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Assessing Patterns of Tourism Seasonality in a Mixed Heritage Island Site

Laura SHUMKA
Faculty of Applied Sciences and Creative Industries
Barleti University, Albania
ORCID: 0000-0003-1341-4627
l.shumka@umb.edu.al

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Abstract: The main purpose of the paper is to make a ground investigation on island integrity and factors that are threatening conservation status. The island itself is part of a protected area *i.e.* National Park Prespa proclaimed in 1999 in Albania, while it holds other important designations as Ramsar site, and Biosphere Reserve. This approach looks primarily on particular impacts caused by tourism seasonality due to climate and geographic location of an iconic small island since it holds one of the regional most spectacular church of Post-Byzantine periods. Further on, the research examines motivation of tourist for visiting the island, considering resources as religion monuments, nature values, landscape and others. Also it examines seasonal patterns in tourism in terms of tourist arrivals mostly via small boats. To that fact, this case of analyze is studied by employing dedicated questionnaire and Gini coefficient along with Seasonality Indicator aiming to cover a time-frame of past ten years.

Keywords: seasonality; sustainability; Gini coefficient; island environment; biosphere reserve; Ramsar site; tourism; conservation.

JEL Classification: Q57; I30; C20; C80; Z32.

Introduction

The Prespa Lakes region, which is divided between Albania, Greece and North Macedonia, is a cross-border protected area, established by a joint Declaration of the Prime Ministers of the three neighboring states in February 2000 (Figure 1 and Figure 2). The area is a very important natural forest, due to the biodiversity and endemic species that exist in it. At the same time, the area of Prespa is rich in historical monuments (Shumka, Shumka and Korro 2022). Along the shores of the lake and the hinterland there are prehistoric and medieval settlements, temples and monasteries, as well as rock caves with Byzantine hermitages and chapels, inside of which there are remarkable frescoes (Popa 1998). These hermitages on the shores of Lake Prespa date from the middle of the 13th to the middle of the 16th century, confirming the presence and continuation of Byzantine art and monasticism in the area, even after the fall of Constantinople.

Maligrad is a small island located in Albanian part of Lake Prespa. The single-nave church of the Birth of the Virgin is built in a large cave on the rocky and uninhabited island of Maligrad on the lake of Great Prespa, near the village of Pustec (Dhamo 1964). It is a single-a isled basilica, small in size, covered by a semi-cylindrical arch (Figure 3 and Figure 4). Based on the surviving founding inscriptions, the temple was originally built and painted in 1344/5 by Boyko and his wife Evdokia, together with their children and is a typical example of the time. Being informed from the sources that the art of the wider area of Prespa was directly dependent on Ohrid, an important ecclesiastical center of the time, and influences from well-known workshops that are active, during the 14th century (Thomo 2006; Meksi 2004).

Many animals, especially birds and reptiles, can find microhabitats in the form of rock fissures, plants, and trees. Ancient building ruins from bygone eras provide a wealth of shelter (Sterijovski, Ajtić, Tomović and Bonnet 2014). Due to the preservation of Prespa Lake habitats from advanced agriculture and different types of development, significant populations of amphibious Dice Snakes (*Natrix tessellata*), Nose-horned Vipers (*Vipera ammodytes*), and Common Wall Lizards (*Podarcis muralis*) can be found in Maligrad. These species can also be

found in Eastern Europe and on the adjacent mainland. The insular dice snakes show a tendency toward gigantism, while the insular vipers are smaller than the continental populations.

Figure 1. Satellite image of the Prespa Lake with the Balkan region

1. Literature Review

For a considerable time, there are discussions on the negative effect of tourism in general and its seasonality in particular, focused on the tourism industry's performance in economic and management aspects (Xie 2020). The most significant sequences lie in nature degradation of the site, that in our case is island environment, while the seasonality character tourism and inefficiency use of facility and resources in an entire year generates particular problems in quality employees [Koenig-Lewis and Bischoff 2005; Pegg, Patterson and Gariddo 2012; Xie 2020; Petrevska 2013; Shumka 2019; Shumka, Perri and Lato 2020).

Figure 2. View of the Maligrad Island within Prespa Lake

Source: Author: L. Shumka.

Island particularities and combined natural and cultural resources are always target of large flux of visitors. So far, in the literature, relatively little attention has been given to the environmental and cultural consequences of seasonal concentration (Xie2020). Meanwhile, the high number of tourist and its seasonality discrepancy can be damaging to the natural environment in terms of erosion, vegetation, wildlife, and waste (Turrión-Prats and Duro 2018; Shumka 2022). On the other hand, this tourism pattern is directly affecting the local population and authorities of the protected areas and their satisfaction levels. Following the above complexity including economic, social and environmental impacts of seasonality, we can draw a statement that seasonality is one of the issues related to tourism sustainability and island environment integrity.

The importance of protected areas state and connectivity is recognized in global biodiversity targets adopted by the world's governments (Saura, *et al.* 2017). In 2010, the parties to the United Nations Convention on Biological Diversity (CBD) adopted a Strategic Plan for Biodiversity for the 2011–2020 periods, including the twenty Aichi Biodiversity Targets (CBD, Decision UNEP/CBD/COP/DEC/X/2 Adopted by the Conference of the Parties to the Convention on Biological Diversity at Its Tenth Meeting Convention on Biological Diversity (CBD), 2010). Apart from increasing the protected areas network to at least 17% it refers to 'effectively and equitably managed, ecologically representative and well-connected systems of protected areas' (CBD, Decision UNEP/CBD/COP/DEC/X/2 Adopted by the Conference of the Parties to the Convention on Biological Diversity at Its Tenth Meeting Convention on Biological Diversity (CBD), 2010). The Albanian trends in terms of protected areas coverage is in line with that of international community. Recent analyses (Shumka, Papastefani, Shumka, and Mali 2023) reveal that the Government of Albania has approved a System of Environmentally Protected Areas. Currently the area of the Network of Protected Areas (NPA) of Albania reaches 504,826.3 ha, or 21% of the total area of the country. Of the total area, the Coastal and Marine Protected Areas constitute 119,224.7ha, or 23.6% of the total surface of the NPAs of the country, of which 13,261.2ha is only marine area. Also, 98,180.6ha, are with the status of Ramsar areas, which cover 3.42% of the total area of the country.

Figure 3. The church of the Birth of the Virgin built in a island cave

Source: Author: L. Shumka.

2. Methods and Data Sources

This survey had two main aims: (i) to perform a tourism flow analysis of existing tours by investigating the intentions/interests of visitors, and (ii) to assess the seasonality patterns of tourism oriented to island environment that host important natural and cultural resources. The survey also considered how organized tours might consider including the heritage of other religions, both tangible and intangible.

In order to achieve these objective two particular tools were employed: (i) dedicated semi-structured questionnaire and (ii) following measuring method that is needed in order to describe and analyze the seasonal concentration in tourism. To that fact the (Nadal, Font, and Rosselló 2004), the Gini coefficient has been used.

The Gini coefficient is 'a statistical measure of inequality' (Lundtorp 2001), and 'is derived from the Lorenz curve' (Lundtorp 2001). Precisely, the Lorenz curve is a graphical representation of inequality while the Gini coefficient is a measure for this inequality. As explained by (Bigovic 2012), for a complete equality (*i.e.*, the same number of tourist arrivals or tourist overnight stays every month), which is an extreme situation, the Lorenz curve would be a straight line (*i.e.*, represents 45˚ equality line) and it becomes more curved as inequality rises (Black 2020). On the other side, the Gini coefficient is a number between 0 and 1 (*i.e.*, 0≤G≤1). The larger the Gini coefficient, the greater the inequality and the smaller the Gini coefficient, the lower the inequality. In this survey, the Gini coefficient on yearly basis is calculated upon standard equation:

$$G = 2/n\sum_{1=1}^{n}(xi - yi) = \frac{2}{n}\,[(x1 - y1) + (x2 - y2) + \cdots . + (xn - yn] = \frac{2}{n}\,[\sum_{i=1}^{n} x1 - \sum_{i=1}^{n} y1]$$

whereas:

n denotes number of months;

xi denotes rank of the months (1/12, 2/12, ..., 12/12); and

yi denotes cumulative relative frequency of tourist visiting island in rank by ascending order.

This study uses monthly data on Maligrad island visitors transferred through small boats from different location along the Lake Prespa shore from Prespa National Park authority for the period of 2014 to 2023.

Figure 4. Mural frescoes within interior of church of the Birth of the Virgin

Source: Author: L. Shumka.

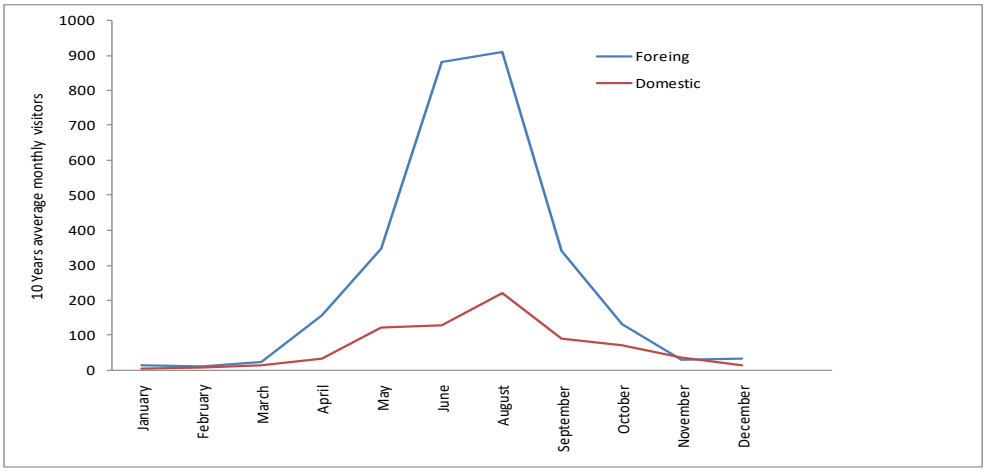
4. Research Results

Following the data of visitors spending a day in Maligrad Island for the period of 2011 to 2023 (excluding the COVID 19 years of 2019 and 2021), the average yearly number is 3587 tourist, out of which 2858 were foreigners and 729 domestic. The average value numbers of seasonal pattern of tourists visiting Maligras Island is presented in Figure 5. According to local statistics between 2011 and 2023, the Prespa tourists' hotel overnight stays increased by about ten times. But, looking to the limited capacity only 10% of the total foreign and domestic tourist overnight within survey focus area.

Prespa nature and lake are including island and coastal small chapels and castles are the most popular attractions for international tourists to visit the area. Although the weather conditions in region favors boat transfers mostly during spring-summer time than in the rest of the year it is very clear the sharp decrease after the June, July, and August. Further on traditional and summer vacations favors the inequality among different months. This leads to around 70% of the international tourists visit Maligrad in the summer season between May and September every year (Figure 5). Figure 5 shows the demeaned monthly hotel overnight stays for the Prespa area mostly due to total foreign tourists, respectively, between 2011 and 2023. A strong seasonal pattern with a

peak in the summer months can be obviously observed, considering that 90% of the foreign tourists are from the neighboring European countries.

Figure 5. Average value numbers of seasonal pattern of tourists visiting Maligras Island



The analysis of the guided tours or small boat transferring smaller groups found a considerable concentration in just a few tourist destinations in the Prespa area, with the central focus on post-Byzantine church of Maligrad Island. As a result, there was a lack of expansion into other locations with other priceless destinations that could have been included in additional heritage tourism programs. 80% of visitors to the region expressed interest in the region's religious traditions and values (Figure 6).

Figure 6. The purposes of visits for 800 sample tourists visiting Maligrad Island during June-August 2022 and 2023

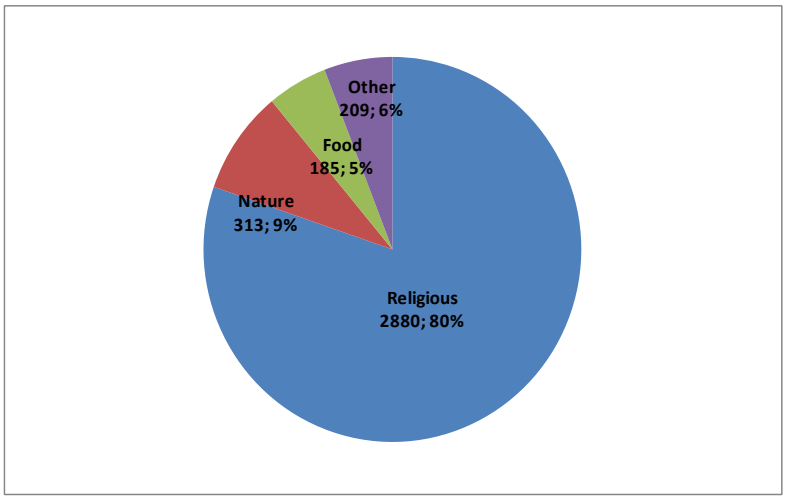
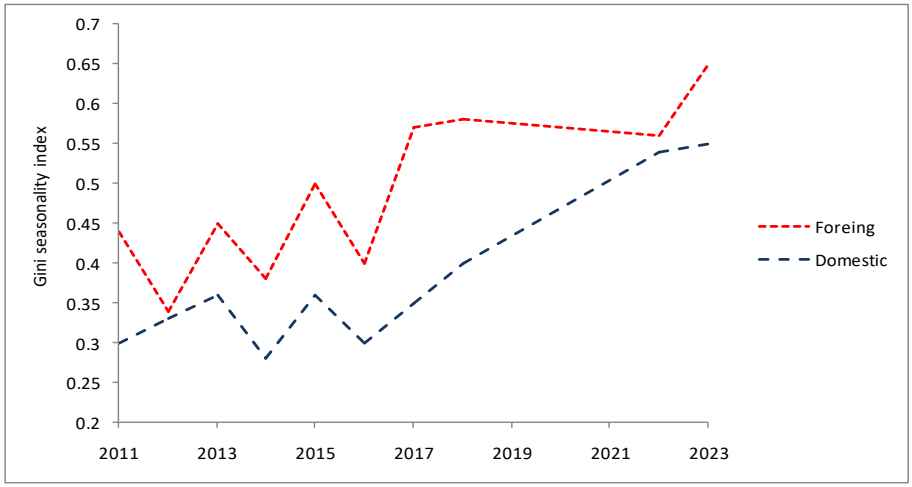


Figure 7. Change of seasonal concentration in the Maligrad Island tourist expressed through Gini coefficient



The calculated values for G for the sample period are presented in Figure 7. It is noticeable similarities in the value during the past ten years with an increase of seasonality within last six years. So, with regards to the Gini coefficient, the values spread between 0.32 and 0.65. The average value of G for the period 2011-2023 is 0.53.

5. Discussions

Within last three decades the intensification of land-use and tourism development poses significant threats to biodiversity directly through the disturbance, alteration and fragmentation of ecosystems and habitat loss, and indirectly through the disruption of supporting ecological processes. Further on, the protected areas offer refuges for species and ecosystems; they do not function in isolation from surrounding natural or human-dominated landscapes.

The followings are the major threats that affect habitat and species connectivity in different protected areas of Albania (including Prespa National Park where Maligrad island is one of the most important components): (i) Dam construction, energy and mining projects; (ii) Transportation and service corridors; (iii) Residential and commercial development; (iv) Tourism; (v) Natural systems modification; (vi) Biological resources use; (vii) Alien and invasive species; (viii) Pollution; (ix) Climate change and severe weather; (x) Agriculture and aquaculture; (xi) Deforestation; (x) Forest Fires etc. The energy infrastructure such as constructions of dams and mining are among the frequently present threats to PAs and with a high impact, compared to other threats. For the most frequent level one threat, *i.e.* biological resource use threats, natural system modifications, etc., seems to have again a high impact.

In case of Maligrad Island, the seasonality is one of the main challenges to the biodiversity and cultural monuments conservation and also to sustainable development of the local economy. In our case study of the Maligrad Island tourism flow, tourism demand is highly skewed toward the summer season. Following (Bigovic 2012; Su, *et al.* 2023; Butler 1994), a critical problem to be solved in both academy and practice is to find the causes and solutions of the seasonal concentration [Baron 1975; Rudihartmann 1986; Mourdoukoutas 1998; Mowforth and Munt 2015). Our survey highlights the importance of local economic plans, which should be further integrated into management planning, in determining the seasonal pattern of a tourism destination. This is because tourists' responses to the cost differential between peak and off-peak seasons vary depending on their economic circumstances, in addition to the island's well-known values, landscape features, climate, and institutional factors.

Regarding the impacts of tourism development, the data show that seasonality in terms of intra-year monthly variations in tourist arrivals is constant during the 12 year period. Due to fact that research calculations referring Gini coefficient are close to the margin of 0.5, one may conclude presence of seasonality in tourism. So, the higher than 0.5 value of G shows that current distribution of tourism demand for the sample period, has a meaning for the Maligrad Island.

Beyond its theoretical implications, the study's conclusions are useful in practice since they provide advice to rural tourism households and the local government officials in charge of managing protected areas. Given that excessive diversification will result in inefficiencies and dilute overall income benefits, nature-oriented and rural tourism guides and households are advised to conduct a thorough analysis of their available resources and caring capacities versions before making decisions about seasonal strategy. At various points during the seasonality of tourism, local authorities ought to implement tailored initiatives. At various points during the seasonality of tourism, local authorities ought to implement tailored initiatives. Labour market interventions are required during peak seasons, when tactics like ‘Extending Working Hours’ and ‘Increasing Staffing Input’ are crucial. Enhancing the quality and availability of seasonal wages can involve investments in training programs, nature guides focused on the preservation of cultural and natural values, and limitations on low-paying but high-intensity jobs. Support for non-tourism sectors is required during the off-season, when persistence in tourism may not be the only effective strategy. This includes spearheading the creation of cooperatives or collective operation initiatives (including protected areas and tourism organizations), which allow rural tourism households to increase the number of people who purchase off-season agricultural products and handicrafts.

Conclusions and Further Research

This paper aims to emphasize the importance of seasonality as one of the major factors that from one side affects the Islands integrity and profound limits for tourism development. Following this, a brief overview is presented on reasons for the most examined negative effects of visitors to natural and cultural values of the island.

Due to the strong seasonality, there is no balance in local tourism development. During the main season there is overuse of resources (*i.e.*, number of tourists highly exceeds the carrying capacity limit). Accordingly, the tourist product sustainability is under threat during the peak season. The solution to this problem lays in proper management of this activity, professional guidance by the management authorities and clear integration into management planning of the protected area. The degree of seasonality should be approximately adequate to the destination carrying capacity limit and island integrity in terms of both biodiversity and cultural heritages. This study showed that there is no theoretical basis for the existence of seasonality with significant patterns, especially during the summer. Therefore, this investigation disentangles the existence of seasonal concentration in a small area with significant influence and rejects such an approach in a scientific manner. This paper has additional significance and contribution because it is the first attempt to assess seasonality of tourism demands within protected areas in Albania.

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Credit Authorship Contribution Statement

Laura Shumka: Writing original draft, Writing, review and editing, Methodology, Data analysis.

Declaration of Competing Interest

The author declares that she has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration of Use of Generative AI and AI-Assisted Technologies

The author declares that she has not used/ or used generative AI (a type of artificial intelligence technology that can produce various types of content including text, imagery, audio and synthetic data.

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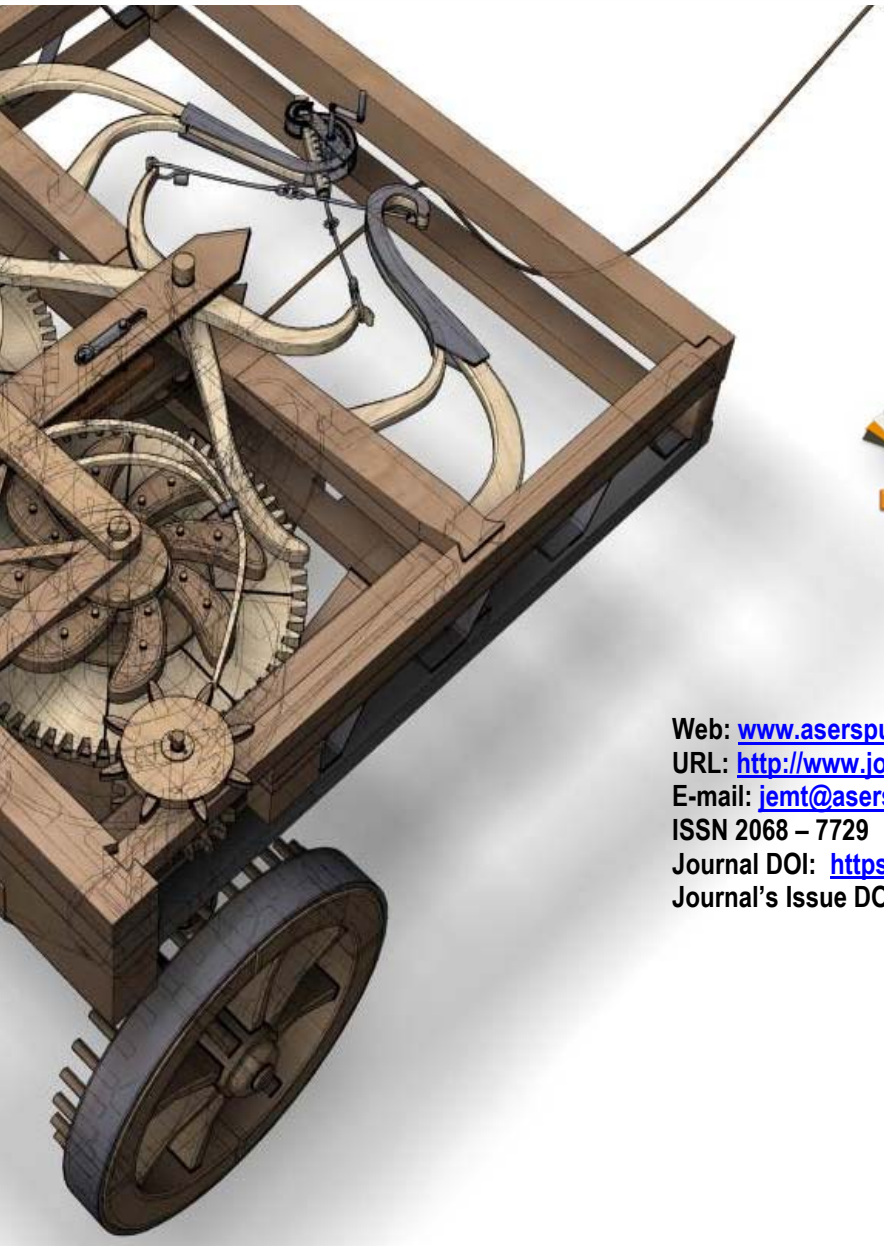

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