

## Perception of tourism and its impacts on small Adriatic islands – case studies of Zlarin and Krapanj, Croatia

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Tourism on the small Croatian islands began to develop somewhat later than on the mainland, in parallel with intensive depopulation. The development of tourism was largely endogenous, driven by private initiatives and based on private accommodation, with few hotels and camps. Due to the specific conditions in small island communities and their economic systems, the aim of the study is to determine the degree of economic dependence of the local population on tourism and to investigate the perception of tourism and its spatial impact on small Croatian islands. The case studies deal with Zlarin and Krapanj in Šibenik archipelago, which are relatively close to the mainland and well connected to the regional centre Šibenik. The research was conducted using desk-based methods and a field study that included a questionnaire survey of the local population who reside there year-round, seasonally or occasionally. The results show that despite the perceived strong spatial impact of tourism on the islands (environmental, economic and socio-cultural), residents are positive about tourism and its benefits and would like to see its further growth in the future.

**Keywords:** spatial impacts of tourism; perception of local population; small islands; Zlarin; Krapanj; Croatia; Mediterranean

## INTRODUCTION

With an archipelago consisting of 1246 islands, islets, rocks and rocks awash (Duplančić Leder et al., 2004), Croatia is one of the countries with the most indented coast in the Mediterranean and in Europe. Islands multiply the total length of the Croatian coastline: out of 6275 km of coastline, 4398 or 70.1% is island related (Croatian Bureau of Statistics, 2022c). Compared to other Mediterranean countries with indented coast, Croatian islands (in the European context) are rather small (the largest is Cres with 405.7 km<sup>2</sup>) and had a population of only 120,434 or 3% of Croatia's total in 2021 (Registry of Islands, 2024). Only 50 islands are inhabited, with Krk having the highest number of inhabitants (19,916) (Registry of Islands, 2024). A relatively well-preserved natural environment and cultural heritage in connection with the predominant coastal tourism in Croatia make the islands an outstanding tourism and development resource.

Tourism on the Croatian islands developed under the conditions of intensive depopulation, which had already begun before the First World War and intensified after the Second World War (Nejašmić, 1992, 1999b). Population decline and aging significantly reduce the demographic base and development opportunities of the islands (Nejašmić, 1998, 1999a; Nejašmić and Mišetić, 2006). These processes particularly affect small inhabited islands, where small-scale tourism developed much later than on the mainland, and where it has great socio-economic significance and overlaps with the phenomenon of second homes (Brkić Vejmelka & Pejdo, 2008; Faričić & Mikuličić, 2010; Podgorelec & Klempić Bogadi, 2013).

This research focuses on determining the degree of economic dependence of the local population on tourism and the small Croatian islands, as well as their perceptions of tourism and its impact, with Zlarin and Krapanj serving as case study islands. The main goals of the study are: (1) to determine the degree of economic dependence of the local population on tourism in small island communities; and (2) to investigate the perception of tourism and its spatial impact on small Croatian islands.

The islands of Zlarin and Krapanj belong to Šibenik archipelago, part of the larger northern Dalmatian archipelago, and form part of the same administrative unit as the town of Šibenik. Both are coastal islands located in the first row in parallel to the coast – the distance from Zlarin to the nearest mainland is 1.3 km and from Krapanj only 300 m (Google Earth, 2022). Both islands are very small – Zlarin has an area of 8.05 km<sup>2</sup> and a coastline of 20.2 km while Krapanj has an area of 0.36 km<sup>2</sup> and a coastline of 3.6 km (Duplančić Leder et al., 2004). The islands are formed of

limestone; Zlarin has two low ridges of up to 169 m and a small dolomite valley in between; while Krapanj is a low plain. There is no surface water and the islands are supplied with fresh water via pipes from the mainland and still do not have a sewage system.

The islands have a very small population – Zlarin had 293 inhabitants in 2021 and Krapanj 166 (Croatian Bureau of Statistics, 2023) – which is affected by long-term and intensive depopulation. The current figures are very low compared to earlier times: in 1921, Zlarin had a population of 1980. Since the population of Krapanj used to be presented jointly with the coastal settlement of Brodarica until 1971, it is not possible to determine the historical population maximum. In 1981, at the end of the period of greatest emigration after the Second World War, Zlarin had 399 inhabitants and Krapanj 263 (Croatian Bureau of Statistics, 2005). From 1981 to 2021, the population of Zlarin decreased by a further 26.6% and that of Krapanj by 36.9%. However, Zlarin recorded a slight population increase in the last two decades (6.1%), largely due to the influx of older pensioners (Tab. 1). Unfavourable decades-long demographic trends on both studied islands have largely changed the age structure and exhibit the characteristics of an extremely aging population (Podgorelec & Klempić Bogadi, 2013). In 1981, more than a third of the population of the island of Zlarin (36.1%) was over 65 years old (age index 480.0), while the proportion of young people (0-14) was 7.5%. In the same year, Krapanj had an only slightly more favourable age structure - the proportion of people over 65 was 27.7% (age index 363.3), while the proportion of young people aged 0-14 was 7.6% (Republic Bureau of Statistics, 1982). According to the data of the last census in 2021, Zlarin's elderly population (47.8% of the total population) outnumbered adults (46.8%), with an extremely low proportion of young people (5.5%). The situation on Krapanj is more favourable, but the elderly population makes up a third of the total population (33.7%), while the proportion of young people is 11.4%. All indicators of population ageing also show an unfavourable age composition, which affects the economic activity of the islands: the number of older people exceeds the number of young people by nine times on Zlarin (age index 875.0) and three times on Krapanj (age index 294.7) (Tab. 1).

**Tablica 1.** Demografski pokazatelji otoka Krapnja i Zlarina 2021. godine**Table 1** *Demographic indicators of islands Krapanj and Zlarin in 2021.*

	<b>KRAPANJ</b>	<b>ZLARIN</b>
Broj stanovnika / Population	166	293
Mlado stanovništvo (0-14 g.) (%) / Young population (0-14 years) (%)	11.4	5.5
Zrelo stanovništvo (15-64 g.) (%) / Adult population (15-64 years) (%)	54.8	46.8
Staro stanovništvo (65 i više g.) (%) / Old population (65 and above) (%)	33.7	47.8
Indeks starosti / Age index	294.7	875.0
Koeficijent dobne ovisnosti starih / Old age dependency coefficient	61.5	1022
Koeficijent maskuliniteta / Sex ratio (men per 100 women)	84.4	109.3

Izvor / Source: Državni zavod za statistiku / Croatia Bureau of Statistics (2005, 2013, 2023)

The small island population is reflected in the small number of services. Zlarin and Krapanj have local primary schools for pupils from year 1 to year 4, and students then have to continue their primary education on the mainland (in Šibenik and Brodarica). Each island has a general practitioner's clinic, with a doctor from the mainland visiting once or several times a week. At the time of research, there were no pharmacies or banks on the islands, and only ATMs were accessible. Zlarin has a post office and Krapanj only has a postman who comes from the mainland. Utilities consist only of small grocery shops (one on each island), while the rest of the shopping has to be done on the mainland. According to the classification of settlements in Croatia by Lukić (2009), Zlarin is a local centre (settlement of the centrality level 5), while Krapanj has no centrality at all. Krapanj is connected to the mainland by a boat service with a journey time of a few minutes, which runs 15 times daily on weekdays and twice late daily in the evening in summer (Tourist Board Krapanj-Brodarica, 2022). Zlarin is connected with the ferry line Šibenik – Zlarin – Obonjan – Kaprije and the boat line Vodice – Prvić – Zlarin – Šibenik, with a frequency of 4-5 daily trips on weekdays out of the main season and 7-8 daily trips during the tourism season, with a journey time of 30 minutes to Šibenik (Tourist Board Zlarin, 2022). Access to the islands for motor vehicles is prohibited.

## **THEORETICAL BACKGROUND**

### ***Mass and alternative tourism***

In discussions about the development of coastal tourism in the European Mediterranean region and on the Mediterranean islands, the terms mass tourism and alternative tourism are often contrasted (Vidučić, 2007; Zlatar, 2010). Mass tourism refers to trips involving large numbers of

people who usually travel in an organised manner, usually as part of package tours organised by tour operators or travel agencies (Bramwell, 2003). The content of package tours is uniform and standardised and is based on a simple and inexpensive tourist product that enables high tourism turnover, especially in coastal (*sun and sea* or 3S product – *sun, sea, sand*) and ski tourism (Čavlek et al., 2011). This enables middle and low-income tourists, especially from urban and industrial areas, to enter tourism, but also leads to a high seasonality in connection with their paid holidays (Bramwell, 2003; Čavlek et al., 2011; Page, 2009). Coastal mass tourism is characterised by a concentration of tourist facilities and high tourism pressure in a smaller number of destinations, a high ratio of tourists to locals and pressure on natural resources and the value system of the local community (Bramwell, 2003; Čavlek et al., 2011; Page, 2009). The enormous increase in mass tourism since the 1950s has quickly led to negative impacts, especially traffic congestion and environmental degradation (Čavlek et al., 2011), which is why it is perceived as very negative.

In response to mass tourism, the concept of alternative tourism was introduced in the early 1980s, but was soon replaced by the term sustainable tourism, which incorporates the postulates of sustainable development in tourism (Triarchi & Karamanis, 2017). Sustainable tourism is a form of tourism development in which resources are optimally used and conserved to ensure their long-term use and in which the negative impacts are minimised and the positive ones maximised (Weaver, 2006). Although the ideal characteristics of alternative (sustainable) tourism versus mass tourism are often not justified in reality, it represents a very welcome trend towards fewer participants, segmentation of the tourism market and a reduction in the negative environmental and social impacts of tourism (Triarchi & Karamanis, 2017).

Mass tourism and sustainable tourism are often perceived as completely opposite, with divergent development trends (good and bad) and with a very distinct boundary between them (Clarke, 1997; Cooper & Hall, 2013), but in reality they form a continuum (Hall, 2005, 2008). The appropriateness of mass tourism often depends on the characteristics of the destination, and it has been shown to be sustainable in some destinations (Bramwell, 2003; Butcher, 2003). Moreover, alternative tourism cannot function without infrastructure built for mass tourism (e.g. airports) (Weaver, 2006).

### ***Tourism on Mediterranean islands***

The development of tourism in most Mediterranean destinations began as early as the mid-19th century as exclusive *leisure class* tourism, based on health tourism and a few-month stays of the European elite on the northern Mediterranean coasts during the cold season. However, the most intensive development of tourism took place after the Second World War, when mass coastal tourism became popular (Williams, 2009). Island governments encouraged the planned development of tourism to diversify the economy after gaining independence or autonomy (e.g. in Cyprus & Sardinia) (Akis et al., 1996; Ioannides, 2001; Pulina & Biagi, 2006). Malta experienced tourism growth after it secured independence in 1964 and started encouraging investment in hotels and tourism in general (Chapman & Speake, 2011). The accelerated development of mass tourism on the coast attracted broad groups of tourists and was associated with a major expansion of hotels and other accommodation (Andriotis, 2006a; Chapman & Speake, 2011; Ioannides, 2001). The development of mass tourism was inevitably linked to the opening of international airports on islands, the growth of charter flights (and later low-cost airlines) and package holidays (Andriotis, 2006a).

New accommodation was first built in the largest coastal towns, then outside the settlements along the coast, leading to intensive *strip development* and a physiognomic spatial transformation (Andriotis, 2006a). Tourism began to transform the local economy rapidly, causing the number of people working in agriculture to decrease, incomes to increase and tourism businesses to expand (Andriotis, 2006a). Small rural settlements were quickly urbanized fuelled by tourism and reached or exceeded their carrying capacity (Andriotis, 2006a), while environmental damage and loss of social balance became evident (Pulina & Biagi, 2006). Tourism development in many destinations was not accompanied by high quality spatial and tourism planning in the early period (Butler, 1980), so that negative environmental, socio-cultural and economic impacts began to reduce the attractiveness of destinations among a certain proportion of potential tourists who opted for less transformed areas (Andriotis, 2001, 2003, 2004, 2006a, 2006b; Casasnovas & Sanso-Rosselló, 2010; Chapman & Speake, 2011; Garay & Cànoves, 2011; Erotokritakis & Andriotis, 2006; Oreja Rodríguez et al., 2008).

However, the decline of coastal tourism in the Mediterranean and its transformation into other types of tourism is often unduly exaggerated. These changes relate primarily to fluctuations and lower relative growth compared to other types of tourism, which also existed in the past but played

only a marginal role (Bramwell, 2003). Southern European tourism regions are highly differentiated in terms of capital infrastructure, natural and built environment and leisure activities and have attracted tourists with different motivations (Jenner & Smith, 1992). Nonetheless, fear of potential decline is prompting destinations to undertake tourism planning and diversify sun and sea tourism product in three ways: (1) developing new major tourism products (projects) (e.g. congress, nautical, and golf tourism), (2) developing specific tourism products (e.g., cultural, adventure, and rural tourism), and (3) improving the environment within existing tourism products (Bramwell, 2003). However, diversification projects often prove to be problematic due to their spatial impact. For example, the construction of large luxury convention complexes next to hotels seems to be very invasive for small Greek islands, while small convention facilities blend in better with their surroundings and help to preserve older buildings (Bramwell, 2003). The case of Cyprus shows that adventure tourists are motivated more by physical activity and competition than by learning about the local culture, leaving also negative and not only positive impacts in the rural hinterland (Butler, 1998). Even cultural tourism, whose planned development aims to diversify island tourism (e.g. in Malta), is often transformed into mass tourism and leads to the commodification of culture (Akinci & Kasalak, 2016; Triarchi & Karamanis, 2017; Turner, 1993).

### *Tourism on Croatian islands*

Some Croatian islands were already involved into mobility similar to tourism in the pre-tourism period (e.g., an inn for foreigners was opened on the island of Hvar in 1543) (Vukonić, 2005). The first tourist visits to the islands were recorded after the steamship line Trieste – Dubrovnik – Kotor was established in 1838, calling at Silba, Mali Lošinj, Hvar and Korčula, but the visitors only stayed there for a few hours without staying overnight (Kobašić et al., 1997). The actual tourism on the islands began in the 1840s. In 1845 Cres registered visitors for the first time, in 1855 an inn was opened on Rab, in 1868 the first tourist association was founded on Hvar (Hygienic Association), and the first hotel and several villas were also opened, while at the same time the Beautification Association was founded on Krk (Vukonić, 2005). The wealthy bourgeoisie, attracted by the healing and beneficial climate, travelled during the colder months of the year as part of health tourism and used to stay for weeks or months (Vukonić, 2005). From the 1880s, some island resorts were transformed into tourist areas (Brijuni, Lošinj, Rab, Hvar, Brač and Korčula), but unlike the coastal areas, which already had their first clearly defined tourist

rivieras (e.g. Opatija, Crikvenica, Kaštela, Dubrovnik), tourism development on the islands still had a sporadic character (Vukonić, 2005). Certain tourist locations were given the status of climatic health resorts, and bathing in the sea and sunbathing as part of balneotherapy began to attract tourists for the first time (Vukonić, 2005).

After the collapse caused by the First World War, the large islands experienced an even more intensive development of health tourism, accompanied by the initiation of coastal tourism (Vukonić, 2005). Developed island destinations offered a more complex tourism supply (e.g., Hvar), and tourism spread from the main holiday resorts to small nearby places (e.g. Supetar and Bol on Brač, Pag and Novalja on Pag, Šilo on Krk, Stari Grad and Jelsa on Hvar, Šolta, Lumbarda on Korčula) (Letica, 2001, 2001b; Vukonić, 2005). However, the development of tourism on the small islands was still very slow, with a few exceptions, including Lopud and Koločep, which opened their first hotels (Veraja, 2001).

The development of tourism in the first phase of the socialist period from the Second World War until the late 1950s was strongly influenced by state policy and focused on holidays for the population of Yugoslavia as part of so-called labour or trade union tourism, for which large workers' resorts were built, often in the most attractive locations on the coast and on islands (Vukonić, 2005). From the 1960s, partly due to the construction of the coastal highway, international tourist demand for holidays on the Adriatic began to grow as part of mass tourism in the warm season (Vukonić, 2005). Many hotels were built to meet the growing demand, and the local population began to rent rooms and apartments in their households to tourists (Vukonić, 2005). However, tourism on larger islands still lagged behind the popular coastal destinations and their capacity remained limited until the 1980s, partly due to the higher costs of building materials and maintenance, labour and especially transport (Kordej-De Villa & Starc, 2020; Starc & Stubbs, 2014). Better transport links with the mainland in the early 1980s allowed for a more intensive development of tourism as the only activity that could bear high transport costs. Tourism soon became the most important economic activity on the Croatian islands (Kordej de Villa & Slijepčević, 2023; Kordej-De Villa & Starc, 2020), making the islands and their economies more dependent on tourism than the coastal areas (Defilippis, 2001). Tourism contributed to the economic development of the islands by creating jobs, generating additional income from the rental of accommodation in households, developing the hospitality industry and increasing the market for agricultural products and fish, albeit still in the context of a small-scale island economy



(Defillipis, 2001). Tourism on the Adriatic islands fits into the picture of other (Mediterranean) islands, where tourism has a greater impact than on neighbouring coastal areas (Ioannides, 2001). Simple and fragile island economies tend to become overly dependent on tourism, making them even more vulnerable (Kordej de Villa & Slijepčević, 2023). Furthermore, the development of tourism on many Croatian islands has been initiated from outside by building hotels or other accommodation facilities through investments from outside the islands and making entire destinations or islands dependent on the business activities in these facilities (Zlatar, 2010).

Tourism on larger islands developed mostly in a haphazard manner, and included the construction of numerous (too) large and impersonal accommodation facilities, often of a lower category, intended for mass coastal tourism in the short summer period (Brkić Vejmelka & Pejdo, 2008). Despite the introduction of postmodern (new) tourism in the Mediterranean, bathing in the sea and sunbathing are still the dominant motives for tourists visiting large and small Croatian islands, while all other motives are of lesser importance (Đogić & Cerjak, 2015). Other tourism supply was very sparse and uniform, and this concept of tourism is often associated with problems of usurpation, sometimes even degradation of the coastal zone, illegal and uncontrolled construction projects and lack of integral spatial planning (Brkić Vejmelka & Pejdo, 2008).

### *Characteristics of tourism on Croatian islands*

Throughout the post-war period, tourism development on the small islands of the Adriatic lagged behind that of the large islands and coastal destinations, and they could only offer accommodation to visitors whose expectations were not too high and who did not mind the underdeveloped infrastructure of the islands (Kordej-De Villa & Starc, 2020). Most small islands did not receive large investments in tourism, as local communities had a greater influence on decision-making (Podgorelec & Klempić Bogadi, 2013). Tourism development was largely endogenous, led by private initiatives and based on private accommodation, with few hotels and camps (Podgorelec & Klempić Bogadi, 2013). Small Croatian islands were mostly spared from excessive construction of accommodation. Therefore, the coastline, the natural and anthropogenic environments and the cultural landscapes on most small islands have been preserved, but there is a lack of cultural attractions and the small local communities continue to experience depopulation (Podgorelec & Klempić Bogadi, 2013). Recently, however, accommodation facilities have been built intensively on small islands due to growing tourist demand (Podgorelec & Klempić Bogadi,

2013). Small islands continue to focus primarily on coastal tourism with low intensity and very high seasonality, complemented in places by nautical tourism and day visits, but only on closer and well-connected islands (Brkić Vejmelka & Pejdo, 2008; Faričić & Mikuličić, 2010; Grofelnik, 2012; Šulc, 2017). Tourism on these islands overlaps with second homes where, in addition to the owners, family members, relatives and friends come and stay during the summer months, resulting in a tourist turnover that is rarely officially registered (Podgorelec & Klempić Bogadi, 2013). Research on the Šibenik islands has shown that a large part of the population depends economically on tourism by working in the hotel and catering industry (on the islands or on the mainland), while only a few depend on the rental of accommodation, which represents additional household income for some (Podgorelec & Klempić Bogadi, 2013). Small islands often have few employment opportunities outside of tourism (Van Roggen & Zlatić, 2013). Nevertheless, some islanders consider the level of tourism development on their islands to be too high in relation to their size and emphasise the feeling of crowding and congestion during the summer season (Kordej de Villa & Slijepčević, 2023).

### ***Depopulation of Croatian islands***

The demographic and tourism development of the Croatian islands was different from that of other Mediterranean islands. The predominant demographic process in the Croatian archipelago as a whole over the last hundred years or so has been depopulation, the causes of which are mainly to be found in the numerous emigrations (Podgorelec & Klempić Bogadi, 2013, p. 25). They experienced emigration early on; the intensive wave of emigration at the beginning of the 20<sup>th</sup> century is initially characteristic of the large islands, while the small islands join the emigration flows at the end of the first decade of the 20th century and on the eve of the First World War (Lajić, 1992). The intensity of island emigration increased after the Second World War (Nejašmić, 1999a). The main factor behind emigration was the inherited economic structure of the islands (which largely focused on agriculture and fishing), while the population was drawn to the mainland by the accelerated industrial development and new jobs in the urban centres (Nejašmić, 1999a). Outmigration led to a decline in the birth rate and the rate of natural increase (Podgorelec & Klempić Bogadi, 2013), resulting in a total depopulation as a joint effect of negative net migration and negative natural change (Nejašmić, 1992). The most affected islands by emigration, especially to overseas countries, were those whose transport connections did not allow people to travel to

work to the mainland (e.g., Zlarin), while the better-connected islands were able to maintain daily commuting for a while (e.g., Krapanj) (Podgorelec & Klempić Bogadi, 2013). The island of Zlarin, which, according to the first modern census in 1857 was the most populous island in Šibenik archipelago (1,643 inhabitants) together with Prvić, reached the peak of its population between the two world wars (in 1921 it had 1,980 inhabitants), but gradually began to lose population – at the last census before the Second World War in 1931 it had 1,480 inhabitants, and at the first subsequent census in 1948 only 896 inhabitants. On the one hand, the intensive depopulation of Zlarin continued after the Second World War, more precisely after 1953, and the island became part of the so-called ‘zone of socio-demographic depression’ (Nejašmić, 1991, 2008). In the period from 1953 to 1981, the population decreased by more than 50%, from 914 (in 1953) to 399 (in 1981). On the other hand, between 1910 and 1948, the island of Krapanj recorded an increase in the total number of inhabitants, and the peak of the population was reached between the two world wars (about 1,400 inhabitants in 1931 – with the indication that the population of the settlement of Brodarica was added to island’s total population at this time). During this period, agriculture was the main economic activity on some of the Šibenik islands, so the inhabitants of Krapanj continued to engage in sponge farming, which was the main occupation of the islanders until the Second World War and has not died out even today (Lajić et al., 2001). Better economic opportunities partly influenced the lower intensity of emigration from the island of Krapanj during this period (Podgorelec & Klempić Bogadi, 2013). After the Second World War (until 1953), Krapanj recorded a slight increase in the total number of inhabitants, but soon afterwards the period of intensive and strongest emigration began from the Šibenik islands and also from the island of Krapanj, which lost four-fifths of its population in the twenty years (1961-1981 decrease from 1,206 to 263 inhabitants). The long-term inadequate economic policy of the Croatian island areas led to this strong emigration (Podgorelec & Klempić Bogadi, 2013; Starc & Stubbs, 2014). Smaller island settlements were otherwise particularly vulnerable due to their remoteness and lower attractiveness and have historically been more susceptible to outmigration of permanent residents and depopulation and became increasingly dependent on seasonal residents. Emigration soon led to disruptions in the sex composition and ageing of the population, which had a negative impact on the islands' economic activity (Lajić 1992; Nejašmić, 1998). The process of demographic depletion gained such momentum that the maintenance of basic socio-economic activities in most island settlements and even on the islands as a whole was already in question during this period

(Nejašmić, 2008, 2013). Economic stagnation and even regression, which is a direct consequence of centuries of emigration and depopulation, mainly affected the more remote, isolated and smaller islands, which have been areas of demographic extinction for decades, have negative values for bioreproduction indicators and are no longer inhabited in some cases (Lajić & Mišetić, 2006). The intensity of depopulation slowed down on some islands in the 1980s, when all potential migrants had already left, while on the bridged islands population growth or at least stagnation set in (Nejašmić, 1999b). The trend of a decline in the total population, albeit with significantly lower annual rates of decline (less than 1% on an annual basis), continued in both Krapanj and Zlarin during the period mentioned (Podgorelec & Klempić Bogadi, 2013). The recent population growth is fuelled by the influx of retirees: some of the islanders who had moved to the mainland for work in the 1960s and 1970s are now returning to the islands to retire, having kept family properties and visited the islands as second homes while living elsewhere (Podgorelec & Klempić Bogadi, 2013; Šulc & Zlatić, 2014). Part of the increase is also related to the fictitious immigration of people who register their residence on the islands in order to receive certain benefits, even though they spend most of the year outside the islands (Podgorelec & Klempić Bogadi, 2013). Nevertheless, negative demographic trends, manifested in unfavorable biodynamic characteristics and the increasing average age of the inhabitants, are still the main feature of the demographic development of the two islands studied, and the aging of the population is the main limiting factor for the development of tourism (Nejašmić, 1998; Zupanc et al., 2001).

## **RESEARCH METHODS**

The results of this research were obtained using desk methods and field research, which included a questionnaire survey, field observation and interviews. The questionnaire survey aimed to gather information on the economic activity of the local population, their attitudes and perceptions of tourism and its impact on the islands, and their views on future development of tourism. The survey took place on Zlarin and Krapanj from 1 November 2019 to 5 January 2020, outside the main tourist season, in order to survey only those people who live on the island or visit it frequently. The survey included both people who live on the islands all year round and those who live on the islands during the summer season or occasionally (at weekends). The sample of respondents was widened due to the small island population (only 296 inhabitants lived on Zlarin and 164 on Krapanj at the time of the study (Croatian Bureau of Statistics, 2022a), which

individually would not have provided sufficient information for relevant conclusions, especially because a significant proportion of (older) people refused to participate in the survey. In addition, part of the local population exists only on paper, as they are registered for various benefits as island residents, which was made clear by a small number of potential respondents on site. Another reason for including the seasonal and occasional population in the questionnaire survey is the fact that these respondents stay on the islands very often and long enough to be directly affected by tourism, so much so that they are considered members of small island communities with a high degree of two-way communication and have a clearly defined attitude towards the topic. The questionnaire survey was conducted both in person on site and online, using *Google Forms*. A non-probability convenience sample was used for the survey and all available respondents who agreed to participate were included. A total of 194 respondents participated in the survey: 103 on Zlarin and 91 on Krapanj. All responses received were valid and none were rejected.

The survey used the same questionnaire for both islands, which consisted of 23 questions and 43 items. Seven items were open-ended questions and 36 were multiple-choice questions with a Likert scale (1-5) to determine the extent to which respondents agreed with the proposed statements or rated their importance. The answers were analysed using descriptive statistical methods, with the multiple-choice answers being presented as percentages and the Likert-scale answers as average values and percentages of the individual values. Open questions with short answers were analysed according to their frequency; while questions with longer answers were grouped and summarised. The results were analysed for both islands together and for Krapanj and Zlarin separately. Due to the small total number of respondents, it was not possible to analyse them according to various characteristics and the answers were grouped together. It should be noted that dishonest answers and/or misrepresentation by respondents may have affected the relevance of the data.

The questionnaire survey was supplemented by two interviews with people familiar with the topics under investigation in order to gain a deeper insight into tourism and the social dynamics on the islands. Semi-structured interviews were conducted with the director of the Brodarica-Krapanj Tourist Board and with a person from Zlarin who is closely related to the situation on the islands but wanted to be anonymous. The interviews were implicitly included in the interpretation of the results of the study. The method of observation was used during the questionnaire survey,

in the period when only permanent or occasional residents are on the islands, but it also includes previous multiple visits of the first author to the island and her personal knowledge of the situation.

The *desk* methods included analysing statistical data on the development of tourism and calculating the relevant indicators. The development of tourism and its current situation were analysed using data on tourist arrivals, overnight stays, tourist beds and indicators of the social pressure of tourism on the local community (tourism function index – tourist beds per 100 inhabitants and tourism intensity ratio – tourist arrivals per 100 inhabitants). However, the official data on tourism in Krapanj provided by the Croatian Bureau of Statistics (CBS) is scant and therefore only indicative. Statistical data until 2017 provided by the CBS treats Krapanj and Brodarica as one settlement. In the CBS database, Krapanj and Brodarica were also registered as one settlement; and only since 2019 have these two settlements been shown separately, but with dubious and unreliable data. Thus, Brodarica, which has many times more inhabitants, buildings and advertised holiday flats, had only 797 tourist beds in 2021, while Krapanj had three times as many (2274) (Croatian Bureau of Statistics, 2022b)<sup>1</sup>. This is confirmed by the information published on the website of the Krapanj-Brodarica Tourist Board (2022), according to which Brodarica has 1800 tourist beds. Due to the lack of accurate and reliable data, tourism on the islands is compared on the basis of official statistical data, which can only provide a limited interpretation. In addition, the statistical data on tourist beds do not reflect the actual situation on the ground, as some of the properties are not included in the statistics (e.g. hotel beds on Zlarin) and the statistical data on settlements do not consider nautical tourism, which is only counted at the county and the state level.

## **TOURISM ON ZLARIN AND KRAPANJ**

Tourism began to develop on Zlarin as early as the 1920s and on Krapanj after the Second World War, in parallel with more intensive development on the coast, and eventually pushed out traditional economic activities on the islands. The development of tourism was mostly spontaneous; it did not promote more intensive economic and infrastructural development or new jobs and was therefore accompanied by emigration and depopulation (Lončar & Klempić Bogadi, 2016). Tourists are mainly attracted by the warm sea for swimming, the Mediterranean climate

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<sup>1</sup> In 2021, the settlement of Krapanj had a total of 384 flats (54.2% of which were permanent residences) and Brodarica had 2371 (83.8% of which were permanent residences) (Croatian Bureau of Statistics, 2022a).

with hot summers, the high level of sunshine and low rainfall in summer, the well-equipped and wild beaches in the bays of the islands and the rugged coastline with good sailing opportunities. Coastal tourism is predominant on both islands and is accompanied by yachting on Zlarin, which uses small island harbours and areas close to the coast. Secondary attractions for tourists are the semi-urban historical centres of Zlarin and Krapanj with traditional stone houses, island festivals and other events in summer, the Coral Museum on Zlarin, the Diving Museum and the Sponge Gallery on Krapanj. Visitors to the islands, especially yacht tourists, are also attracted by the proximity to protected areas (Kornati National Park, Telaščica Nature Park, Krka National Park) and attractive coastal towns (Šibenik, Vodice and Primošten).

In 2021, the last year with available tourism statistics for both islands<sup>2</sup>, Zlarin recorded 4611 tourist arrivals and 21,855 overnight stays, and Krapanj (with a part of Brodarica) 14,572 arrivals and 109,931 overnight stays (Croatian Bureau of Statistics, 2022b). Tourism on both islands is predominantly international – tourists from abroad account for 78.5% of arrivals and 69.6% of overnight stays on Zlarin and 78.1% and 81.2% on Krapanj<sup>3</sup> (Croatian Bureau of Statistics, 2022b). Most international tourists come from Germany and Poland<sup>4</sup>. The average length of stay on both islands is typical for coastal tourism and is significantly higher on Krapanj (with Brodarica) at 7.5 days than on Zlarin (4.7 days). Tourism has a pronounced seasonal character and most tourist arrivals and overnight stays are recorded in July and August, as in most coastal resorts in Croatia.

Zlarin has a total of 1040 tourist beds, a quarter of which are in private households, three quarters in camps and a small proportion in the small hotel (Croatian Bureau of Statistics, 2022b). Krapanj (with a part of Brodarica) has 2274 beds (and it is impossible to separate these settlements), most of them in private households (96.7%), 2.0% in a hotel and 1.3% in camps (Croatian Bureau of Statistics, 2022b). Despite the unreliable data, it is evident that tourism

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<sup>2</sup> At the time of writing, the latest available data are for 2022, but refer only to Krapanj, while the data for Zlarin have been declared secret. Therefore, it is not possible to compare these islands.

<sup>3</sup> In 2019, the record year before the pandemic in which the field study was conducted, Zlarin recorded 7841 arrivals (81.4 of which were international) and 31,063 overnight stays (75.9% international). Krapanj (with a large part of Brodarica) had 24,032 arrivals (83.2% international) and 169,177 overnight stays (87.0% international) (Croatian Bureau of Statistics, 2022b).

<sup>4</sup> Zlarin has a higher proportion of tourists from Germany (32.1% of arrivals and 27.6% of overnight stays), Croatia (21.5% of arrivals and 7.0% of overnight stays). Tourists from Poland have the highest share on Krapanj (22.7% arrivals and 27.6% overnight stays), followed by Croatia (21.9% arrivals and 18.8% overnight stays), while German tourists are in third place (18.8% arrivals and 21.7% overnight stays). All other markets have less than 5% (Croatian Bureau of Statistics, 2022b).

pressure is very high on both islands. The tourism function index of 351.4 on Zlarin and 1,386.6 on Krapanj show a high level of touristification on both islands. The same is visible in the tourism intensity ratio, which reaches 1,557.8 arrivals per 100 inhabitants on Zlarin and as high as 8,885.4 on Krapanj.

## **PERCEPTION OF TOURISM AND ITS IMPACTS**

The aim of the questionnaire survey was to analyse the extent to which the population of Zlarin and Krapanj is economically oriented towards tourism and how they perceive tourism and its impacts. The research results were categorised into four groups: (1) socio-demographic characteristics of respondents, (2) economic activity of respondents, (3) perceptions of the impact of tourism and (4) attitudes towards future tourism development.

### ***Socio-demographic characteristics of respondents***

The socio-demographic characteristics included information on gender, age, level of education and length of stay on the islands during the year. Of the 194 respondents, 53.1% were women and 46.9% were men, with a similar composition on both islands (54.9% female respondents on Krapanj and 51.5% on Zlarin). The average age of respondents of 47 years on Zlarin and 55 years on Krapanj reflects the older population of the islands. The most numerous age groups participating in the survey were 50-59 years (24.2%) and 60-69 years (23.2%), which are also the most numerous age groups on islands (Tab. 2). A relatively high proportion of respondents aged 20-29 years (18.0%), although less present on the islands, is due to their greater willingness to participate in the survey. People aged 70 years and older were, as expected, less willing to participate in the survey (only 3 respondents from Zlarin were 80 years and older; the oldest respondent was 92). The small differences in the composition of respondents on Zlarin and Krapanj are due to their willingness to participate in the survey.



**Tablica 2.** Dob ispitanika na Zlarinu i Krapnju prema dobnim skupinama  
**Table 2** Age of respondents on Zlarin and Krapanj by age groups

<b>Dob/Age</b>	<b>Zlarin</b>	<b>Krapanj</b>	<b>Ukupno/Total</b>
20-29	22.3	13.2	18.0
30-39	12.6	8.8	10.8
40-49	17.5	12.1	14.9
50-59	21.4	27.5	24.2
60-69	15.5	31.9	23.2
70-79	7.8	6.6	7.2
80-89	1.9	0.0	1.0
90+	1.0	0.0	0.5
<b>Ukupno/Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Most respondents have completed secondary (46.4%) or tertiary education (36.1%), while 5.7% have completed postgraduate studies, and only a few respondents have only primary education (8.5%) or have not attended school (3.1%) (Tab. 3). A higher average educational level of respondents compared to the educational composition of the total population is the result of a higher proportion of younger (and more educated) respondents. Respondents with a higher level of education were more willing to participate in the survey. People with a lower level of education predominate in the older age groups, that participated less in the survey.

**Tablica 3.** Obrazovna razina ispitanika na Zlarinu i Krapnju  
**Table 3** Educational level of respondents on Zlarin and Krapanj

<b>Razina obrazovanja/ Finished education</b>	<b>Zlarin (%)</b>	<b>Krapanj (%)</b>	<b>Ukupno/Total (%)</b>
bez škole/no school	1.9	4.4	3.1
osnovna škola/ elementary school	8.7	8.8	8.8
srednja škola/ high school	39.8	53.8	46.4
preddiplomski studij/ undergraduate study	13.6	14.3	13.9
diplomski studij/ graduate study	28.2	15.4	22.2
poslijediplomski studij/ postgraduate study	7.8	3.3	5.7
<b>Ukupno/Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Of all respondents, 44.3% live on the islands all year round (permanent residents), 31.3% stay there in summer (and sometimes at weekends) (seasonal population), 2.6% only at weekends (second home owners) and 11.9% occasionally (e.g., during the winter holidays). The latter category is more strongly represented on Krapanj (15.4%) and consists of people who live in

Brodarica, on the coast opposite the island, and occasionally stay on their own property on the island.

### ***Economic activity of respondents***

The relationship between respondents' economic activities and tourism was analysed by asking questions about their occupation, the proportion of household income from tourism and its seasonality, and whether they had given up their previous occupation to work in tourism. Only 28.9% of respondents are economically active (of which 3 are unemployed) and 28.9% are inactive (44 retired and 12 students). The active respondents are strongly orientated towards services; 83.0% work in the tertiary and quaternary sectors (with waiters and caterers, consultants and teachers being the most represented), 15.6% work in the secondary sector and only 2 people work in the primary sector.

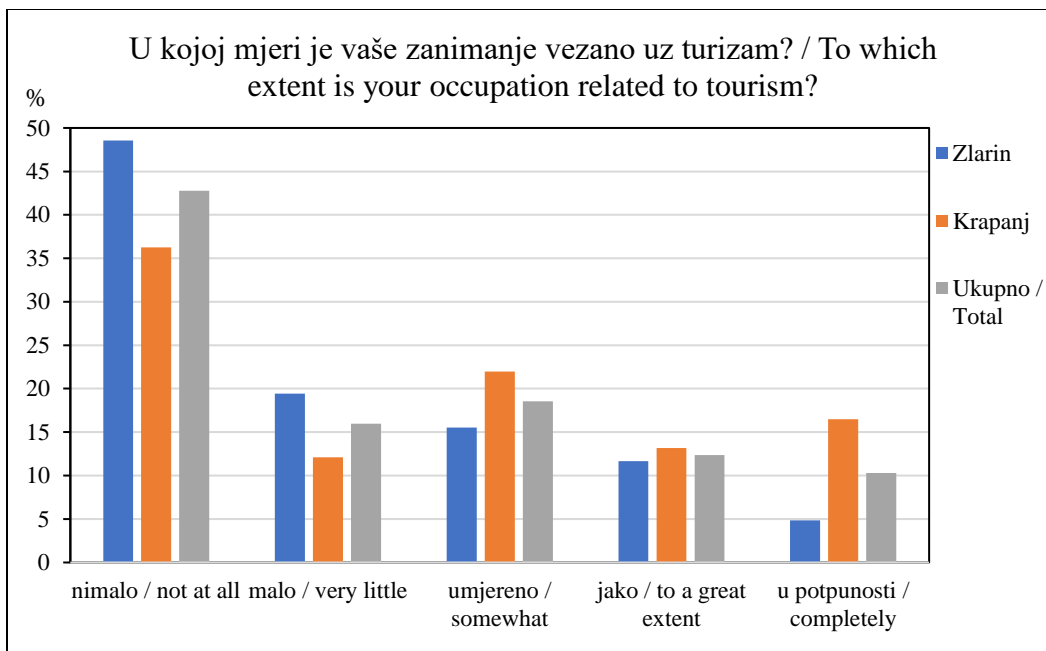
When asked to what extent the respondents' main occupation is related to tourism, 42.8% of the respondents reported to have nothing to do with tourism, 16.0% have reported to have very little to do with it, 18.6% moderately and only 22.8% strongly or completely. The main activities of respondents in Krpanj are related to tourism to a greater extent than of those in Zlarin (Fig. 1). However, when asked whether they work in tourism on the islands, almost a third (32.2%) answered yes, which is a higher proportion than the last two categories in the previous question. This discrepancy is due to the fact that part of the population works in tourism by renting private accommodation, often alongside their main occupation, which is not necessarily related to tourism, including part of the retired population who earn an extra income that way.

The aforementioned processes are additionally confirmed by the proportion of household income from tourism. An unexpectedly high proportion of 55.2% of respondents state that their household has no income from tourism, 33.5% have less than half and only 11.3% have more than half. The virtually high proportion of households with no income from tourism may be due to an insincere response to the questions, but also to the respondents' perception of what tourism activities are. The comparison of the islands shows that Krpanj has a higher proportion of households with some income from tourism (56.0%) than Zlarin (35.0%). However, there are more households on Zlarin that are highly dependent on tourism for more than half of their income: 12.6%, compared to 9.9% on Krpanj (Fig. 2). Thus, the population of Krpanj is generally more tourism-orientated, but households and individuals are less dependent on tourism than on Zlarin.

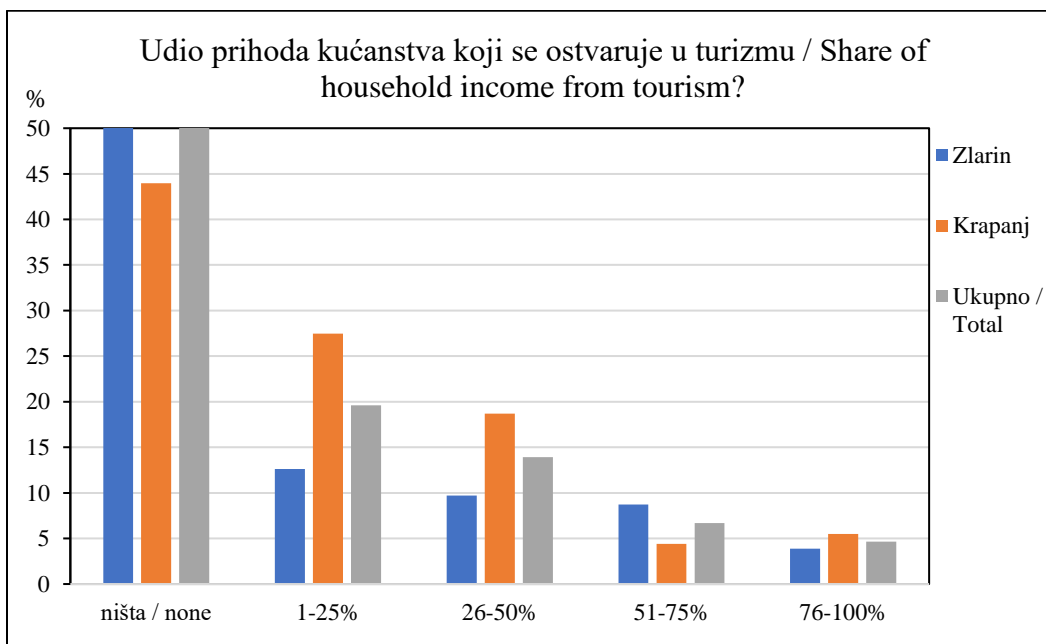
As Krapanj is close to the coast, many of the respondents stay longer on the mainland throughout the year or commute daily to work on the mainland and often claim to work in non-tourist businesses (also in nearby Šibenik). *There are only a few people who live on Krapanj all year round, perhaps a hundred. They usually earn their income in a few months during the season and claim they can survive the whole year* (Interview on Krapanj, 2020).

Tourism on the islands has a pronounced seasonal character, more so than on the mainland, and most activities and income generation take place in July and August. Therefore, 90.3% of respondents (who work in tourism) earn their income from tourism exclusively in the summer months, which makes it difficult to achieve full employment and a livelihood solely from tourism. According to the interviewees, however, the seasonality is partly generated by the islanders themselves: *Many more tourists could be attracted to extend the tourist season, but the problem is that most renters close their doors at the beginning or middle of September, even though tourists are still interested in visiting the islands* (Interview on Krapanj, 2020).

Contrary to the general perception, very few (8 respondents or 12.9% of those working in tourism) have given up their previous activity (fishing or services) in favour of tourism. Others work in tourism alongside another predominant activity or were previously also active in tourism. As on most Croatian islands, tourism began to develop in this area in the 1960s, so traditional activities such as agriculture, fishing and sea sponge collecting gave way to tourism long before the active population reached adulthood, and only a few inhabitants still work in these activities alongside tourism.



**Slika 1.** Povezanost zanimanja ispitanika s turizmom  
**Figure 1** Relation of respondents' occupation to tourism



**Slika 2.** Udio prihoda kućanstva ispitanika koji se ostvaruje u turizmu  
**Figure 2** Share of household income from tourism

### *Spatial impacts of tourism*

Perceptions of the spatial impacts of tourism were analysed in two ways; using Likert scale questions on selected impacts of tourism and an open-ended question aimed at listing the three most important positive and negative impacts of tourism.

Attitudes towards environmental impacts related to pollution, noise and the character of settlements were explored (Tab. 4). The study revealed that respondents only perceive pollution more strongly (average score 3.3; significantly higher in Zlarin with 3.5 than in Krapanj with 3.0), while the increase in noise and the change in character are perceived significantly less (2.7 for both elements). It is worth noting that the average rating of pollution is the result of completely opposite answers, as one part of the respondents see it as a problem, while the other part do not agree with it. The lower awareness of the physiognomic change of the islands, although tourism and second homes are the main drivers of transformation on the islands, can be explained in the broader context of Dalmatia. The studied islands are still less transformed than the neighbouring coastal settlements (Brodarica, Primošten, Vodice), and the local population may have already got used to it and tolerate it due to the accruing economic benefits.

**Tablica 4.** Percepcija odabranih učinaka turizma na Zlarinu i Krapanju

**Table 4** Perception of the selected impacts of tourism on Zlarin and Krapanj

Izjava / Statement	Zlarin	Krapanj	Ukupno /Total
Turisti utječu na zagađenje otočnog okoliša. Tourists have an impact on the environmental pollution of the island.	3.5	3.0	3.3
Turisti prave previše buke. Tourists make too much noise.	2.7	2.7	2.7
Zbog turizma izmijenjen je izgled otoka/naselja. Character of the island/settlement has been changed due to tourism.	2.7	2.6	2.6
Za vrijeme boravka turista smanjuje se osjećaj povezanosti unutar zajednice. Sense of attachment in the community diminishes during the stay of tourists.	2.3	2.2	2.2
Zbog turizma su izumrli tradicija i kulturni običaji otoka. Tradition and cultural practices have disappeared due to tourism.	1.6	1.9	1.7
Osjećam se nesigurno zbog sve većeg broja turista na otoku. I feel insecure because of a higher number of tourists on the island.	1.8	1.8	1.8
Turizam je utjecao na bolju prometnu povezanost otoka s kopnom. Tourism influenced better transport connections of the island with mainland.	2.8	3.7	3.2
Turizam je pogodovao boljem (dnevnom) rasporedu brodskih linija. Tourism encouraged better (daily) schedule of boat services.	2.9	3.8	3.3
Turizam je doveo do povećanja cijena usluga i proizvoda na otoku. Tourism caused an increase in the price of services and products on the island.	3.7	3.6	3.7

Napomena: Stupanj slaganja s tvrdnjama: (1) nimalo se ne slažem, (2) uglavnom se ne slažem, (3) ne znam/svejedno mi je, (4) uglavnom se slažem, (5) u potpunosti se slažem

Note: The degree of agreement with the statements: (1) do not agree at all, (2) mostly disagree, (3) I don't know/don't care, (3) mostly agree, (5) totally agree

Responses on the socio-cultural impact of tourism were related to the feeling of community attachment during the tourists' stay, the disappearance of traditions and cultural customs and the decreasing sense of security. Most respondents believe that tourism has no impact on these elements. Not only does tourism not reduce the sense of community attachment (average score 2.2), but some respondents argue that the local population has better relationships owing to tourism, interacts with their guests, shares experiences and makes friends during the cultural events in summer. For this reason, they do not feel unsafe when there are many tourists on the islands (average 1.8), and the minority that do are used to the way of life on the islands, where all the inhabitants and second home owners know each other, the turnover of people is low, the houses are not locked, etc. The disappearance of traditions and cultural events is not perceived as an impact of tourism (average score 1.7). This is partly because tourism has already displaced traditional activities in previous generations and the current generation lives almost exclusively from tourism, and partly because a lot of effort is being made to revive traditions and cultural events for tourism, with local events based on cultural heritage (e.g., making jewellery from coral and opening a museum on Zlarin).

The perception of the economic impacts of tourism was examined using three Likert-scale questions (Tab. 4 and 5) and one open question (Tab. 6). Respondents on both islands largely agree that tourism has caused a price increase (average score 3.7), which is due to the seasonal price increase caused by tourism and property price inflation. The majority disagree that tourism has improved services – both in terms of grocery shops (average score 2.7) and even more so in other businesses (2.3). As there are only a few grocery shops with higher prices on the islands, locals are forced to do the rest of their shopping on the mainland.

**Tablica 5.** Percepcija razvoja funkcija pod utjecajem turizma na Zlarinu i Krapnju  
**Table 5** Perception of development of services due to tourism on Zlarin and Krapanj

<b>Funkcija / Service</b>	<b>Zlarin</b>	<b>Krapanj</b>	<b>Ukupno /Total</b>
Osnovno obrazovanje / Primary education	1.4	1.5	1.5
Liječnička skrb / Health care	1.7	1.8	1.7
Opskrba lijekovima / Supply of medicines	1.5	1.5	1.5
Policijska zaštita / Police protection	2.3	2.1	2.2
Poštanske usluge / Postal services	2.1	1.4	1.8
Financijske usluge / Financial services	2.2	1.9	2.1
Trgovina prehrambenim proizvodima / Grocery stores	2.7	2.7	2.7
Trgovina ostalim proizvodima / Other stores	2.3	1.9	2.1

Napomena: Vrijednosti predstavljaju prosjek odgovora na pitanje koliko je turizam utjecao na svaku od ponuđenih funkcija: (1) nimalo, (2) malo, (3) srednje, (4) jako, (5) u potpunosti.

Note: The values represent the average responses to the questions on the extent to which tourism affects the individual services proposed: (1) not at all, (2) a little, (3) moderately, (4) very much, (5) completely.

The survey also analysed respondents' perceptions of the contribution of tourism to the development of services (transport, education, healthcare, security, postal and financial services). The impact of tourism on better transport connections and the improvement of the (daily) timetable of boat trips is perceived differently among the islands. Respondents on Zlarin are mostly indifferent to both aspects (the average score is 2.8 for the former and 2.9 for the latter), which could be related to the fact that there are only a few additional boat trips in summer, which do not differ significantly from the rest of the year. On the other hand, there are many more boat trips to and from Krapanj in summer, especially in the late evening hours, on Sundays and public holidays, and a boat taxi, which amplifies the availability of transport connections (3.7 and 3.8).

In contrast to transport, most respondents think tourism has no influence on the development of education (average 1.5), healthcare (1.7) and the supply of medicines (1.5). This is because education does not depend on tourism, the islands do not have additional medical teams in the summer (but there is a high availability of medical teams on the mainland for emergencies) and there are no pharmacies. A slightly higher perceived impact of tourism on police protection (mean score 2.2) is due to the higher police presence during the season, when police visit both islands more frequently and control maritime traffic to protect swimmers. Postal services are independent of tourism and there are no financial services on the islands except for ATMs, which were installed a few years ago. Although ATMs have made it easier for both residents and tourists to stay on the islands, as only a few places accepted card payments at the time of the survey, most respondents

did not see this as an impact of tourism (mean 2.1). Although the impact of tourism on services is considered to be small, it has probably played some role in maintaining the existing services.

In the last two questions on the spatial impacts of tourism, respondents were asked to list the three most important positive and negative impacts of tourism on their islands. The answers were grouped and analysed by frequency, with respondents on Zlarin giving a much more diverse range of answers than those on Krapanj. As expected, the most important positive (economic) impact of tourism on both islands is the income effect (as declared by 51% of respondents from Zlarin and 44% from Krapanj). In second place on Zlarin are new jobs (37% of respondents), as slightly higher mass tourism enables basic or additional jobs, while on Krapanj only a few mentioned this. Other economic benefits of tourism mentioned were the promotion of the islands as tourist destinations, new projects (on Zlarin) and better range of goods for sale in grocery shops (on Krapanj) (Tab. 6).

**Tablica 6.** Najvažniji percipirani pozitivni i negativni učinci turizma na Zlarinu i Krapanju  
**Table 6** *The most important perceived positive and negative impacts of tourism on Zlarin and Krapanj*

<b>POZITIVNI UČINCI TURIZMA / POSITIVE IMPACTS OF TOURISM</b>	
<b>Zlarin</b>	<b>Krapanj</b>
prihodi od turizma / income from tourism	prihodi od turizma / income from tourism
nova radna mjesta / new working places	obogaćen društveni život / better social life
promocija otoka kao turističke destinacije / promotion of the island as a destination	uređenje objekata i infrastrukture / development of facilities and infrastructure
novi projekti / new projects	bolja povezanost s kopnom / better connections with the mainland
bolja povezanost s kopnom / better connections with the mainland	otvaranje novih objekata / opening new objects
veći broj brodskih linija / more boat trips	nova radna mjesta / new working places
otvaranje novih ugostiteljskih objekata / opening new bars and restaurants	promocija otoka kao turističke destinacije / promotion of the island as a destination
raznoversna gastronomska ponuda / diverse gastronomic supply	ponuda u trgovini / supply in the grocery store
raznoversnija kulturna ponuda / diverse cultural supply	bolja policijska zaštita / better police protection
atmosfera potaknuta većim brojem (mladih) ljudi / ambience created by more (young) people	atmosfera potaknuta većim brojem (mladih) ljudi / ambience created by more (young) people
razmjena iskustava / cultural exchange	razmjena iskustava / cultural exchange
uređenje infrastrukture / development of infrastructure	oživljavanje tradicije otoka / reviving tradition on the island
uređenje starih kuća / reconstruction of old houses	podizanje svijesti o zaštiti okoliša / increase of environmental awareness
	češći odvoz smeća / more frequent waste disposal
<b>NEGATIVNI UČINCI TURIZMA / NEGATIVE IMPACTS OF TOURISM</b>	
<b>Zlarin</b>	<b>Krapanj</b>
zagađenje okoliša, odnosno kopna i mora / pollution of environment, land and sea	povećana količina smeća na kopnu i u moru / increased amount of waste on land and in the sea



gužve (u trgovini, u pošti, na brodu) / crowds (in shops, in post office, on boat)	gužva i preveliko opterećenje infrastrukture / crowds and excessive pressure on infrastructure
povećana buka / increased noise	povećanje cijena usluga i proizvoda / increase in prices of services and products
povećanje cijena usluga i proizvoda / increase in prices of services and products	povećana buka / increased noise
mijenjanje otočne fizionomije gradnjom vikendica / change in character due to second home construction	bespravna gradnja kojom se narušava fizionomija otoka / illegal construction degrades island character
preveliko opterećenje za infrastrukturu otoka / oversized pressure on island infrastructure	gubitak otočnog identiteta / loss of island identity
povećana količina malih električnih vozila / increased number of small electric vehicles	nema negativnih učinaka / no negative impacts
podređivanje ostalih djelatnosti turizmu / subordination of non-tourism activities	
neadekvatno ponašanje turista (opijanje, krađe, nepoštivanje) / inadequate tourist behaviour (drinking, stealing, disrespect)	
preveliki kontrast između života na otoku ljeti i zimi / too large a contrast between living on the island in summer and in winter	
nema negativnih učinaka / no negative impacts	

The second most frequent answers refer to the positive socio-cultural impacts of tourism. It particularly applies to a richer social life on Krapanj (events and social interaction), mentioned by as many as 42%; while respondents on both islands also mention a better ambience due to more people, a diverse cultural offer in connection with events on the islands, exchange of experiences and meeting new people. Positive environmental impacts are in the third place and relate mainly to the redevelopment of settlements (including old houses and infrastructure), especially on Krapanj (38% of respondents) and to a lesser extent on Zlarin. Other answers refer to better transport connections, the opening of new bars and restaurants and better police protection (especially in Krapanj). One of the interviewees summarised the positive impacts by saying that tourism enables every resident to earn additional income in their place of residence in a relatively short period of time (especially in the areas of local crafts, trade, hospitality and accommodation rental). However, it is worth noting that some respondents do not see any positive impacts of tourism (6.8% on Zlarin and 7.7% on Krapanj).

Environmental problems are cited as the main negative impact of tourism. Most respondents on both islands point to pollution of land and sea (by waste) (73% on Zlarin and 63% on Krapanj), which is confirmed by the previously analysed responses (Tab. 6). This is followed by the crowds caused by tourism and the excessive burden of the islands' inadequate infrastructure (35% of respondents on both islands). Many are bothered by the noise (21% on Zlarin and 11% on Krapanj)

and the change in the character of the islands due to the illegal and oversized construction of second homes and tourist accommodation.

The only negative economic impact of tourism is the increase in prices for services and products (19% of respondents on Krapanj and 16% on Zlarin). Negative socio-cultural impacts are mentioned by only a few respondents. They refer to rude behaviour of tourists (alcohol consumption, petty thefts, disrespect towards locals), big differences between life on the island in summer and winter (on Zlarin) and the loss of island identity on Krapanj. It is important to emphasise that 27% of respondents on Krapanj and 8% on Zlarin believe that tourism has no negative impact. A different number of respondents on each island reflects the different level of tourism development, even though it is significantly lower than on the mainland.

When asked to rate the overall impact of tourism, respondents on both islands were overwhelmingly positive (average score of 3.6 on Zlarin and 3.7 on Krapanj). As many as 62.1% of respondents on Zlarin and 70.3% on Krapanj consider the effects of tourism to be favourable or mostly favourable, and only 7.8% on Zlarin and 4.4% on Krapanj see negative effects of tourism. This structure of responses is a consequence of the positive economic impact of tourism as the only or dominant economic activity on which many inhabitants depend and without which existence on the islands would hardly be possible. Therefore, respondents are more tolerant of the negative environmental impacts of tourism, which are mainly limited to the summer season, and also emphasise more strongly the contrast with winter tranquillity.

### ***Quality of life and future development of tourism***

The last group of questions dealt with the attitude towards the quality of life on the islands (and the contribution of tourism), the potential influx of tourists as residents and the vision of the future development of tourism. The actual quality of life was rated as average on both islands (score 3.1) and a lower proportion of respondents saw the improvement in their quality of life as a result of tourism (score 2.7). This pattern of responses goes hand in hand with the fact that respondents are aware of the positive and especially the negative impacts of tourism and recognise that they cannot expect tourism to solve all their problems.

Respondents were also asked to express their views on supporting a permanent influx of international and domestic tourists to the islands. Visits are generally more supported on Zlarin, where 68.0% of respondents would attract foreign tourists to the island and 79.6% would support

the arrival of domestic tourists (The corresponding percentages on Krpanj are 48.4% and 69.2% respectively). The main reasons for the higher support are population growth (to stop depopulation and extinction), inhabiting empty houses and cultural exchange (with foreign tourists). However, a certain proportion of respondents do not support this idea: 20.4% of respondents on Zlarin oppose the visits of foreign tourists and 9.7% oppose the visits of domestic tourists, while in Krpanj these proportions are 27.5% and 15.4% respectively. They justify their answers with the different mentality and culture of the newcomers, disrespect for the islanders and the possible loss of the autochthonous character of the islands.

According to the previously analysed answers and the high dependence on tourism, the respondents are highly in favour of the further development of tourism (average score 4.1) and have a positive attitude towards the benefits of tourism in the future (3.5). In addition, the local population actively participates in cleaning and landscaping the island to increase its attractiveness: *A very important factor is the motivation of the locals, who participate in various activities to prepare the settlement, beaches and public areas before the tourist season* (Interview on Zlarin, 2020). Most of them believe that the role of tourism will increase in the future (3.8) and that income from tourism will increase (3.7). However, given the strong seasonality and monoculture of coastal tourism, the majority of respondents agree that it is necessary to develop additional types of tourism (average 4.0) and extend the tourist season (4.0) (Tab. 7).

**Tablica 7.** Stavovi prema razvoju turizma na Zlarinu i Krpanju u budućnosti  
**Table 7** Attitudes towards tourism development on Zlarin and Krpanj in the future

Izjava / Statement	Zlarin	Krpanj	Ukupno /Total
Uloga i važnost turizma će rasti. Role and importance of tourism will grow.	3.8	3.8	3.8
Povećat će se prihodi od turizma. Income from tourism will increase.	3.7	3.8	3.7
Turizam će imati sve povoljniji učinak na otok. Tourism will have a better impact on the island.	3.4	3.6	3.5
Treba razviti dodatne oblike turizma. Additional types of tourism should be developed.	3.9	4.1	4.0
Treba produljiti turističku sezonu. Tourist season should be prolonged.	4.0	4.0	4.0
Podržavam daljnji razvoj turizma na otoku. I support further development of tourism on the island.	4.1	4.2	4.1

Napomena: Stupanj slaganja s tvrdnjama: (1) nimalo se ne slažem, (2) uglavnom se ne slažem, (3) ne znam/svejedno mi je, (4) uglavnom se slažem, (5) u potpunosti se slažem.

Note: The degree of agreement with the statements: (1) do not agree at all, (2) mostly disagree, (3) I don't know/don't care, (3) mostly agree, (5) totally agree.

## DISCUSSION AND CONCLUSION

This study suggests that the islands of Zlarin and Krapanj have developed tourism to a lesser extent than the adjoining Croatian mainland, which is characteristic of most small Croatian islands (Brkić Vejmelka & Pejdo, 2008; Faričić & Mikuličić, 2010; Šulc & Zlatić, 2014). The predominant coastal tourism, based on the classic tourist product of sun and sea, is complemented by yachting tourism on Zlarin, but there is still a lack of more intensive development of special interest tourism as part of the island's complex tourist product (Brkić Vejmelka & Pejdo, 2008; Đogić & Cerjak, 2015; Faričić & Mikuličić, 2010; Grofelnik, 2012).

In contrast to other small Mediterranean islands, and especially island states that made large planned investments in developing tourism and strengthening it as a dominant economic activity (Akis et al., 1996; Chapman & Speake, 2011; Ioannides, 2001; Pulina and Biagi, 2006), tourism on the Adriatic islands analysed has developed largely endogenously and spontaneously, led by the efforts and investments of the local population (Faričić & Mikuličić, 2010; Podgorelec & Klempić Bogadi, 2013). Despite the rather low accommodation capacities, mainly in private accommodation, and the low level of tourist arrivals and overnight stays, tourism has a great socio-economic importance, as other economic activities on the islands are or have been downsized (Ioannides, 2001; Kordej-De Villa & Starc, 2020; Podgorelec & Klempić Bogadi, 2013). Although the majority of the local island population is primarily employed and derives its income from other economic activities, often on the mainland, tourism remains an important additional source of income for a significant proportion of the inhabitants (Podgorelec & Klempić Bogadi, 2013). They perceive the economic impact of tourism very positively and have quite high expectations of it, but they are aware of the growing dependence on tourism and the fact that tourism cannot solve all the islands' problems.

The presumed main reason for the discrepancy between the positive perception of tourism and the rather low number of people employed in tourism is the fact that tourism on Zlarin and Krapanj is a highly seasonal activity that does not provide full employment and sufficient income to sustain a large number of inhabitants throughout the year, but is mainly limited as a supplementary source of income for households that earn their living mainly outside the island and/or in other activities or from pensions (Van Roggen & Zlatić, 2013; Zlataar, 2010). An increase in tourism employment and income from tourism will be difficult to achieve without a quantitative increase in tourism and its reduced seasonality, and all this will hardly be possible within the

existing concept of coastal tourism. However, an increase in tourism is highly questionable in terms of the actual number of active population, while greater in-migration from the mainland and greater investment from abroad would likely provoke a reaction from locals and diminish the positive perception of tourism (Kordej de Villa & Slijepčević, 2023). Furthermore, an increase in tourism without adequate infrastructure development could jeopardise the sustainability of tourism (Bramwell, 2003). On the other hand, a reduction in seasonality can hardly be achieved without the development of special interest tourism, which is less dependent on the climate (warm sea), especially in rural and sports tourism. The development of these types of tourism requires a greater development of the tourism offer, which would attract motivated tourists to the islands and allow a structured stay for a few days, which must be supported by the initiative of the islanders who are involved. Therefore, we expect the current trends in tourism on both islands to continue in the near future without a major quantitative increase in tourism.

On most small and medium-sized islands in the Adriatic, tourism has developed together with accelerated depopulation (Nejašmić, 1992, 1999a; Nejašmić & Mišetić, 2006) and the phenomenon of second homes, which include many former residents who have left the island. *Many locals are dying and their houses are being sold and converted into second homes* (Interview on Krapanj, 2020). In this way, the islands are transforming into a residential and tourism area with a high seasonality of use and great differences between the liveliness in summer and the tranquillity in winter. Some of the respondents look forward to summer and tourists as an opportunity to socialise and meet people and therefore rate the social impact of tourism as very positive, which is not always the case in tourism areas (Šulc, 2016). With the increasing pressure of tourism, respondents have become more aware of the negative impacts on the environment. Although these impacts are still less present than on the neighbouring mainland, they are beginning to weigh on the local population, who see the islands as a relatively clean and preserved habitat and would like to maintain it as such (Šulc & Zlatic, 2014).

This study has fulfilled both its stated goals: determining the degree of economic dependence of the local population on tourism; and analysing the perception of tourism among the local population, with a focus on two small northern Dalmatian islands as a case study. However, the research results do not allow for a one-sided conclusion about the sustainability of tourism on islands, which would require a much more thorough investigation of the environmental, socio-

cultural and economic impacts of tourism (Bramwell, 2003; Triarchi & Karamanis, 2017; Weaver, 2006).

The findings of this research could be applied to other islands with similar characteristics in Croatia and the European Mediterranean, especially to small islands that are close to the mainland and/or well connected to medium and large towns on the coast, where the temporal distance from urban centres is more important than the physical distance from the mainland (e.g. fast boats and ferries). This is particularly true for island areas that do not have large accommodation capacities and planned mass tourism development, such as the islands off Zadar and Dubrovnik and certain small islands in Italy, Spain and Greece. However, the results would certainly be quite different if this survey were conducted on less well-connected and/or remote islands, where regular commuting of islanders to the mainland is less possible, as well as visits to the islands by second home owners (e.g. southern Kvarner islands, outer Zadar islands, Vis, Lastovo, Mljet...). A similar study on such islands, which are more remote and less developed, is hereby proposed in order to analyse the residents' perception of tourism, its impact and the resulting quality of island life.

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N. Grabovac: research concept, methodology, conducting field research, literature research, writing - preparation of the original paper

D. Spevec: methodology, literature research, programming, validation, writing the final version.

I. Šulc: methodology, literature research, programming, supervision, validation, writing the final version.

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