}$ 1.98; $\sigma_{\overline{x}}$ .616) negative indications to that effect. Culture is a viable ingredient for sustainable tourism (Zhuang et al., 2019), and it is perceived as a major motivator for inbound tourism (Ukabuilu et al., 2018).

Availability of local markets and decent tourist accommodation received positive perceptions from respondents with statistically significant responses (57.66%; 83.33% and 70. 67%; $\overline{x}$ 2.80, $\overline{x}$ 3.03 and $\overline{x}$ 2.73; $\sigma_{\overline{x}}$ .579, $\sigma_{\overline{x}}$ .618 and $\sigma_{\overline{x}}$ .599). These are also indices that determine tourists' length of stay at a destination (Roy, Saxena, 2020) which are also reflected in tourists' length of stay in the present study, with 68.33% positive response for a prolonged length of stay ($\overline{x}$ 2.72; $\sigma_{\overline{x}}$ .570). However, respondents believed that the tourism infrastructure component is inadequate with 69.33% negatives ($\overline{x}$ 2.19; $\sigma_{\overline{x}}$ .581). Tourism infrastructure is a major consideration for tourists' destination choice as well as a strong determinant for tourism development and tourists' intention to stay longer (Jovanović, Ilić, 2016; Roy, Saxena, 2020).

Furthermore, ease of entrance at the attraction received 61.0% positive responses ($\overline{x}$ 2.75; $\sigma_{\overline{x}}$ .577), quality of tourism assets had 74.0% affirmative responses ($\overline{x}$ 3.0; $\sigma_{\overline{x}}$ .612), while proximity to marine tourism recorded 78.33% positive responses ($\overline{x}$ 2.98; $\sigma_{\overline{x}}$ .608). These factors have been shown to influence tourist perception of destination quality, which are also determinants of destination loyalty (Dabour, 2003; Bankole, 2013; Ursache, 2015; Guri, 2016; Ukabuilu et al., 2018; Stronza et al., 2019).

Respondents affirmed the availability of exotic species at the attraction with 74.0% positive responses ($\overline{x}$ 3.00; $\sigma_{\overline{x}}$ .612), which are of special interest to ecotourists at tropical destinations (Stronza, Pegas, 2008; Hakim, 2017). The availability of tour guides and the presence of skilled attraction employees were also indicated with similar responses in the affirmative (76.33%; $\overline{x}$ 3.07; $\sigma_{\overline{x}}$ .626). Tourists recognize tour guidance as an important element in the tourism experience (Yamada, 2011; Sandaruwani, Gnanapala, 2016; Sangpikul, 2020), hence the necessity of putting tour guidance in the mix should not be underemphasized. While 69.66% of the tourists responded that they have visited the attraction more than once, which is an indication that the study area possesses a reasonable level of destination loyalty, all the respondents affirmed to the visibility of the attraction on the internet. The internet visibility conforms to the enhancement of destination loyalty for ecotourism resources through their online presence, as found out by Obiora and Nwokorie (2019).

On tourists' perception of the quality of specific services, variables of security, tour guide, relaxation facilities, games, the general environment, and culinary experience received affirmative satisfactory responses with mean scores above 2.50. However, the mean score for parking space and transport is less than 2.50 (Table 4).

Test of Hypotheses

H_1 was tested at 0.05 significant level. At 1 *df*, X^2tab is 3.841 while X^2cal is 94.75. Consequently, H_1 was rejected to assert that there is a relationship between tourists' security and tourist visitation to the study area. A test of H_2 was carried out at 0.05 significant level. At 3 *df*, X^2tab is 7.814 while X^2cal is 94.46. The hypothesis was rejected to affirm that there is a relationship between the receptiveness of the local population and tourists' length of stay for the study.

Location of Species at LLC

The different locations where exotic species of animals were found, at the time of the study, using the GPS and interpolated are indicated (Table 6, Figure 2).

Table 6. *Coordinates for the Location of Species*

Species	Longitude	Latitude
Locust bean tree	6°26'10.90''N	3°32'9.14''E
Tortoise	6°26'29.26''N	3°32'7.92''E.
Crocodile	6°26'15.20''N 6°26'4.40''N 6°26'0.88''N	3°32'13.19''E 3°32'13.19''E 3°32'11.22''E
Snake	6°26'24.13''N 6°26'28.48''N 6°26'14.11''N 6°25'50.07''N 6°26'8.90''N	3°32'5.27''E 3°32'3.10''E 3°33'28.06''E 3°32'9.33''E 3°32'13.07''E.
Monkey	6°25'48.02''N 6°25'49.64''N 6°26'5.76''N 6°25'10.41''N 6°26'18.68''N 6°26'24.74''N 6°26'27.44''N	3°32'4.76''E 3°32'12.71''E 3°32'3.55''E 3°32'10.42''E 3°32'6.76''E 3°32'12.27''E 3°32'11.71''E.

Source: Survey output

In the northern part of the attraction, animal species are dispersed than in the southern part. They include monkeys, crocodiles, and snakes, among others. By implication, the spatial distribution of animal species in the attraction is not uneven (Figure 2, Figure 3).
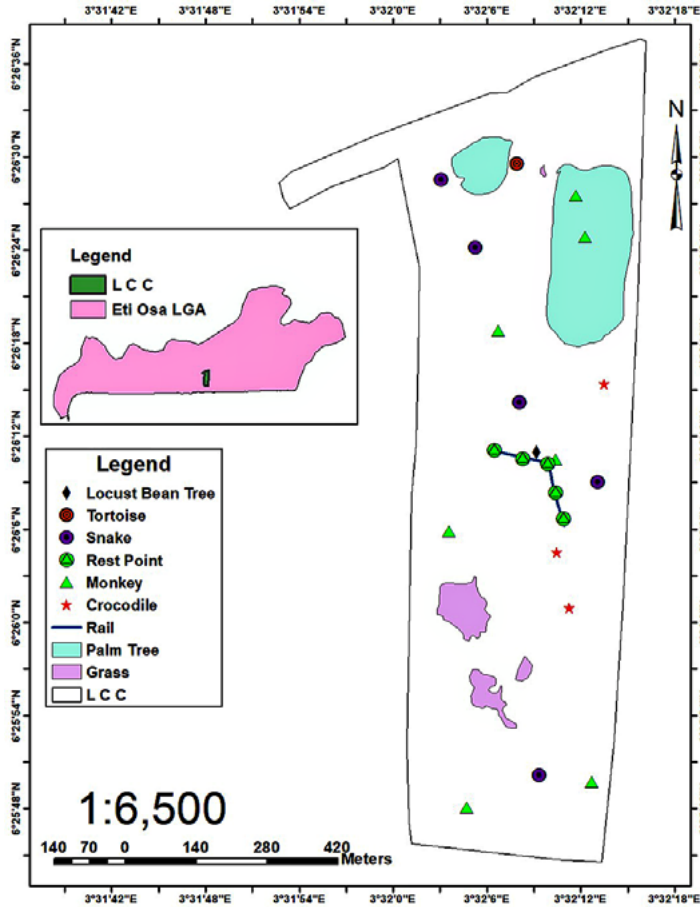
Figure 2. Distribution of species in Lekki Conservation Centre
Source: Survey output
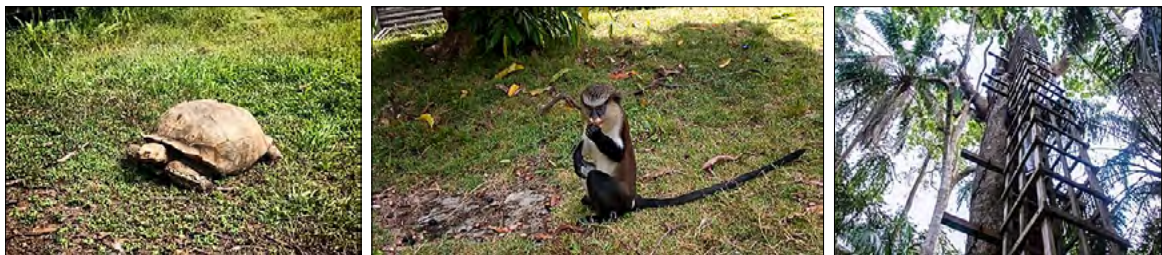
Figure 3. Available species and Tree house
Source: Survey output

Other Tourism Assets

Quality facilities that enhance the visitor experience in the attraction include a tunnel, floor (and other) games, relaxation centre, tree house, family park, jungle gym, Koi and Tilapa Ponds, and canopy walk. The canopy walk at LLC is currently the longest canopy walk in Africa at 410 meters (Figure 3, Figure 4, and Figure 5).

Figure 4. Canopy walk
Source: Survey output
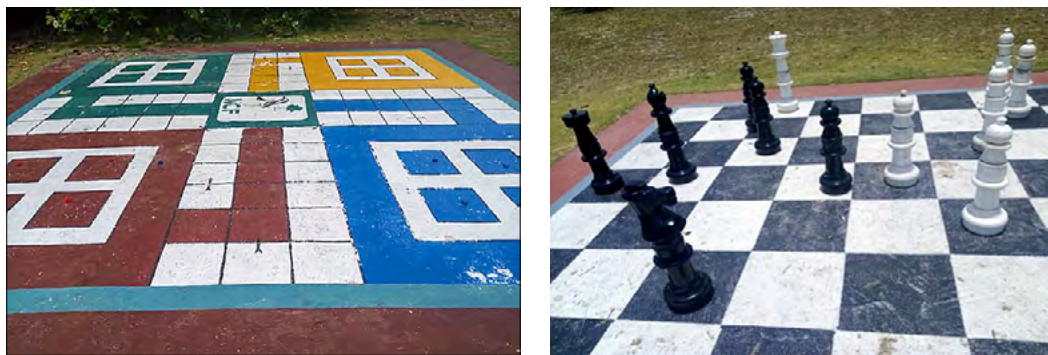
Figure 5. Floor Games
Source: Survey output

Conclusion

This study has shown that the perception of tourists on ecotourism development in Lagos, Nigeria, with particular reference to Lekki Conservation Centre, is satisfactory and significantly positive for sustainable tourism and destination loyalty. The accessibility attribute of the attraction from the city and other locations, and other indices like low crime rate, receptive indigenous population, and available decent accommodation are perception elements that have given the conservation centre its advantage as an emerging ecotourism destination capable of generating enormous tourism traffic and stimulating economic activities for the benefit of all stakeholders.

The location attribute of the conservation centre is a good factor that positions it as a multidimensional tourist attraction. Its proximity to the lagoons and the Atlantic Ocean is a stimulant for other dimensions of tourism, including marine tourism. The availability of local art and craft, the local market, and tourists' acceptability of culinary service of the destination is favourable to cultural and culinary tourism exploration. The opportunities created through tourists' safety which stimulated regular visitation and that of the receptiveness of the local population which influenced tourists' length of stay are major indicators for sustainable tourism development for economic prosperity.

Efficient transport is a major impediment to tourism development in the study area. The organized private sector has paid minimal attention where necessary. Traffic efficiency has been allowed to deteriorate due to a lack of synergy between the organized transport sector and the tourism sector, thus affecting the effective movement of tourists where necessary.

The study indicated environmental pollutants (noise and tourist litter) which are unfavourable to tourism development. Destination managers need to understand the negative impact of pollution on tourist destinations and how detrimental it to could be for sustainable tourism. Managers of the attraction have not engaged quality destination management techniques to improve the image of the area, thus allowing the issue of pollution to linger. The non-engagement of destination management technique is a clear indication that adequate synergy has not been created between the attraction and appropriate waste management experts by managers of the attraction to reduce the impact of pollution and the negative perception it could produce.

Recommendation

Hotels at the destination should form some sort of collaboration with the conservation centre on how to use their chauffeur services for effective tourists' mobility at affordable rates. Since the majority of the tourists lodge in these hotels, the accommodation tariff may also comprise tourism service-related charges including transport to the attraction, where applicable. The charges would assist in curtailing the bottlenecks in tourism transport services, especially when the tour is not packaged.

An orientation mechanism should be put in place by government authorities and the organized private sector to encourage residents of the destination to continue in their receptivity to inbound tourists. The friendliness of residents is a major ingredient to foster inbound visitation, and should be sustained for tourism to prosper.

Priority should be given to environmental management practices by relevant agencies at the destination to foster sustainable tourism. Emphasis should be placed on ecotourism as a major revenue earner for regions. Therefore, collaborative efforts should exist between the attraction and government agencies to ensure the best practices for managing pollution and tourist litter, bearing in mind the impact of pollution on destination loyalty.

Hotels should improve on the provision of the infrastructure component of accommodation, especially internet services for guests' use. Internet services should also be enhanced at the attraction to ensure all-round tourists' satisfaction throughout the tourism experience.

Exotic species from other regions of the country could be introduced to the attraction as a way of improving on the tourism assets. As tourists yearn for more, continuous improvement could be achieved by the periodic introduction of new exotic species of wildlife from farther regions of the country, even on a quarantine or part-time basis.

Tourism products at the attraction could be a full package that would include a blend of the diverse local culture and cuisine as part of the tourism experience, with possibilities of adding visitations to historic sites, and traditional music and dance on the spot. Managers of the attraction should also explore possibilities of expanding the ecotourism potentials of the attraction to marine tourism, having had a competitive advantage with the availability of the Atlantic Ocean at a close distance.

To encourage continuous tourist visitation to the study area, visitors' security should be a major priority for government and other stakeholders at the destination. Government authorities should seize the opportunity provided by the attraction to expand other forms of tourism that would benefit the local people and help in generating micro capital. There should be a syn-

thesis between economic activities within the area and sustainable tourism development that would ensure increased participation of all stakeholders so that the conservation centre would continue to witness improved tourist traffic daily throughout the year.

References

Abeli, S.R. 2017. Local Communities' Perception of Ecotourism and Attitudes Towards Conservation of Lake Natron Ramsar Site, Tanzania. *International Journal of Humanities and Social Science* 7(1), 162-176.

Ajayi, O.O., Eveso, J.O. 2017. Ecotourism in Nigeria: The Okomu National Park Context. *Journal of Tourism, Hospitality and Sports* 28, 22-33.

Alam, S.S., Sayuti, N.M. 2011. Applying the Theory of Planned Behaviour (TPB) In Halal Food Purchasing. *International Journal of Commerce and Management* 21(1), 8-20.

Aluko O.E. 2010. The Impact of Urbanization on Housing Development: The Lagos Experience, Nigeria. *Ethiopian Journal of Environmental Studies and Management* 3(3), 64-74.

Andersson, T., Mossberg, L., Therkelsen, A. 2017. Food and Tourism Synergies: Perspectives on Consumption, Production and Destination Development. *Scandinavian Journal of Hospitality and Tourism* 17(1), 1-8.

Ares, G., Gámbaro, A. 2007. Influence of Gender, Age and Motives Underlying Food Choice on Perceived Healthiness and Willingness to try Functional Foods. *Appetite* 49(1), 148-158.

Arowosafe, F.C., Oladeji, S.O. 2017. Visitors Perception Opportunities: A Strategy for Development of Marketing Plan in Kanji Lake National Park, Nigeria. *An International Journal of Tropical Environment* 14, 1-15.

Artal-Tur, A., Kozak, M., Kozak, N, 2019. *Trends in Tourist Behavior: New Products and Experiences from Europe*. AG, Switzerland: Springer.

Asbollah, A.Z., Hassan, N., Yusoff, S.Y.M., Idris, H. 2017. The Tourist Behaviour in Different Environments: A Literature Review. *Journal of the Malaysian Institute of Planners* 15(1), 279-288.

Asuk, S.A., Nchor, A.A. 2018. Challenges of Community-Based Ecotourism Development in Southern Eastern Nigeria: Case study of Iko Esai Community. *Journal of Scientific Research & Reports* 20(1), 1-10.

Ayeni, D.A., Ebohon, O.J. 2012. Exploring Sustainable Tourism in Nigeria for Developmental Growth. *European Scientific Journal* 8(20), 126-140.

Bankole, A.O. 2013. Harnessing Cultural Heritage for Tourism Development in Nigeria: Issues and Prospects. *Global Journal of Commerce and Management Perspective* 2(3), 121-131.

Bjork, P., Kauppinen-Raisanen, H. 2017. Interested in Eating and Drinking? How Food Affects Travel Satisfaction and the Overall Holiday Experience. *Scandinavian Journal of Hospitality and Tourism* 17(1), 9-26.

CEIC 2020. Nigeria Visitor Arrivals. Retrieved from https://www.ceicdata.com/en/indicator/nigeria/visitor-arrivals

Chan, J.K.L., Baum, T. 2007. Ecotourists' Perception of Ecotourism Experience in Lower Kinabatangan, Sabah, Malaysia. *Journal of Sustainable Tourism* 15(5), 574-590.

Cui, X., Lee, G., Lee, S.J., Kim, T.T. 2019. Structural Relationships Among Antecedents to Perceived Value of Ecotourism for Sichuan Giant Pandas in China. *Sustainability* 11, 210.

Dabour, N. 2003. Problems and Prospects of Sustainable Tourism Development in the OIC Countries: Ecotourism. *Journal of Economic Cooperation* 24(1), 25-62.

Dekhili, S., Achabou, M.A. 2015. The Perception of Ecotourism: Semantic Profusion and Tourists' Expectations. *Management & Human Enterprise* 3(19), 1-21.

Dinu, A. 2018. The Importance of Transportation to Tourism Development. Academic Journal of Economic Studies 4(4), 183-187.

Egbulonu, K.G. 2007. *Statistical Inference for Science and Business.* Owerri, Nigeria: Peace Publishers.

Evans, B. R., Peterson, B.L., Demark-Wahenfried, W. 2004. No Difference in Response Rate to a Mailed Survey among Prostate Cancer Survivors using Conditional versus Unconditional Incentive. *Cancer Epidemial Biomarketers & Preventions* 13(2), 277-278.

Figgis, P., Wearing, S., Neil, J. 1999. *Ecotourism: Impacts, Potentials, and Possibilities.* Massachusetts: Butterworth-Heinemann.

Gisore, R., Ogutu, H. 2015. Sustainable Tourism in Africa: Standards as Essential Catalysts. *Sector Standardization Needs Review* 9(3), 1-26.

Guri, A. 2016. The Role Of Sustainable Tourism in the Economic Development of Vlora District. *European Journal of Research and Reflection in Management Sciences* 4(4), 53-62.

Haddle, J.B. 2005. Community Residents' Perceptions of Ecotourism Impacts and Conservation Issues in Rural Creole Belize: A Case Study of Crooked Tree Wildlife Sanctuary (Master's dissertation, University of Florida, Florida, USA). Retrieved from http://plaza.ufl.edu/jbhaddle/haddle_j.pdf

Hakim, L. 2017. Managing Biodiversity for a Competitive Ecotourism Industry in Tropical Developing Countries: New opportunities in Biological Fields. AIP Conference Proceedings. Retrieved from https://aip.scitation.org/doi/pdf/10.1063/1.5012708

Han, X., Liu, A., Liu, M. 2017. Noise Perception and its Effects on Tourists' Satisfaction: A Case Study of Nanluoguxiang Lane in Beijing. INTER-NOISE and NOISE-CON Congress and Conference Proceedings, InterNoise17, Hong Kong CHINA, pages 1-1003, pp. 136-146(11).

Handriana, T., Ambara, R. 2016. Responsible Environmental Behavior Intention of Travelers on Ecotourism Sites. *Tourism and Hospitality Management* 22(2), 135-150.

Idumah, F.O., Onyeanusi, A.E., Akinyem, O.D., Bello, M.A. 2009. Prospects and Challenges of Ecotourism Development in Nigeria. *Journal of Environmental Extension* 8(1), 15-21.

Ijeomah, H.M., Eniang, A.E. 2018. Ecotourism and National Development in Nigeria. Prospects and Challenges. Proceedings of the 6th NSCB Biodiversity Conference, Uyo, Nigeria, 1-12.

Ijeomah, H.M., Abubarkar, S.I., Ezeano, C.I., Adetola, B.O. 2019. Assessment of Tourist Attraction and Satisfaction in Selected Eco-destinations in Lagos State, Nigeria. *African Journal of Agriculture, Technology and Environment* 8(1), 85-104.

Jovanović, S., Ilić, I. 2016. Infrastructure as Important Determinant of Tourism Development in the countries of Southeast Europe. *Ecoforum* 5(1), 288-294.

Juvan, E., Omerzel, D.G., Maravić, M.U. 2017. Tourist Behaviour: An Overview of Models to Date. Management International Conference, Monastier di Treviso (Venice) Italy, May 24-27. Retrieved from http://www.hippocampus.si/ISBN/978-961-7023-71-8/2.pdf

Kiper, T. 2013. Role of Ecotourism in Sustainable Development. In: Özyavuz, M. ed. *Advances in Landscape Architecture.* Rijeka, Croatia: InTech.

Krelling, A.P., Williams, A.T., Turra, A. 2017. Differences in Perception and Reaction of Tourist Groups to Beach Marine Debris that can Influence a Loss of Tourism Revenue in Coastal Areas. *Marine Policy* 85, 87-99.

Kyzy, J.D., Öztüre, A. 2018. Perceptions of Tourism Impacts and Sustainability Concept: Insights from Kyrgyzstan. *Journal of Tourism Research* 19, 254-264.

Lagos Bureau of Statistics 2016. Abstract of Local Government Statistics. Lagos Bureau of Statistics, Ministry of Economic Planning and Budget, Secretariat, Alausa, Ikeja. Retrieved from https://mepb.lagosstate.gov.ng/wp-content/uploads/sites/29/2017/01/ABSTRACT-OF-LOCAL-GOVERNMENT-STATISTICS-2016.pdf

Lau, G., McKercher, B. 2006. Understanding Tourist Movement Patterns in a Destination: A GIS Approach. *Tourism and Hospitality Research* 7(1), 39-49.

Long, L.M. 2017. Comfort Food in Culinary Tourism: Negotiating "Home" as Exotic and Familiar. In M.O. Jones & L.M. Long (eds), *Comfort Food: Meanings and Memories*, pp. 126-149. Jackson MS: University Press of Mississippi.

Maars, M.Y. 2009. Applied Statistics. London: Heinemann.

Marković, I., Klarić, Z. 2015. Attitudes of Local Population of Tourism Impacts on Destination Sustainability – Case of Croatia. *International Scientific Journal Turizam* 19(3), 98-110.

McGuffin, D. 2017. Describe the Main Elements Of Ecotourism. Retrieved from https://getawaytips.azcentral.com/describe-the-main-elements-of-ecotourism-12311082.html

Morin, C.M., Vallières, A., Guay, B., Ivers, H., Savard J., Mérrette, C., Bastien, C., Baillargeon, L. 2009. Cognitive Behavioral Therapy, Singly and Combined with Medication, for Persistent Insomnia: A Randomized Controlled Trial. JAMA, 301(19), 2005-2015.

Nigerian Conservation Foundation 2016. 2016 Annual Reports and Financial Statements. Retrieved from https://www.ncfnigeria.org/Reports/2016%20NCF%20Annual%20Report.pdf

Nwokorie, E.C., Adiukwu, I.K. 2020. Hospitality and Tourism Entrepreneurship: Administrative Barriers in Imo State, Nigeria. *International Scientific Journal Turizam* 24(1), 13-32.

Nwokorie, E.C., Igbojekwe, P. 2019. Security Challenges for the Hotel Industry: Implications for Selected Hotels in Owerri, Nigeria. *Academica Turistica – Tourism and Innovation Journal* 12(2), 193-205.

Nwokorie, E.C. 2017. Impact of Organizational Conflict on Employee Job Performance in Selected Hotels in Lagos Nigeria. *International Scientific Journal Turizam* 21(1), 45-64.

Nwokorie, E.C. 2015. Food Tourism in Local Economic Development and National Branding in Nigeria. *HATMAN Journal of Hospitality and Tourism* 5(1), 20-26.

Nwokorie, E.C., Obiora, J.N. 2018. Sustainable Development Practices for the Hotel Industry in Nigeria: Implications for the Ilaro Area of Ogun State. *Research in Hospitality Management* 8(2), 125-131.

Nwokorie, E.C., Everest, D.A., Ojo, O.O. 2014. Emerging Security Challenges for Tourism Development: Effect on the Nigerian Economy. *Journal of Women in Technical Education* 7(2), 33-40.

Obiora, J.N., Nwokorie, E.C. 2019. Enhancing Destination Loyalty through Online Presence in the Tourism Industry in South-East Nigeria. *Accounting and Taxation Review* 3(1), 69-81.

Oohlala, R. 2013. Sustainable Tourism: Sustainable and Responsible Development. Retrieved from https://www.slideshare.net/reymarieoohlala/sustainable-tourism-28775238

Orimaye, J.O., Ogunjinmi, A.A., Ogunyemi, O.O., Okosodo, E.F., Kolawole, O.O., Daramola, D.O. 2018. Residents' Perception of Ecotourism Impact in Ekiti State: A Case Study of Ikogosi Warm Spring. *Agricultural Extension Journal* 2(2), 144-150.

Padin, C. 2012. A Sustainable Tourism Planning Model: Components and Relationships. *European Business Review* 24(6), 510-518.

Prideaux, B. 2000. The Role of the Transport System in Destination Development. *Tourism Management* 21(1), 53-63.

Roy, B., Saxena, A.K. 2020. Destination Competitiveness, Tourism Facilities and Problems in Promoting Uttarakhand as a Tourism Destination. *Journal of Tourism, Hospitality & Culinary Arts* 12 (2), 1-20.

Salako, T.E., Oyeleke, O.O., Ogunjimi, A.A. 2018. Assessment of Guided Tour on Visitors' Behaviour in Lekki Conservation Centre and Osun Osogbo Sacred Groove, Osogbo, Osun State. *Journal of Sustainable Technology* 9(1), 89-98.

Sandaruwani, J.A.R.C., Gnanapala, W.K.A.C. 2016. The Role of Tourist Guides and their Impacts on Sustainable Tourism Development: A Critique on Sri Lanka. *Tourism, Leisure and Global Change* 3, 62-73.

Sangpikul, A. 2020. Tourist Perceptions of Guided Ecotourism Tours in Thailand. *Tourism and Hospitality Research* 20(2), 245-256.

Santos, C., Silva, D., Amorim, E. 2018. The Impact of Tourism Security on the Image of the Destination - The case of Portugal. *Journal of Tourism Research* 19, 207-216.

Schawnms, R.C. 1994. *Advanced Statistics: An Introduction.* London: Knightbridge Publications Ltd.

Stronza, A., Hunt, C., Fitzgerald, L. 2019. Ecotourism for Conservation? *Annual Review of Environment and Resources* 44, 229-254

Stronza, A., Pegas, F. 2008. Ecotourism and Conservation: Two Cases from Brazil and Peru. *Human Dimensions of Wildlife* 13, 263-279.

Sorupia, E. 2005. Rethinking the Role of Transportation in Tourism. Proceedings of the Eastern Asia Society for Transportation Studies 5, 1767-1777.

TIES 2015. What is Ecotourism? Retrieved online on February 10, 2020, from https://ecotourism.org/what-is-ecotourism/

Ukabuilu, E.N., Nwokorie, E.C., Ezeibe, N. 2018. Empirical investigation of Problems of Inbound Tourism in South-Eastern Nigeria: Catalyst for Regional Development. *HATMAN Journal of Hospitality and Tourism* 8(1), 29-35.

UNEP, UNWTO. 2005. *Making Tourism More Sustainable - A guide for Policy Makers*, Paris, France & Madrid, Spain: UNEP & UNWTO.

UNWTO. 2017. UNWTO Tourism Highlights, 2017 Edition. Retrieved online on August 25, 2019, from https://www.unwto.org/archive/global/publication/unwto-tourism-highlights-2017

Ursache, M. 2015. Tourism – Significant Driver Shaping a Destinations Heritage. *Procedia - Social and Behavioral Sciences* 188, 130-137.

Vengesayi, S., Mavondo, F.T., Reisinger, Y. 2009. Tourism Destination Attractiveness: Attractions, Facilities, and People as Predictors. T*ourism Analysis* 14, 621-636.

World Data Atlas. 2019. Nigeria: International Tourism, Number of Arrivals. Retrieved from https://knoema.com/atlas/Nigeria/topics/Tourism/Key-Tourism-Indicators/Number-of-arrivals

Yamada, N. 2011. Why Tour Guiding is Important for Ecotourism: Enhancing Guiding Quality with the Ecotourism Promotion Policy in Japan. *Asia Pacific Journal of Tourism Research* 16(2), 139-152.

Yamane, T. 1967. *Statistics: An Introductory Analysis (2nd Ed.).* New York: Harper & Row.

Zhuang, X., Yao, Y., Li, J.J. 2019. Sociocultural Impacts of Tourism on Residents of World Cultural Heritage Sites in China. *Sustainability* 11, 840.

Index of Destination Attractiveness: a Quantitative Approach for Measuring Tourism Attractiveness

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Abstract

The common perceptions about tourist destinations often hold even in the absence of facts and evidences. This research is an attempt to analyze the ground behind generic perceptions about tourism attractiveness of Kashmir valley. This has been done through primary survey of most important stakeholders; the visiting tourists. The data collected from 370 tourists has been used to deconstruct tourism attractiveness into different parameters and an Index of Destination Attractiveness has been prepared to understand the importance of each parameter to overall attractiveness. The evidences support the common perception that natural attractions play very important role in tourism attractiveness of valley but valley lacks other tourism motivators and falls short on most of the hygiene factors. These findings can be used to increase the attractiveness of valley by working on weak areas and the Index developed for the study can be used as a standard tool for continuous monitoring of attractiveness.

Keywords: *Kashmir valley, Tourism attractiveness, Tourists' perception, Index of Destination Attractiveness, Motivation and Hygiene in tourism*

Introduction

Tourism attractiveness of a destination is often considered to be one of the key determinants of its tourism pull. It reflects feelings, opinions, and perceptions of tourists about the destination's perceived ability to satisfy a vacation need (Hu, Ritchie, 1993; Mayo, Jarvis, 1981). Attractiveness displays the special features of a destination that makes it attractive to tourists (Cho, 2008). While, researchers found it dependent on the availability of resources and perceived values of these resources (Formica, Uysal, 2006). The concept relates to the destination image and influences the destination image (Fakeye, Crompton, 1991; Krešić, Prebežac, 2011; Zhou, 2005). Tourism attractiveness stems from the natural and man-made features. Researchers identified primary and secondary features behind the attractiveness of the destination (Morachat, 2003; Laws, 1995). Nature, culture, and traditional architecture were considered primary features and tourism infrastructure such as accommodation, transport, tourist services and facilities

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as secondary features. Various studies drew an analogy from Herzberg's theory of motivation and equated primary features into motivating factors and secondary features into hygiene factors and both were considered equally important for attractiveness of destination (Crompton, 2003; Jensen, 2007; Tkaczynski, Thiele, 2013).

The existing studies on tourism destination attractiveness posit the need for a consistent enquiry into the evolving measures of tourism attractiveness, forces behind these measures, and getting a workable measure with practical application. This research paper is an attempt to conduct an enquiry on these lines in the context of Kashmir valley in India which is a popular tourist place in north India and its natural beauty is commonly perceived to that of Switzerland. The reality of this common perception and its association with tourism attractiveness has not been studied and this study is an attempt to fill this gap by developing an Index of Destination Attractiveness (IDA) that can evolve and be used regularly. The main research query was addressed through the following research objectives;

1. Identification of the factors of tourism attractiveness of Kashmir valley
2. Finding the attractiveness level of the Kashmir valley on the identified factors
3. Designing a tourism attractiveness index of Kashmir valley
4. To get insight into the possible course of actions for improving the attractiveness of different factors and overall attractiveness

Study site description

Kashmir valley a popular tourist attraction in northern India Himalayas having boundaries with China and Pakistan. Sixteenth century European traveler Bernier described "Kashmir paradise of Indies" (Lawrence, 1895). The Government of India crowned it as "Switzerland of India" (Chaudhary, 2010). The valley holds rich natural and cultural resources and the main attractions are mountains, snow, gardens, pastures, wildlife, water bodies, handicrafts, and religion (Bhat, Shyju, 2014; Chaudhary, Islam, 2020; Ganie, Dar, 2020). The location and natural beauty of Kashmir have made it a world-famous tourist destination and has a huge market for niche tourism (IBEF, 2017).

Kashmir valley has undergone tremendous changes since the 16th century in terms of its social, cultural, political, and religious environment. The destination choice set of Indian and foreign tourists has expanded due to easy access to global destinations and these mobile and experienced tourists perceive a destination on a relative scale creating a need for updated narrative on the attractiveness of Kashmir valley in today's context.

Literature Review

The available literature on tourism attractiveness has theoretical and managerial connotations. It deals with the abstract, fluid, and ever-evolving concept and constructs of attractiveness. The role of attractiveness in tourism has been researched with a focus on quantification of measurement of attractiveness for practical purposes.

The concept of tourism attractiveness is abstract in nature though its measurement assists destination managers in comparing destinations and their competitiveness (Dupeyras, MacCallum, 2013; Gearing et. al., 1974). Tourism attractiveness measurement facilitates in identifying and strengthening the poor elements of destinations (Bhat, Malik, 2015; Chaudhary et al., 2017; Edward, George, 2008; Kumar, Dar 2017).

Attractiveness in tourism is multidimensional. Earlier divided into five dimensions namely natural, social, historical, recreational, and infrastructural features (Gearing et al., 1974). These were later extended to seven dimensions with the addition of price levels and visitor's satisfaction (Dupeyras, MacCallum, 2013; Ritchie, Zins, 1978). Three methods have been adopted to study these constructs; demand side (Blazeska et al., 2015; Hu, Ritchie, 1993; Kim, 1998; Morachat, 2003; Pompurová, Šimočková, 2014; Reitsamer et al., 2016; Vengesayi et al., 2009) supply-side (Kaur, 1981; Smith, 1987) and mix method (Castro et al., 2015; Edward, George, 2008; Formica, Uysal, 2006; Paul, 2017). However, the demand-side method is considered the most effective and used method to judge the quality of attractiveness (Blazeska et al., 2015).

The use of multiple constructs to measure destination attractiveness led to the development of a single Index of Destination Attractiveness (IDA). The purpose of IDA is to merge several interrelated measures into a single measure (Smith, 1987). Krešić, Prebezac (2011) proposed an index for measuring tourism attractiveness.

IDA helps in the quantification of attractiveness by measuring the attractiveness of each attraction individually and then merging these values into aggregate values (Krešić, Prebezac, 2011). The designing of an attractiveness index model requires identification of indicators that motivate tourists (Cugno et al., 2012). Identification of touristic pull factors and converting them into measurable units was found difficult (Mukhopadhyay, 2011). Indexing attractiveness has received adequate attention in academic research but it is yet to be used as a managerial technique to consistently track and improve destinations.

The review of literature on destination attractiveness leads to the following inferences;
1. Tourism attractiveness is an evolving measure
2. Factors of tourism attractiveness are destination specific and change with time
3. Tourism attractiveness can depend upon the experiences and attitudes of tourists
4. Tourism attractiveness can be built based on consistent inputs on different factors of attractiveness from different stakeholders
5. The tools and methods of measurement of tourism attractiveness require are not varied and non-comparable.

The above inferences form the basis of enquiry for this paper and an attempt has been made to find the gaps between the generic perceptions about tourism attractiveness of Kashmir valley and perceptions of tourists visiting Kashmir valley and this in situ study to develop a measure of attractiveness. Kashmir valley is commonly perceived parallel in natural beauty to Switzerland however no study is available to link this perceived beauty to tourism attractiveness. This makes the concept of tourism attractiveness an interesting subject of study for the valley.

Methodology

The tourism attractiveness of Kashmir valley has been assessed based on perceptions of visiting tourists during their stay in Kashmir. The perceptions have been captured through primary data collected with the help of the questionnaire on the selected parameters. These parameters were selected considering these as influencing factors for attractiveness based on past studies Castrol et al. (2015), Das et al. (2007), Krešić, Prebežac, (2011), Kim (1998), Morachat (2003), Sharma (2016) and discussion with tourism experts. In all 39 parameters were chosen and responses of tourists were collected on a five-point Likert type scale using endpoint descriptions of very low (1) to very high (5). The questionnaire was pretested on 50 tourists in the summer of 2018 and

was validated. The final questionnaire was used to collect data in two seasons; winters of 2018 and summers of 2019 to avoid the impact of seasonality and other events on tourists' perceptions. The respondents were approached at popular tourist sites of Srinagar, Gulmarg, Pahalgam, and Sonmarg. Tourists were also approached at Srinagar international airport. Each respondent was approached personally by the researcher and was briefed on the importance of study and the value of feedback before getting the questionnaire filled to ensure effective answers. In all 400 questionnaires were got filled out of which 370 (92.5%) were found usable.

Results

Descriptive analysis

Descriptive analysis has been used to know the demographic profile of 370 tourists and is presented in Table 1.

Table 1. *Tourists profile*

Variables		Number	Percent
Gender	Male	205	55.4
	Female	165	44.6
Age	Below 20	32	8.6
	21-35	199	53.8
	36-50	98	26.5
	51-65	33	8.9
	above 65	8	2.2
Marital status	Married	218	58.9
	Unmarried	152	49.1
Qualification	Below graduate	53	14.3
	Graduate	164	44.3
	Post graduate	142	38.4
	Other	11	3.0
Nationality	Indian	201	54.3
	Foreign	169	45.7

The demographic analysis of tourists showed male (55.4%), married (58.9%), graduates (44.3%), age group of 21-35 (53.8%) tourists in the majority. The domestic tourists were 54.3 percent while international tourists represented 45.7 percent.

Exploratory factor analysis

The data on different factors of attractiveness was tested before further analysis. Exploratory factor analysis (EFA) was run to extract the dimensionality of tourism attractiveness. The results of this step showed KMO of 0.865 and significant Bartlett's test of sphericity at 0.001. The KMO above recommended level indicates that data is appropriate for further analysis (Kothari, Garg, 2014; Malhotra, Briks, 2006).

Table 2. *EFA results*

Variables	FAC1	FAC2	FAC3	FAC4	FAC5	FAC6	FAC7	FAC8	FAC9	FAC10	FAC11
X1-Transportation cleanliness	**0.798**	0.079	0.258	0.050	0.044	0.072	-0.046	0.124	0.118	0.031	0.029
X2-Sites cleanliness	**0.783**	0.019	0.180	0.092	0.127	0.091	-0.085	0.077	0.077	0.052	0.087
X3-food cleanliness	**0.737**	0.169	0.163	0.084	0.037	0.215	-0.005	0.000	0.074	-0.025	0.023
X4-Accommdaion cleanliness	**0.703**	0.170	0.079	0.331	0.120	0.152	-0.047	-0.012	-0.025	0.046	-0.096
X5-F&B quality	0.119	**0.811**	0.118	0.117	0.128	0.082	-0.015	0.059	0.026	0.021	0.051
X6-F&B varieties	0.078	**0.752**	0.201	0.218	0.111	0.194	-0.124	0.041	0.034	0.022	0.028
X7-Local food	0.062	**0.737**	0.018	0.023	0.021	0.062	-0.023	0.328	0.087	-0.009	0.047
X8-customer support	0.205	**0.611**	0.231	0.249	0.124	0.089	0.047	0.135	0.163	0.105	-0.023
X9-Hospitality	0.099	**0.433**	0.114	0.285	0.079	0.183	0.112	0.196	0.114	0.095	-0.023
X10-Inside transport	0.217	0.118	**0.814**	0.145	0.072	0.155	0.005	0.087	0.076	0.072	0.066
X11-Accessibility over world	0.239	0.101	**0.706**	0.086	0.043	0.206	0.058	0.141	0.104	.0.000	0.013
X12-Transport quality	0.250	0.217	**0.701**	0.058	0.041	0.108	0.115	0.047	0.166	0.197	0.042
X13-Road signage's	0.273	0.179	**0.646**	0.020	0.130	0.040	0.267	0.001	0.142	0.070	0.036
X14-Shopping	0.177	0.024	**0.443**	0.388	0.219	0.160	0.112	0.217	0.019	0.085	0.186
X15-Accommdation varieties	0.130	0.180	0.120	**0.787**	0.060	0.058	0.060	0.090	0.057	0.216	0.004
16-Accommodation quality	0.283	0.274	0.067	**0.738**	0.053	0.090	0.117	-0.002	0.039	0.036	0.002
X17Accommodation location	0.180	0.134	0.074	**0.735**	0.123	0.052	0.025	0.204	0.043	0.131	0.061
X18-Recreational activities	0.055	0.158	0.387	**0.404**	0.276	0.121	0.045	0.114	0.290	0.141	0.111
X19-Pahalgam	0.039	0.043	0.112	0.063	**0.833**	-0.004	0.025	0.014	0.095	0.080	-0.002
X20-Sonmarg	0.086	0.051	0.048	0.115	**0.800**	0.052	-0.025	0.073	-0.010	0.058	0.123
X21-Gulmarg	0.044	0.204	0.169	0.004	**0.777**	0.039	-0.064	-0.075	0.036	0.169	-0.087
X22-Srinagar	0.138	0.185	0.041	0.095	**0.611**	0.140	-0.071	0.106	0.030	0.079	0.102
X23-Cellular services	0.130	0.091	0.142	0.065	0.041	**0.843**	-0.118	-0.029	0.135	-0.017	0.049
X24-Internet services	0.080	0.212	0.127	0.013	0.094	**0.782**	0.150	0.031	0.243	0.059	0.003
X25-Banking- ATM	0.302	0.138	0.174	0.118	0.099	**0.626**	0.066	0.062	0.064	0.100	0.072
X26-Toilets-washrooms	0.347	0.110	0.223	0.222	0.049	**0.452**	0.096	-0.039	0.203	0.073	0.232
X27-F&B Cost*	-0.094	0.245	0.061	0.025	0.024	-0.026	**0.722**	0.043	-0.095	-0.049	-0.103
X28- Transport cost *	-0.050	0.020	0.265	0.102	0.077	-0.062	**0.716**	-0.145	-0.093	0.003	-0.065
X29-Accommodation cost*	0.058	0.025	0.021	0.321	0.007	0.095	**0.689**	0.014	-0.040	0.066	0.018
X30-Prices of tours *	0.067	0.257	0.002	0.002	0.090	-0.229	**0.634**	-0.088	0.136	-0.070	-0.070
X31-Handicrafts	0.021	0.111	0.116	0.233	0.003	-0.045	0.058	**0.748**	-0.029	0.020	0.159
X32-Costume	0.057	0.310	0.010	0.086	0.081	0.081	-0.048	**0.670**	0.019	0.119	-0.002
X33-Monuments	0.133	0.110	0.178	0.002	0.038	-0.007	-0.168	**0.663**	0.141	0.042	-0.131
X34-Information centers	0.111	0.110	0.154	0.093	0.097	0.203	-0.050	0.033	**0.826**	0.058	0.083
X35-Licensed guides	0.133	0.127	0.205	0.077	0.025	0.244	-0.048	0.086	**0.783**	0.018	0.031
X36-Climatic pleasantness	0.018	0.024	0.156	0.109	0.127	0.038	-0.065	0.093	-0.054	**0.772**	0.012
X37-Natural beauty	0.057	0.138	0.000	0.145	0.205	-0.019	0.035	0.055	0.112	**0.742**	0.026

Variables	FAC1	FAC2	FAC3	FAC4	FAC5	FAC6	FAC7	FAC8	FAC9	FAC10	FAC11
X38-Sightseeing opportunities	0.012	0.019	0.012	0.109	0.038	0.081	-0.069	-0.020	-0.036	0.059	**0.893**
X39-Heritage walk	0.088	0.081	0.205	0.091	0.148	0.070	0.198	0.080	0.334	0.047	**0.593**
Eigen values	3.114	3.113	3.105	2.719	2.703	2.438	2.222	1.866	1.849	1.417	1.397
Variance explained	24.661	6.598	6.064	5.236	4.743	4.057	3.794	3.194	2.866	2.751	2.606

*Inverse coded

The factor loading is suppressed by 0.50 (Cerit, 2000; Hair et al., 2010; Pantouvakis, 2006; Smith, 1987). The loadings suggest that no item is required to delete as loadings of all items were greater than 0.50. Eleven factors were extracted with Eigen values greater than 1. In all eleven factors explained 66.5 percent of the variance. The factors of tourism attractiveness are presented in Table 2 with their loadings, Eigen values, and percentage of variance explained.

The eleven factors have been used to prepare the Index of Destination Attractiveness (IDA) based on their weightings presented in Table 3.

Table 3. *Factor and variables weightings*

Variable	FAC1	FAC2	FAC3	FAC4	FAC5	FAC6	FAC7	FAC8	FAC9	FAC10	FAC11
X1	**0.20**	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
X2	**0.20**	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
X3	**0.17**	0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
X4	**0.16**	0.01	0.00	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.01
X5	0.00	**0.21**	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
X6	0.00	**0.18**	0.01	0.02	0.00	0.02	0.01	0.00	0.00	0.00	0.00
X7	0.00	**0.17**	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
X8	0.01	**0.12**	0.02	0.02	0.01	0.00	0.00	0.01	0.01	0.01	0.00
X9	0.00	**0.06**	0.00	0.03	0.00	0.01	0.01	0.02	0.01	0.01	0.00
X10	0.02	0.00	**0.21**	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
X11	0.02	0.00	**0.16**	0.00	0.00	0.02	0.00	0.01	0.01	0.00	0.00
X12	0.02	0.02	**0.16**	0.00	0.00	0.00	0.01	0.00	0.01	0.03	0.00
X13	0.02	0.01	**0.13**	0.00	0.01	0.00	0.03	0.00	0.01	0.00	0.00
X14	0.01	0.00	**0.06**	0.06	0.02	0.01	0.01	0.03	0.00	0.01	0.02
X15	0.01	0.01	0.00	**0.23**	0.00	0.00	0.00	0.00	0.00	0.03	0.00
X16	0.03	0.02	0.00	**0.20**	0.00	0.00	0.01	0.00	0.00	0.00	0.00
X17	0.01	0.01	0.00	**0.20**	0.01	0.00	0.00	0.02	0.00	0.01	0.00
X18	0.00	0.01	0.05	**0.06**	0.03	0.01	0.00	0.01	0.05	0.01	0.01
X19	0.00	0.00	0.00	0.00	**0.26**	0.00	0.00	0.00	0.00	0.00	0.00
X20	0.00	0.00	0.00	0.00	**0.24**	0.00	0.00	0.00	0.00	0.00	0.01
X21	0.00	0.01	0.01	0.00	**0.22**	0.00	0.00	0.00	0.00	0.02	0.01
X22	0.01	0.01	0.00	0.00	**0.14**	0.01	0.00	0.01	0.00	0.00	0.01
X23	0.01	0.00	0.01	0.00	0.00	**0.29**	0.01	0.00	0.01	0.00	0.00

Variable	FAC1	FAC2	FAC3	FAC4	FAC5	FAC6	FAC7	FAC8	FAC9	FAC10	FAC11
X24	0.00	0.01	0.01	0.00	0.00	**0.25**	0.01	0.00	0.03	0.00	0.00
X25	0.03	0.01	0.01	0.01	0.00	**0.16**	0.00	0.00	0.00	0.01	0.00
X26	0.04	0.00	0.02	0.02	0.00	**0.08**	0.00	0.00	0.02	0.00	0.04
X27	0.00	0.02	0.00	0.00	0.00	0.00	**0.23**	0.00	0.00	0.00	0.01
X28	0.00	0.00	0.02	0.00	0.00	0.00	**0.23**	0.01	0.00	0.00	0.00
X29	0.00	0.00	0.00	0.04	0.00	0.00	**0.21**	0.00	0.00	0.00	0.00
X30	0.00	0.02	0.00	0.00	0.00	0.02	**0.18**	0.00	0.01	0.00	0.00
X31	0.00	0.00	0.00	0.02	0.00	0.00	0.00	**0.30**	0.00	0.00	0.02
X32	0.00	0.03	0.00	0.00	0.00	0.00	0.00	**0.24**	0.00	0.01	0.00
X33	0.01	0.00	0.01	0.00	0.00	0.00	0.01	**0.24**	0.01	0.00	0.01
X34	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	**0.37**	0.00	0.00
X35	0.01	0.01	0.01	0.00	0.00	0.02	0.00	0.00	**0.33**	0.00	0.00
X36	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	**0.42**	0.00
X37	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.01	**0.39**	0.00
X38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.57**
X39	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.06	0.00	**0.25**
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Factor weight	0.12	0.12	0.12	0.10	0.10	0.09	0.09	0.07	0.07	0.05	0.05

IDA is based on the assumption that the weights of variables under every factor should be equal to 1. The unrepresented weights are referred to as residuals. The residual allows the sum of correlated variables to be equal to 1. The IDA is calculated using the following formula;

$$\sum_{i=1}^{n} \alpha_i \cdot \overline{X}_i$$

Where, α_i indicates variable weight, $\overline{X}_i$ is indicates the mean of the variable. The sum of weights; variables and factors should be equal to 1 (Krešić, Prebezac, 2011).

The weightings presented in Table 3 would be used to define the equations to prepare the attractiveness index value for every single factor and an aggregate attractiveness value for the Kashmir valley. The equations with the name of factors are defined below;

FAC1 (Hygiene and cleanliness)

$$= (\overline{X}_1 \cdot 0.20) + (\overline{X}_2 \cdot 0.20) + (\overline{X}_3 \cdot 0.17) + (\overline{X}_4 \cdot 0.16) + (\overline{X}_{f1} \cdot 0.27)$$

FAC2 (Food attractions)

$$= (\overline{X}_5 \cdot 0.21) + (\overline{X}_6 \cdot 0.18) + (\overline{X}_7 \cdot 0.17) + (\overline{X}_8 \cdot 0.12) + (\overline{X}_9 \cdot 0.06) + (\overline{X}_{f2} \cdot 0.26)$$

FAC3 (Transport facilities)

$$= (\overline{X}_{10} \cdot 0.21) + (\overline{X}_{11} \cdot 0.16) + (\overline{X}_{12} \cdot 0.16) + (\overline{X}_{13} \cdot 0.13) + (\overline{X}_{14} \cdot 0.06) + (\overline{X}_{f3} \cdot 0.28)$$

FAC4 (Accommodation facilities)

$$=(\overline{X}_{15}\cdot 0.23)+(\overline{X}_{16}\cdot 0.20)+(\overline{X}_{17}\cdot 0.20)+(\overline{X}_{18}\cdot 0.06)+(\overline{X}_{f4}\cdot 0.31)$$

FAC5 (Site attractions)

$$=(\overline{X}_{19}\cdot 0.26)+(\overline{X}_{20}\cdot 0.24)+(\overline{X}_{21}\cdot 0.22)+(\overline{X}_{22}\cdot 0.14)+(\overline{X}_{f5}\cdot 0.14)$$

FAC6 (Communication facilities)

$$=(\overline{X}_{23}\cdot 0.29)+(\overline{X}_{24}\cdot 0.25)+(\overline{X}_{25}\cdot 0.16)+(\overline{X}_{26}\cdot 0.08)+(\overline{X}_{f6}\cdot 0.22)$$

FAC7 (Cost)

$$=(\overline{X}_{27}\cdot 0.39)+(\overline{X}_{28}\cdot 0.23)+(\overline{X}_{29}\cdot 0.21)+(\overline{X}_{30}\cdot 0.18)+(\overline{X}_{f7}\cdot 0.15)$$

FAC8 (Cultural attractions)

$$=(\overline{X}_{31}\cdot 0.30)+(\overline{X}_{32}\cdot 0.24)+(\overline{X}_{33}\cdot 0.24)+(\overline{X}_{f8}\cdot 0.22)$$

FAC9 (Tourist amenities)

$$=(\overline{X}_{34}\cdot 0.37)+(\overline{X}_{35}\cdot 0.33)+(\overline{X}_{f9}\cdot 0.30)$$

FAC10 (Natural attractions)

$$=(\overline{X}_{36}\cdot 0.42)+(\overline{X}_{37}\cdot 0.39)+(\overline{X}_{f10}\cdot 0.19)$$

FAC11 (Tourist activity)

$$=(\overline{X}_{38}\cdot 0.57)+(\overline{X}_{39}\cdot 0.25)+(\overline{X}_{f11}\cdot 0.18)$$

IDA (Aggregate index destination attractiveness)

$=(FAC_1\cdot 0.12)+(FAC_2\cdot 0.12)+(FAC_3\cdot 0.12)+(FAC_4\cdot 0.10)+(FAC_5\cdot 10)+(FAC_6\cdot 0.09)+(FAC_7\cdot 0.09)+$
$+(FAC_8\cdot 0.07)+(FAC_9\cdot 0.07)+(FAC_{10}\cdot 0.05)+(FAC_{11}\cdot 0.05)$

Index of Destination Attractiveness of Kashmir valley
The attractiveness index model for Kashmir valley is presented in Table 4. The aggregated IDA value of valley (3.363) is taken as a benchmark to judge the attractiveness of different factors.

Table 4. *Attractiveness index for Kashmir*

Factors and variables		Loadings		Mean	IDA values
		Variable	Factor		
1	2	3	4	5	6
FAC1	**Hygiene and cleanliness**		0.12		3.405
X1	At transportation	0.20		3.316	0.663
X2	At sites	0.20		3.397	0.679
X3	At food outlets	0.17		3.268	0.556
X4	At accommodation	0.16		3.662	0.586
F1	Residual	0.27		3.411	0.921
FAC2	**Food attractions**		0.12		3.576
X5	Food quality	0.21		3.538	0.743
X6	Food varieties	0.18		3.362	0.605
X7	Local food	0.17		3.554	0.604
X8	Customer support	0.12		3.646	0.438
X9	Hospitality	0.06		4.043	0.243
F2	Residual	0.26		3.629	0.944
FAC3	**Transport facilities**		0.12		3.318
X10	Inside transport	0.21		3.327	0.699
X11	Accessibility over world	0.16		3.243	0.519
X12	Quality of transport	0.16		3.372	0.540
X13	Road signage	0.13		3.268	0.425
X14	Shopping	0.06		3.418	0.205
F3	Residual	0.28		3.326	0.931
FAC4	**Accommodation facilities**		0.10		3.809
X15	Accommodation varieties	0.23		3.811	0.877
X16	Accommodation quality	0.20		3.756	0.751
X17	Accommodation location	0.20		3.970	0.794
X18	Recreational activities	0.06		3.584	0.215
F4	Residual	0.31		3.780	1.172
FAC5	**Site attraction**		0.10		4.009
X19	Pahalgam	0.26		3.970	1.032
X20	Sonmarg	0.24		3.900	0.936
X21	Gulmarg	0.22		4.235	0.932
X22	Srinagar	0.14		3.916	0.548
F5	Residual	0.14		4.005	0.561
FAC6	**Communication facilities**		0.09		2.687
X23	Cellular services	0.29		2.465	0.715
X24	Internet services	0.25		2.535	0.634
X25	Banking and ATMs	0.16		3.046	0.487
X26	Toilets and washrooms	0.08		2.962	0.237
F7	Residual	0.22		2.752	0.605
FAC7	**Cost**		0.09		2.699
X27	Food and beverage cost	0.23		2.659	0.612
X28	Transport cost	0.23		2.749	0.632
X29	Accommodation cost	0.21		2.597	0.545
X30	Prices of tours	0.18		2.803	0.505
F7	Residual	0.15		2.702	0.405
FAC8	**Cultural attractions**		0.07		3.680
X31	Handicrafts	0.30		3.803	1.141
X32	Costume	0.24		3.565	0.856
X33	Monuments	0.24		3.649	0.876
F8	Residual	0.22		3.672	0.808

Factors and variables			Loadings		Mean	IDA values
			Variable	Factor		
1		2	3	4	5	6
FAC9	**Tourist amenities**			0.07		2.998
X34	Information centers		0.37		3.016	1.116
X35	Licensed guides		0.33		2.978	0.983
F9	Residual		0.30		2.997	0.899
FAC10	**Natural attractions**			0.05		4.560
X36	Climatic pleasantness		0.42		4.378	1.839
X37	Natural beauty		0.39		4.768	1.860
F10	Residual		0.19		4.537	0.862
FAC11	**Tourist activity**			0.05		3.314
X38	Sightseeing opportunities		0.57		3.289	1.875
X39	Heritage walk		0.25		3.362	0.841
F11	Residual		0.18		3.326	0.599
Aggregated value for index destination attractiveness (IDA)						**3.363**

The index values suggest natural attractions and site attraction are rated high in terms of attractiveness. The IDA values for both factors are 4.560 and 4.009 respectively. Further, IDA value for factors such as accommodation facilities, cultural attractions, and food attractions is 3.809, 3.608, and 3.576 respectively. These factors are followed by hygiene and cleanliness (3.405) transport facilities (3.318) and tourists' activity (3.314). The IDA values were found low for tourist amenities (2.998), Cost (2.699), and communication facilities (2.687).

The identified factors and their IDA values have been used to know if these can be categorized as Motivators and Hygiene factors based on Herzberg classification as has been done in earlier studies (Crompton, 2003; Jensen, 2007; Tkaczynski, Rundle, 2013). The motivators have been identified based on earlier studies of touristic attractiveness and motivation (see Table 5).

Table 5. *Classification of factors*

Factor	Factors Name	IDA Value	Classification	Studies using motivators and hygiene
FAC10	Natural attractions	4.560	Motivator	Baloglu, Usyal, (1996); Jensen, (2007)
FAC5	Site attractions	4.009	Motivator	Lim et.al. (2015); Jensen, (2007); Sharma, (2016)
FAC4	Accommodation facilities	3.809	Hygiene	Crompton, (2003); Jensen, (2007); Vengesayi et.al. (2009)
FAC8	Cultural attractions	3.680	Motivator	Chaudhary, (2000); Cromption, (2003); Jensen, (2007)
FAC2	Food attractions	3.576	Motivator	Jensen, (2007); Quan, Wang, (2003)
FAC1	Hygiene and Cleanliness	3.405	Hygiene	Chaudhary, (2000); Jensen, (2007)
FAC3	Transport facilities	3.318	Hygiene	Jensen, (2007); Vengesayi et al. (2009)
FAC11	Tourist activity	3.314	Motivator	Crompton, (2003); Jensen, (2007); Tkaczynski, Rundle, (2013)
FAC9	Tourist amenities	2.988	Hygiene	Barker, Crompton, (2000); Jensen, (2007)
FAC7	Cost	2.699	Motivator	Lou, (2014); Yuan, McDonald, (1990)
FAC6	Communication facilities	2.687	Hygiene	Jensen, (2007); Vengesayi et.al. (2009)

The classification of factors showed six factors are having IDA value above aggregated value and five factors have lesser values. These have been placed in the matrix.

Table 6. *Attractiveness matrix*

	Motivators	Hygiene factors
Low IDA value	Cost Tourist activity	Tourist amenities Transport facilities Communication facilities
High IDA value	Natural attractions Site attraction Cultural attractions Food attractions	Accommodation Hygiene and cleanliness

The matrix Table 6 suggests that most of the motivating factors are rated high except cost and tourist activity. The natural and site attractions are rated high endorsing the common perception about Kashmir valley. However, food as an attraction is also rated high. The valley lacks on most of tourist amenities and facilities (hygiene factors) except accommodation and cleanliness.

Conclusions

The purpose of this study was to study tourism attractiveness of Kashmir valley in India and also to develop a measure that can evolve as a standard but evolving Index. An Index of Destination Attractiveness (IDA) has been developed and used to measure tourism attractiveness of Kashmir valley in India. The IDA helps in identifying eleven factors perceived important for attractiveness by tourists and are labeled as hygiene and cleanliness, food attractions, transport facilities, accommodation facilities, site attractiveness, communication facilities, cost, cultural attractions, tourist amenities, natural attractions, and tourist activity. Each factor further has a number of variables specific to valley. While these findings can be useful for destination managers to work on deficient areas and improve overall attractiveness, the index developed can be used annually or at any other appropriate interval for a sustained destination management programme. The repeat use of IDA will also help in fine tuning this index further and incorporate more factors as warranted by the future shape of destination Kashmir valley. IDA prepared for this study can also find application at other destinations with little modifications as warranted by the features of attractiveness these destinations.

References

An, L.T., Markowski, J., Bartos, M., Rzenca, A., Namiecinski, P. 2019. An evaluation of destination attractiveness for nature-based tourism: Recommendations for the management of national parks in Vietnam. *Nature Conservation* 32, 51–80.

Baker, D. A., Crompton, J. L. 2000. Quality, satisfaction and behavioral intentions. *Annals of tourism research* 27(3), 785-804.

Baloglu, S., Uysal, M. 1996. Market segments of push and pull motivations: A canonical correlation approach. *International Journal of Contemporary Hospitality Management* 8(3), 32-38.

Bhat, I. A., PJ, S. 2015. Pilgrimage Tourism in Sindh Valley (Kashmir): A Case Study of Kheer Bhawani Shrine. *Atna Journal of Tourism Studies* 9 (1), 36-61.

Bhat, M. A., Qadir, N. 2013. Tourist satisfaction in Kashmir: An empirical assessment. *Journal of Business Theory and Practice* 1(1), 152-166.

Blazeska, D., Milenkovski, A., Gramatnikovski, S. 2015. The quality of the tourist destinations a key factor for increasing their attractiveness. *UTMS Journal of Economics* 6 (2), 341-353.

Castro, E. V., Souza, T. B., Thapa, B. 2015. Determinants of tourism attractiveness in the national parks of Brazil. *Parks* 21(2), 51-62.

Cerit, A. G. 2000. Maritime transport as an area of competitive advantage in international marketing. *International journal of maritime economics* 2(1), 49-67.

Chaudhary, M. 2000. India's image as a tourist destination—a perspective of foreign tourists. *Tourism management* 21(3), 293-297.

Chaudhary, M., Rani P., Sheokand R. 2017. Attractiveness of Bhagavat Gita and its symbols among tourists visiting Kurukshetra. *Indian journal of International Tourism & Hospitality Research* 8(1), 1-18.

Chaudhary, M. (2010). *Tourism marketing.* Oxford University Press: New Delhi.

Chaudhary, M., Islam, N.U. 2020. Identification and Mapping of Religious Tourist Resources in Kashmir Valley. *International Journal of Hospitality & Tourism Systems* 13(1), 13-21.

Cho, V. 2008. Linking location attractiveness and tourist intention. *Tourism and Hospitality Research* 8(3), 220-224.

Cracolici, M. F., Nijkamp, P. 2009. The attractiveness and competitiveness of tourist destinations: A study of Southern Italian regions. *Tourism management* 30(3), 336-344.

Crompton, J. L. 2003. Adapting Herzberg: a conceptualization of the effects of hygiene and motivator attributes on perceptions of event quality. *Journal of travel research* 41, 305-310.

Cugno, M., Grimmer, M., Viassone, M. 2012. Measuring local tourism attractiveness: The case of Italy. *ANZAM 2012. Proceedings 26th Australian & New Zealand Academy of Management (ANZAM) Conference* (pp. 1-22).

Das, D., Sharma, S. K., Mohapatra, P. K., Sarkar, A. 2007. Factors influencing the attractiveness of a tourist destination: A case study. *Journal of Services Research* 7(1).

Dupeyras, A., MacCallum, N. 2013. Indicators for measuring competitiveness in tourism: a guidance document. OECD Tourism Papers, 2013/02, OECD Publishing. Retrieved from http://dx.doi.org/10.1787/5k47t9q2t923-en

Edward, M., George, B. P. 2008. Tourism development in the State of Kerala, India: A study of destination attractiveness. *European journal of tourism research* 1(1).

Fakeye, P. C., Crompton, J. L. 1991. Image differences between prospective, first-time, and repeat visitors to the Lower Rio Grande Valley. *Journal of travel research* 30(2), 10-16.

Formica, S., Uysal, M. 2006. Destination attractiveness based on supply and demand evaluations: An analytical framework. *Journal of Travel Research* 44(4), 418-430.

Ganie, S. A., Dar, M. A, 2020. Role of Human Resources in the Tourism Industry with Special Reference to Jammu and Kashmir. *Turizam* 24(2), 67-78

Gearing, C. E., Swart, W. W., Var, T. 1974. Establishing a measure of touristic attractiveness. *Journal of travel Research* 12(4), 1-8.

Hong-bumm, K. 1998. Perceived attractiveness of Korean destinations. *Annals of tourism research* 25(2), 340-361.

Hu, Y., Ritchie, J. B. 1993. Measuring destination attractiveness: A contextual approach. *Journal of travel research* 32(2), 25-34.

IBEF (2017). Jammu and Kashmir Paradise on earth. Retrieved from https://www.ibef.org/download/Jammu-Kashmir-January-2017.pdf(Accessed on 20.04.2020)

Islam, S., Hossain, M. K., Noor, M. E. 2017. Determining drivers of destination attractiveness: the case of nature-based tourism of Bangladesh. *International Journal of Marketing Studies* 9 (3), 10-23.

Jensen, J.M. 2007. An empirical investigation of the relationships between hygiene factors, motivators, satisfaction, and response among visitors to zoos and aquaria. *Tourism Review International* 11, 307–316

Johnson, C. L. (2017). Millennials' perception of destination attractiveness. (Master's thesis). Retrieved from https://pdfs.semanticscholar.org/0a83/403279002e0dc9ce34266d021b-06f4bd403f.pdf (Accessed on 05.09.2019)

Joseph, E.U., Udoh, I. S. 2018. Festivities and the tourism destination attractiveness of Akwa Ibom state, Nigeria. *International Journal Recent Scientific Research* 9(6), 27314-27319.

Kaur, J. 1981. Methodological approach to scenic resource assessment. *Tourism Recreation Research* 6(1), 19-22.

Kothari C.R. Garg G. (2014). *Research Methodology Methods and Techniques.* New Age International Publishers, New Delhi, India.

Krešić, D., Prebežac, D. 2011. Index of destination attractiveness as a tool for destination attractiveness assessment. *Tourism* 59(4), 497-517.

Kumar, R. B., Hafizullah, D. 2017. What makes domestic tourists satisfied: an empirical study of Srinagar (Jammu & Kashmir). *International Journal of Tourism and Travel* 10(1), 47-56.

Lawrence, W. R. (1895). *The valley of Kashmir.* Oxford University press, London.

Laws, E. (1995). *Tourist destination management: issues, analysis and policies.* Routledge.

Lim, Y. J., Kim, H. K., Lee, T. J. 2016. Visitor motivational factors and level of satisfaction in wellness tourism: Comparison between first-time visitors and repeat visitors. *Asia pacific journal of tourism research* 21(2), 137-156.

Lou, J. (2014). *Analysis of adventure tourist motivation: The case of China-born international students in New Zealand universities* (Doctoral dissertation). Retrieved from https://openrepository.aut.ac.nz/handle/10292/7917(Accessed on 15.09.2019)

Malik, M. I., Bhat, M. S. 2015. Sustainability of tourism development in Kashmir—Is paradise lost? *Tourism management perspectives* 16, 11-21.

Mayo, E. J., Jarvis, L. P. (1981). *The psychology of leisure travel. Effective marketing and selling of travel services.* CBI Publishing Company, Inc.

Morachat, C. (2003). A study of destination attractiveness through tourists' perspectives: a focus on Chiang Mai, Thailand. (Doctorial dissertation). Retrieved from https://ro.ecu.edu.au/theses/1504/(Accessed on 10.09.2019)

Mukhopadhyay, D. (2011). Constructing destination attractiveness index – a conceptual note. Retrieved from https://driptoonsustainabletourism.wordpress.com/2011/08/17/constructing-destination-attractiveness-index-%E2%80%93-a-conceptual-note/(Accessed on 15.06.2019)

Pantouvakis, A. 2006. Port-service quality dimensions and passenger profiles: an exploratory examination and analysis. *Maritime Economics & Logistics* 8(4), 402-418.

Paul, S. 2017. Analysing tourism attractiveness using probabilistic travel model: A study of Gangtok and its surroundings. *Geografia-Malaysian Journal of Society and Space* 9(3), 61-68.

Pompurová, K., Šimočková, I. 2014. Destination attractiveness of Slovakia: perspectives of demand from major tourism source markets. *Economics and Management* 17 (3), 62-72.

Quan, S., Wang, N. 2004. Towards a structural model of the tourist experience: An illustration from food experiences in tourism. *Tourism management* 25(3), 297-305.

Reitsamer, B. F., Brunner-Sperdin, A., Stokburger-Sauer, N. E. 2016. Destination attractiveness and destination attachment: The mediating role of tourists' attitude. *Tourism Management Perspectives* 19, 93-101.

Ritchie, J. B., Zins, M. 1978. Culture as determinant of the attractiveness of a tourism region. *Annals of Tourism Research* 5(2), 252-267.

Sharma, S. (2016) India's image as a tourist destination: A study of Incredible India marketing campaign (Unpublished doctorial dissertation), Kurukshetra University, Haryana, India.

Smith, S. L. 1987. Regional analysis of tourism resources. *Annals of tourism research* 14(2), 254-273.

Tkaczynski, A., Rundle-Thiele, S. 2013. Understanding what really motivates attendance: A music festival segmentation study. *Journal of Travel & Tourism Marketing* 30(6), 610-623.

Vengesayi, S., Mavondo, F. T., Reisinger, Y. 2009. Tourism destination attractiveness: attractions, facilities, and people as predictors. *Tourism Analysis* 14(5), 621-636.

Yuan, S., McDonald, C. 1990. Motivational determinates of international pleasure time. *Journal of Travel Research* 29(1), 42-44.

Zhou, L. (2005). Destination attributes that attract international tourists to Cape Town. (Doctoral dissertation). Retrieved from https://etd.uwc.ac.za/xmlui/handle/11394/183 (Accessed on 20.09.2019)

Geographical Index of Concentration as an Indicator of the Spatial Distribution of Tourist Attractions in Belgrade

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Abstract

The spatial structure of tourist attractions can be presented both qualitatively and quantitatively. One of the indicators of the spatial structure of tourism is the index of geographical concentration of tourist attractions. The geographical concentration of tourist attractions represents the ratio of the number of tourist attractions in the observed area and its structural parts and the total number of structural units of the analyzed area. This paper aims to determine the spatial distribution of attractions in the administrative territories of Belgrade municipalities and to establish correlations with tourist attendance. The number and spatial distribution of accommodation capacities are the largest in the central city municipalities so that the number of visitors is the largest in them. At the same time, the central city municipalities have the highest concentration of tourist attractions. For data collection, the authors used field research, OSM (Open Street Maps), Google maps, with software processing ArcGIS 10.2. The research results enabled the definition of the model of distribution of tourist attractions and indicated its application. This model of distribution of tourist attractions shows that they are mostly concentrated in the city center. This also means a small spatial connection of tourist attractions in the city center and peripheral parts.

Keywords: *tourist attractions, spatial distribution, geographical index, Belgrade*

Introduction

The competition of tourist values in an area, among other things, relies on the structure of the tourist resource. The structure of resources is the relationship between spatial distribution, quality, and the number of resources in a tourist destination (Shen, 2002). Starting from the 1960s, various models of the spatial structure of tourism emerged and developed (Christaller, 1964). More recently, Pan (2013a), using the methods of spatial-econometric geographical

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quantitative analysis, has pointed to the distribution of selected tourist attractions in China. The same author, using the raster algorithm (GIS), analyzed the spatial accessibility of attractions in China (Pan, 2012). Using raster weighted distances, he analyzed the availability of Chinese national forest parks (Pan, 2013b).

Wang et al. (2016) performed an analysis of the spatial structure of tourist attractions in Lanzhou, based on GIS. They calculated the following: the nearest neighbour index, the index of geographical concentration of tourist attractions, the Gini coefficient, and the accessibility index. The nearest neighbour index is the basic method of studying the types of the spatial distribution of tourist attractions. In the calculation process, the theoretical distance of the nearest neighbour and the index of the nearest neighbour were determined (the ratio of the actual nearest distance and the theoretical distance of the nearest neighbour) (Yuan, Yu, 2010). The Gini coefficient is an index of comparative differences in the geographical characteristics of spatial distribution (Pan et al., 2014). The accessibility index is calculated using the total distance algorithm and refers to the shortest path based on raster data. The spatial distribution of ecotourism attractions in Anambra, Nigeria was done by Odum et al. (2018) using the closest neighbourhood analysis.

Pan et al. (2015) using GIS and quantitative analysis investigated the spatial structure of 2424 tourist attractions of China. The spatial accessibility of all tourist attractions was calculated by the method of weighted distance and ArcGIS software. They stated that Chinese tourist attractions were distributed unevenly, with a large concentration in certain regions. Zhao (2018) by researching the spatial structure of picturesque destinations in 18 cities of Henan Province determined the existence of a general pattern of differentiation.

Analyzing the location data of 9820 A-class tourist attraction locations in China, Wang et al. (2018) concluded that the spatial distribution of tourist attractions represented a cluster pattern. The pattern of the spatial distribution of tourist attractions varies depending on their ratings, i.e. valorization. Chinese tourist attractions are mainly located in the plains, near major rivers, in areas with high population density, high level of economic development, and good transport infrastructure. Spatial clustering of tourist attractions based on an algorithm consistent with their density was done by Zhu et al. (2018), using the spatial information in a Location-Based Social Network (LBSN). Natural protected areas in China are unevenly distributed, according to the research conducted by Xu and Pan (2019). More than half of the protected natural areas are located in the central and eastern provinces of China.

A study by Kang et al. (2018) identified the spatial structure of the tourist attraction system in Seoul, South Korea. Spatial patterns of distribution of the degree of centrality were investigated, which enabled the identification of points of tourist networks. Truchet et al. (2016) analyzed how tourist attractions affect the development of destination tourism and the spatial scope of the impact. They stated that the attractiveness of tourist attractions and their spatial characteristics are decisive factors for the development of tourism, distinguishing between local, widespread, and diffuse locations.

Sousa Guedes and Martin Jimenez (2015) identified the concentration points (clusters) of cultural resources in Portugal, to identify repetitive and dominant spatial patterns. The analysis shows a hierarchical and polarized network around Lisbon. Organized cultural programmes based on cultural heritage reduce the asymmetry of the space of cultural tourist attractions, historically concentrated around the Algarve region. Using the network, spatial analysis and geovisualization Kirilenko et al. (2019) grouped tourist attractions according to the interests of tourists. The study combines the attractions of Florida with the patterns of visits of tourists from different markets, introducing in addition to the spatial and behavioral dimension of research. Tourist attractions are spatially grouped and classified in a paper

written by Peng and Huang (2017). Accuracy of grouping and classification enables the distinction of neighbouring areas with a higher density of attractions and better attendance of tourist attractions when they are unevenly distributed.

In addition to the analysis of the spatial structure of tourist attractions, it is necessary to point out some other features and classifications necessary for the theoretical definition of attractions, in the context of this scientific paper. The competitiveness of a tourist destination is influenced by a set of factors. They are marked in the scientific literature as factors of the attractiveness of a tourist destination (Mihalič, 2000; Ritchie, Crouch, 2005). Multiple tourist attractions that are related and mutually homogeneous together are called the attractiveness factors of a tourist destination. The need for grouping tourist attractions stems from their large number and heterogeneity (Krešić, 2007). Kushen (2002) believes that attractiveness factors influence the direction and intensity of tourism development in the destination.

Weber and Mikačič (1995) single out general and special factors of attractiveness. General attractiveness factors are key in examining the attractiveness of different destinations (these are most often natural attractiveness factors). Specific attractiveness factors show that factors have different importance for different destinations. The classification of attractiveness factors was proposed by the World Tourism Organization (UNWTO) and presented by McIntyre and Inskeep (1993). They highlight natural tourist resources, cultural and historical heritage in tourism, climatic conditions, infrastructure, tourist services, and facilities.

The classification of attractiveness factors is based on three approaches: ideographic (images of nature), organizational (surrounding space, attraction capacity, duration), and cognitive (perceptions and experiences of tourists) (Lew, 1987). The ideographic and organizational approaches were applied in calculating the geographical index of the concentration of tourist attractions. Ritchie and Crouch (2005) single out seven groups of tourist attractions: relief characteristics and climate, history and culture, market connections, an offer of activities, events, entertainment, and tourist suprastructure.

Methods and data

The spatial coverage of the researched topic consists of 17 municipalities of the City of Belgrade. Their total area is 322,268 ha (urban area 35,996 ha). The inner-city area consists of the following municipalities: Čukarica, New Belgrade, Palilula, Rakovica, Savski Venac, Stari Grad, Voždovac, Vračar, Zemun and Zvezdara. The outer-city area includes the following municipalities: Barajevo, Grocka, Lazarevac, Mladenovac, Obrenovac, Sopot, and Surčin.

Tourist attractions were taken from the open database maps (Google Maps, Open Street Maps), field research (data collection by GPS navigation). In methodological terms, field research was used, along with ArcGIS software processing 10.2.

The index of geographical concentration is an important indicator of the degree of concentration of tourist attractions (Wei, Hua, 2012) and can be one of the criteria for evaluating the attractiveness of a destination. However, it is used to evaluate the attractiveness of the destination as a whole, without taking into account individual attractions. The measurement of the spatial distribution of tourist attractions is done according to the formula (Wu et al., 2003; Ding et al., 2011):

$$G = 100\sqrt{\sum_{i=1}^{n}\left(\frac{x_i}{T}\right)^2}$$

G is the geographical index of the concentration of research objects, i.e. distribution of tourist attractions, x_i - number of tourist attractions in the observed area (in each Belgrade municipality separately), *T* - total number of tourist attractions in all municipalities of Bel-

Figure 1. Position of the municipalities
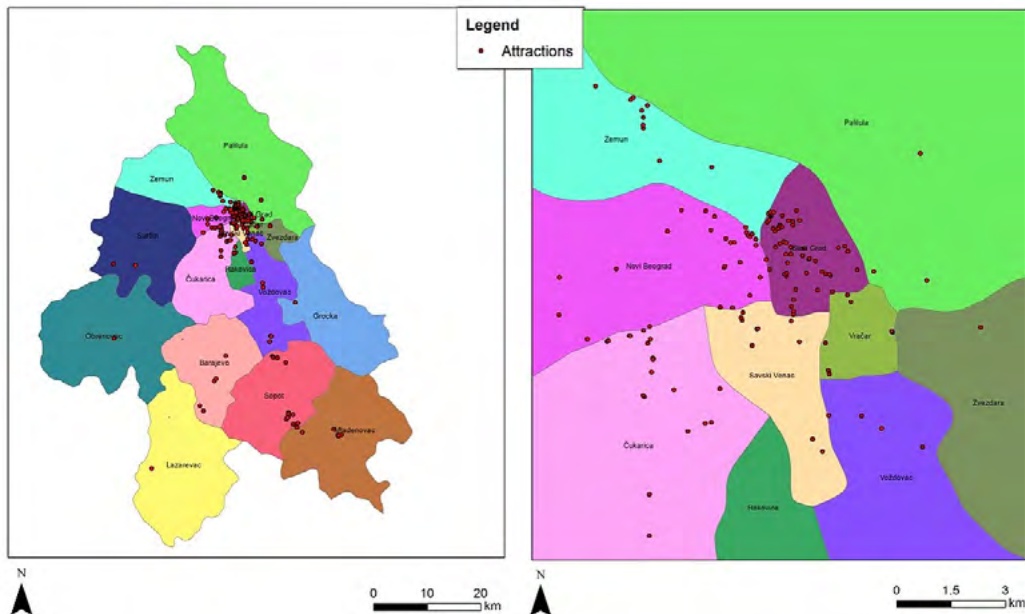of the City of Belgrade
Source: author's research

Figure 2. Distribution of tourist attractions in the municipalities of the City of Belgrade
Source: author's research

grade, n - total number of municipalities. The geographical index of the concentration of tourist attractions (*G*) has values from 0 to 100. A higher value of *G* shows a more concentrated distribution of research objects, and a lower value shows a higher distribution of tourist attractions. The initial assumption in the paper is that the attendance of urban municipalities directly depends on the geographical index of the concentration of tourist attractions.

Results and discussion

For this paper, the attraction basis consists of cultural-historical attractions (archaeological sites, sacral buildings, art centres, cultural monuments, fortresses, museums), natural attractions (mountains, lakes, rivers) and infrastructure (facilities for sports and entertainment recreation, facilities for respite, parks, educational facilities, cinemas, theaters). The research results of the geographical index of the concentration of tourist attractions of the City of Belgrade are shown in Table 1 and Figure 3.

Table 1. *Geographical index of the concentration of tourist attractions of the City of Belgrade*

Municipalities	Geographical index
Čukarica	53,07
Barajevo	13,61
Grocka	2,72
Lazarevac	8,16
Mladenovac	12,25
Novi Beograd	44,91
Rakovica	10,89
Palilula	27,22
Savski Venac	25,85
Stari Grad	99,34
Surčin	12,25
Voždovac	24,49
Vračar	10,89
Zemun	29,94
Zvezdara	10,89
Sopot	20,41
Obrenovac	5,44

Source: author's research

The research results show that the municipality of Stari Grad has the highest value of the geographical index of the concentration of tourist attractions. The concentrated distribution of tourist attractions indicates their proximity because the tourist attractions in this municipality are located in the city centre. The most visited tourist attractions of Belgrade are located in the municipality of Stari Grad: Belgrade Fortress, Knez Mihailova Street, Skadarlija, Kosančićev Venac, Republic Square, Students Square, Terazije. After the municipality of Stari Grad, the municipalities of Čukarica, New Belgrade, Zemun, Palilula and Savski Venac have the highest value of the geographical index of concentration of tourist attractions. The munic-
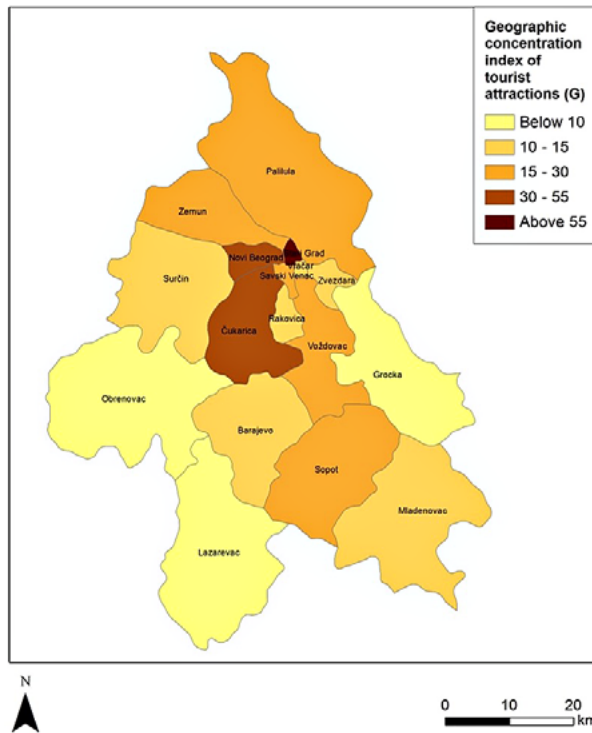
Figure 3. Geographical index of the concentration of tourist
attractions in Belgrade
Source: author's research

ipalities of Grocka, Obrenovac, and Lazarevac have the lowest geographical index of the concentration of tourist attractions.

Based on the analysis performed by Truchet et al. (2016) it can be concluded that the tourist attractions of Belgrade have local, widespread, and diffuse locations. The local distribution of tourist attractions is characteristic of central city municipalities, such as Stari Grad, Čukarica, New Belgrade, Zemun, Savski Venac, Palilula. In the municipality of Voždovac, tourist attractions are widespread, and a diffuse schedule exists in the municipalities of Rakovica, Zvezdara, Sopot, Barajevo, Mladenovac, Surčin, Grocka. Although the municipalities of Čukarica, Zemun, and Palilula occupy relatively large areas, the geographical index of the concentration of tourist attractions has higher values compared to some other municipalities. This shows that tourist attractions are concentrated in a small area, closer to the city centre.

When it comes to similar research, i.e. the calculation and analysis of the geographical index of the concentration of tourist attractions in Serbia, they have not been done so far. Such research is characteristic of China. One of them was done on the example of the province of Henan, in which the index of geographical concentration of attractions had a value of 25.28 if only the most visited attractions were taken into account. There is an obvious difference in the number of tourist attractions and their spatial distribution, with the city of Henan having the most of them (Zhao, 2018). Wang et al. (2016) determined the index of geographical concentration of tourist attractions for 58 attractions in Lanzhou and obtained a value of 39.69, which showed that the attractions were concentrated. Ding et al. (2011) calculated that the index of geographical concentration of tourist attractions in Nanjing is 34.43, indicating that the schedule is relatively concentrated.

The attraction basis of Belgrade and the concentration of attractions have been researched in the works of other authors. However, quantitative research on the schedule of tourist attractions is not. The attraction base of Belgrade consists of cultural and historical heritage, manifestations, natural values with recreational zones, and catering facilities. Some of these attractions are in the narrower, some in the wider city area. Cultural tourist attractions dominate the tourist offer of Belgrade (Stanković, Vojčić, 2007; Joksimović et al., 2014; Pavlović, Vesić, 2019).

The research conducted by Joksimović and others (2014) shows that the most important cultural and historical heritage of Belgrade is located in the municipalities of Stari Grad, Palilula, Savski Venac, Vračar, and Zemun. Group and individual visits of tourists include tours of the Belgrade Fortress, the ambient whole of Skadarlija, the Zemun Quay. Analyzing travel blogs about Belgrade, Todorović (2015) states that the Belgrade Fortress is the most frequently mentioned tourist attraction in the city, followed by the Nikola Tesla Museum and the Temple of St. Sava. Todorović and Deđanski (2016) state that the attractions are mostly concentrated in the central parts of the city. The most visited tourist attraction is the Belgrade Fortress. Other most visited attractions are located in the area from the Belgrade Fortress to the Temple of St. Sava.
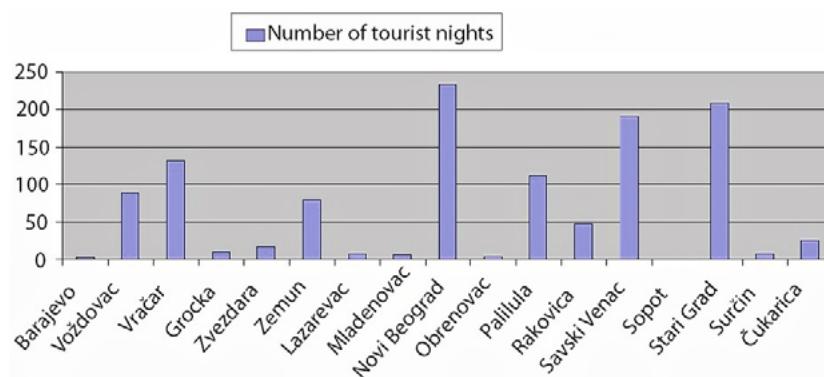

Figure 4. Tourist attendance of the municipalities of the City of Belgrade in 2018 (in thousands)
Source: Republic Bureau of Statistics (Publication Municipalities and Regions in Serbia)

Although the largest number of tourist attractions is concentrated in the city centre, the number of visitors by municipalities in Belgrade is related to the number and utilization of accommodation facilities, beds, and rooms. The number and spatial layout of hotels and hostels are the largest in the central city municipalities, so the number of visitors is the largest in them. The initial assumption in the paper that the attendance of urban municipalities directly depends on the geographical index of the concentration of tourist attractions has been confirmed, as shown by the following findings.

The largest number of visitors in 2018 was recorded in the municipalities of New Belgrade, Stari Grad, Savski Venac, Vračar, and Palilula. Apart from the municipality of Vračar, the other most visited municipalities have a relatively large geographical index of concentration of attractions.

The relatively short length of stay of tourists in Belgrade (about two nights) has a negative effect on sightseeing tours that are not in the city centre. A longer stay in Belgrade would ena-

ble foreign and domestic tourists to see and experience a larger number of tourist motives, to realize various activities. More attention should be paid to the development of tourism in suburban settlements, especially the planning and development of tourist attractions. Their evaluation should be done and competitive advantages should be pointed out. This research could be used in defining guidelines and strategic frameworks for tourism development.

Conclusion

The spatial structure of tourist attractions affects the spatial properties of tourist activities. Their analysis can help guide tourism. The spatial structure of tourist attractions includes not only the pattern of distribution but also the spatial behaviour of tourists. It affects the speed, scope of development, temporal, and spatial distribution of attractions. The structure of tourist attractions reflects the relationship between tourism, population, urban and rural development, infrastructure construction.

The uniformity of the distribution of attractions is very small because the geographical index of the concentration of tourist attractions in Belgrade municipalities has values from 2.72 (Grocka) to 99.34 (Stari Grad). This model of distribution of tourist attractions, concentrated in the city centre, conditions the spatial structure of tourist movements and the small spatial connection of tourist attractions in the city centre and peripheral parts.

The values of the geographical index of the concentration of tourist attractions in Belgrade show that these are attractions that have local, widespread and diffuse locations. The highest values of the geographical index of tourist attractions have the municipalities in which the locality of the attractions is expressed, the average value has the municipality with widespread attractions, and the lowest values have those municipalities in which the attractions are diffusely distributed.

Further research could be focused on the classification of attractions as a basis and the calculation of the geographical index of the concentration of attractions for natural, cultural, and historical attractions, infrastructure, tourist services, and facilities. A comparison of the geographical index of the concentration of tourist attractions in two or more tourist destinations could also be the subject of research, to determine the connection between the spatial distribution of tourist attractions and regional economic development. The spatial pattern of tourist attractions is important in tourism, so the correlations of tourist attractions, traffic lines, and accommodation capacities of certain areas should be investigated, and the uneven distribution of the population should also be taken into account.

References

Christaller, W. 1964. Some considerations of tourism location in Europe: The peripheral region-under developed countries recreation areas. *Regional science Association* 12(1), 95-105.

Ding, L., Wang, Y., Zhang, F., Wu, X. and Tang, S. 2011. Spatial structure of tourist attractions in Nanjing, China: Based on statistical analysis of 317 tourist attractions. In: X. Li, S., Bao (Eds.), *Proceedings of the 19th International Conference on Geoinformatics*, (941-946). Shanghai: Institute of Electrical and Electronics Engineers. doi: 10.1109/GeoInformatics.2011.5980771

Joksimović, M., Golić, R., Vujadinović, S., Šabić, D., Jovanović-Popović, D., Barnfield, G. 2014. Restoring tourist flows and regenerating city's image: the case of Belgrade. *Current Issues in Tourism* 17(3), 220-233.

Jun, Y., Lin, Y.R. 2010. Research on spatial structure of national A-Grade tourist districts of Wuhan metropolitan area. E*conomic Geography* 30(2), 324-328.

Kang, S., Lee, G., Kim, J., Park, D. 2018. Identifying the spatial structure of the tourist attraction system in South Korea using GIS and network analysis: An application of anchorpoint theory. *Journal of Destination Marketing & Management* 9, 358-370. https://doi.org/10.1016/j.jdmm.2018.04.001

Kirilenko, A.P., Stepchenkova, S.O., Hernandez, J.M. 2019. Comparative clustering of destination attractions for different origin markets with network and spatial analyses of online reviews. *Tourism Management* 72, 400-410.

Krešić, D. 2007. Tourism destination attractivevess factors in the function of competitiveness. *Acta turistica* 19 (l), 45-82. (in Croatian and English)

Kušen, E. 2002. *Tourism Attraction Base.* Institute of Tourism, Zagreb. (in Croatian)

Lew, A. A. 1987. A Framework of Tourist Attraction Research. *Annals of Tourism Research* 14(4), 553-575.

Mcintyre, G., Hetherington, A., Inskeep, E. 1993. *Sustainable tourism development: guide for local planners.* UNWTO, Madrid.

Mihalič, T. 2000. Environmental management of a tourist destination: a factor of tourism competitiveness. *Tourism Management* 21 (1), 65-78.

Municipalities and regions in the Republic of Serbia. 2019. Republic Statistical Office, Belgrade. (in Serbian)

Odum, C.J., Akukwe, T.I., Andrew-Essien, E., Eja, I.E. 2018. Spatial Distribution of Ecotourism Resources in Anambra State: A Nearest Neighbour Analysis Approach. *American Journal of Social Sciences* 6(3), 29-38.

Pan, J.H. 2012. Spatial accessibility of scenic spot at 4A level and above in China. *Scientia geographica sinica* 32(11), 1322-1327.

Pan. J.H. 2013a. Analysis on spatial structure of A-Grade science spots in China based on quantitative geography model. *Economic geography* 33(9), 154-160.

Pan, J.H. 2013b. Measurements for spatial accessibility of national forest parks in China. *Resources and Environment in the Yangtze Basin* 22(9), 1181-1187.

Pan, J.H., Ma, C., Li, J.F. 2014. Spatial structure of A-grade tourist attractions in Gansu. *Journal of Arid Land Resources and Environment* 28(7), 188-193.

Pan, J.H, Li, J.F., Cong, Y. 2015. Quantitative Geography Analysis on Spatial Structure of A-Grade Tourist Attractions in China. *Journal of Resources and Ecology* 6(1), 12-20. DOI:10.5814/j.issn.1674-764x.2015.01.002

Pavlović, S., Vesić, M. 2019. Cultural attractions of Belgrade in focus of touristic offer. *Glasnik Srpskog geografskog društva* 99(1), 91-114. (in English and Serbian)

Peng, X., Huang, Z. 2017. A Novel Popular Tourist Attraction Discovering Approach Based on Geo-Tagged Social Media Big Data. *International Journal of Geo-Information* 6(7). doi:10.3390/ijgi6070216

Ritchie, B. J., Crouch, G. I. 2005. *The competitive destination: a sustainable tourism perspective.* CABI Publishing, Wallingford.

Shen, Z.P. 2002. A Study on the Structure and the Development Allocation of Tourist Resources in the Economic Belt of the New Eurasian Continental Bridge in China. *Scientia geographica sinica* 22(2), 176–183.

Sousa Guedes, A., Martin Jimenez, I. 2015. Spatial patterns of cultural tourism in Portugal. *Tourism Management Perspectives* 16, 107-115.

Stanković, S. M., Vojčić, V. 2007. Place of tourism in the Belgrade economy. *Collection of the Papers - Faculty of Geography, University of Belgrade*, vol. LV, 95-104. (in Serbian)

Truchet, S., Piguet, V., Aubert, F., Callois, J.M. 2016. Spatial influence of attractions on tourism development. *Tourism Geographies* 18(5), 539-560.

Todorović, N. 2015. Content analysis of travel blogs as an identification instrument of Belgrade's tourism image elements. In: D. Filipović, S. Đurđić (eds.), *The Fourth Serbian Congress of Geographers - Proceedings of young researchers*, (187–192). Belgrade: University of Belgrade – Faculty of Geography. (in Serbian with English summary)

Todorović, N., Deđanski, V. 2016. Significance and location of tourist attractions in Belgrade. *The Fourth Congress of Geographers of Bosnia and Herzegovina (Collection of Abstracts)*, 129. Faculty of natural sciences, Sarajevo. (in Serbian and English)

Wang, R., Shi, H.C., Wang, D. 2016. Spatial structure analysis of tourist attraction in lanzhou based on GIS. In: Y. Shu, G. Chang, Z. Luo (Eds.), *International Conference on Education, Management, Computer and Society (EMCS 2016)*, (1185-1188). Shenyang: Atlantis Press.

Wang, T., Wang, L., Ning, Z.Z. 2018. Spatial pattern of tourist attractions and its influencing factors in China. *Journal of Spatial Science* 65(2), 327-344. DOI: 10.1080/14498596.2018.1494058

Weber, S., Mikačič, V. 1995. Determinants of attractiveness of county tourist destinations in Croatia. *Tourism* 43 (3-4), 52-65. (in Croatian)

Wei, W., Hua, C. J. 2012. Research on spatial structure of scenic spot in Zhejiang province based on geographic-mathematics method. *Tourism Research* 4(3), 39-44.

Wu, H., Gu, C., Ma, R.. Xu, X. 2003. Research on Tourism Structure Characteristics in Jiangsu Province. *Scientia Geographica Sinica* 23(6), 755–761.

Xu, B., Pan, J. 2019. Spatial distribution characteristics of national protected areas in China. *Journal of Geographical Sciences* 29(12), 2047-2068. DOI: https://doi.org/10.1007/s11442-019-1704-0

Yuan, J., Yu, R.L. 2010. Research on spatial structure of national A-Grade tourist districts of Wuhan metropolitan area. *Economic Geography* 30(2), 324-328.

Zhao, J. 2018. Research on Spatial Distribution Characteristics and Mechanism of 4A Level and Above Tourism Scenic Spots in Henan Province. *IOP Conf. Series: Earth and Environmental Science* 186(6), 12-43. doi :10.1088/1755-1315/186/6/012043

Zhu, Z., Cao, J., Weng, C. 2018. Location-Time-Sociality Aware Personalized Tourist Attraction Recommendation in LBSN. In: W. Shen, J. Luo, J.P. Barthes, F. Dong, J. Zhang, H. Zhu (Eds.), *IEEE 22nd International Conference on Computer Supported Cooperative Work in Design (CSCWD)*, (636-641). Nanjing: Institute of Electrical and Electronics Engineers. doi: 10.1109/CSCWD.2018.8465179