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ZADAR ISLANDS GROWTH PROSPECTS – IS TOURISM THEIR DRIVING FORCE?

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ABSTRACT

Development of tourism on Zadar Islands at the end of the 20th and the beginning of the 21st century transformed them into mainly leisure zones. Once dependent on agriculture, fishing and maritime transport Zadar Islands became strongly dependent on tourism. Tourism influenced transformation of landscape, coastal and marine ecosystems, but also caused social and cultural changes. Based on statistical data, survey and field research the aim of this paper is to determine whether tourism can reverse negative socio-economic processes on Zadar Islands such as population decline, aging, and economic stagnation. Statistical data referred to official demographic and tourist records while survey included questions about current and future islands development. The answers were later analysed by Mann-Whitney (U) test and Chi-square test. Results showed that tourism is nowadays the most important economic activity on Zadar Islands but fishery and agriculture should have prominent role as well. This paper is a contribution to study of Zadar Islands, especially because it includes an opinion of local population on various issues, which was until now rarely done.

Key words: tourism, Zadar Islands, depopulation, economic development

PROSPETTIVA DELLO SVILUPPO DELLE ISOLE DI ZARA – PUÒ TURISMO DARE LA SPINTA?

SINTESI

Lo sviluppo del turismo sulle isole di Zara alla fine del ventesimo e inizio del ventunesimo secolo le ha trasformate in zone prevalentemente ricreative. Una volta dipendenti dall'agricoltura, pesca e trasporto marittimo, le isole di Zara sono diventate molto dipendenti dal turismo. Turismo ha influenzato la trasformazione del paesaggio, ecosistemi costieri e marini, ma ha anche causato cambi sociali e culturali. In base ai dati statistici, sondaggio e ricerca, l'obiettivo di quest'articolo è determinare se il turismo può rovesciare i processi socio-economici negativi sulle isole di Zara, come il declino della popolazione, invecchiamento e stagnazione economica. I dati statistici si riferiscono agli ufficiali registri demografici e turistici, mentre il sondaggio ha incluso domande in connessione con lo sviluppo attuale e future delle isole. Le risposte sono state analizzate usando il test di Mann-Whitney (u) e il test di chi-quadro. I risultati hanno dimostrato che il turismo d'oggi rappresenta la più importante attività economica sulle isole di Zara, ma pesca e agricoltura dovrebbero pure avere un ruolo prominente. Quest'articolo rappresenta una contribuzione sullo studio delle isole di Zara, in particolare perché include il parere della popolazione locale su vari temi, qualcosa che non si vedeva spesso finora.

Parole chiave: turismo, isole di Zara, spopolamento, sviluppo economico

INTRODUCTION

During the second half of the 20th century, development of tourism on the Mediterranean strongly influenced Croatian Islands. It became vital, for some islands crucial and in some cases single economic activity. Croatian Islands can be classified as a region rich with both natural and cultural heritage, abundant with outstanding biodiversity and diverse socio-economic features. One of the reasons all islands are attractive tourist destinations is the common perception of Islands as “repositories” of natural and cultural heritage (Royle, 2008). Tourism can be described as a specific social phenomena which became a need for all mankind and it gained features as one of the main society's function (Rupert, Maier, 1981), social and cultural need, phenomena of the modern developed world (Krippendorf, 1986). Tourist voyages can be understood as the journey towards more beautiful, exciting and challenging world (Schouten, 2002), and tourists as the metaphor of the modern society (Dann, 2002). Within the life pattern and the rhythm of postmodern and post-industrial mankind (work – dwelling – leisure time – travel) tourism is its prominent feature (Jadrišić, 1994). Tourism became civilizational need depicted through syntagma travel culture and it reflects the style and the way of life of an individual but also the society as a whole. Numerous world islands (Croatian and Zadar Islands included) are experiencing a period of landscape, coastal and marine ecosystems transformation because of intense tourism influence (Apostolopoulos, Gayle, 2002). Unlike large islands, small ones are more vulnerable and subjected to negative occurrences such as natural disasters and climate changes or unfavourable social trends like depopulation or aging (King, Connell, 1999).

Even though tourist activity on Zadar Islands can be traced back to the beginning of the 20th century and in the period between the two World Wars (Magaš et al., 2000; Faričić, Mikulić, 2010; Čuka, 2011; Faričić, 2012; Pejdo, Blaće, 2013), more prominent development occurred after 1970s when tourism became dominant economic activity on the majority of Croatian Islands (Mikačić, 1994; Montana, 1994; Defilippis, 2001; Čuka, 2011; Faričić, 2012; Pejdo, Blaće, 2013). Recent period of social and economic transition strongly affected all Croatian Islands; their dependence on tourism is repeated continuously almost as a “mantra” that today can be regarded as islands' identification symbol. The aim of the research paper is to examine basic contemporary economic features of Zadar Islands, taking into consideration available statistical data and population attitudes on the Islands' future development, with special reference to tourism.

METHODOLOGY

The research methods included mostly quantitative approach. The authors first analysed data on popula-

tion number, number of tourists and overnight stays and available data on economy. Also for the purpose of this article, a survey has been done on three Zadar Islands – Ugljan, Silba and Vir. Those three islands were chosen as the examples of three different types of Zadar Islands. Ugljan Island can be defined as the island with favourable geographic position in the vicinity of the mainland. Island's efficient transport connections with the mainland can be taken into account as one of comparative advantages (Pejdo, 2012), due to which Ugljan has more positive demographic and economic features with regard to other Zadar Islands. Silba Island was chosen as the example of small, offshore islands, distant from the mainland with small population number and insufficient economic basis. As the representative of the third group, Vir Island has been chosen. It is the bridged island on which socio-geographic as well as landscape features have altered after 1980s and the construction of the bridge. Surveyed population on each of three islands represented one sample chosen by the random choice method. Afterwards survey results were analysed by nonparametric tests – Mann-Whitney (U) test and Chi-square test in SPSS 17.0 software. The aim was to determine whether there is statistically significant difference between answers given by population living on Ugljan, Silba or Vir Island and the attitudes on certain problems typical for island communities. In addition, field researches on Zadar Islands were done in order to confirm assumptions made after statistical data analyses. Article provides information on recent statistics in relation to tourism on Zadar Islands. Tourism plays an important role on Zadar Islands because of its economic and employment potential, as well as its social and environmental implications. Numerous problems were detected as regards statistics on tourism. This especially refers to data on tourist arrivals and overnight stays. Data on tourist numbers remains somewhat problematic due to the large quantity of unreported tourists. Tourism is one of the Croatian economy sectors most prone to “grey” market activity. A significant portion of overnights is realised in second homes (Čavlek et al., 2010). This type of tourist activity most often goes unregistered and is the key generator of grey economy. It is very difficult to research the volume of this type of tourism turnover, moreover as the exact figures concerning second homes and apartments engaged in tourism operation still remain unavailable (Opačić, Mikačić, 2009; Čavlek et al., 2010). However, mentioned data can be found for towns and municipalities but not for settlements. For the purpose of this article, authors used only available official data provided by Croatian Bureau of Statistics and Tourist Boards.

ZADAR ISLANDS

The overall Croatian Islands area has a surface of 3259 km² (5.7% of total Croatian territory) with total coastline

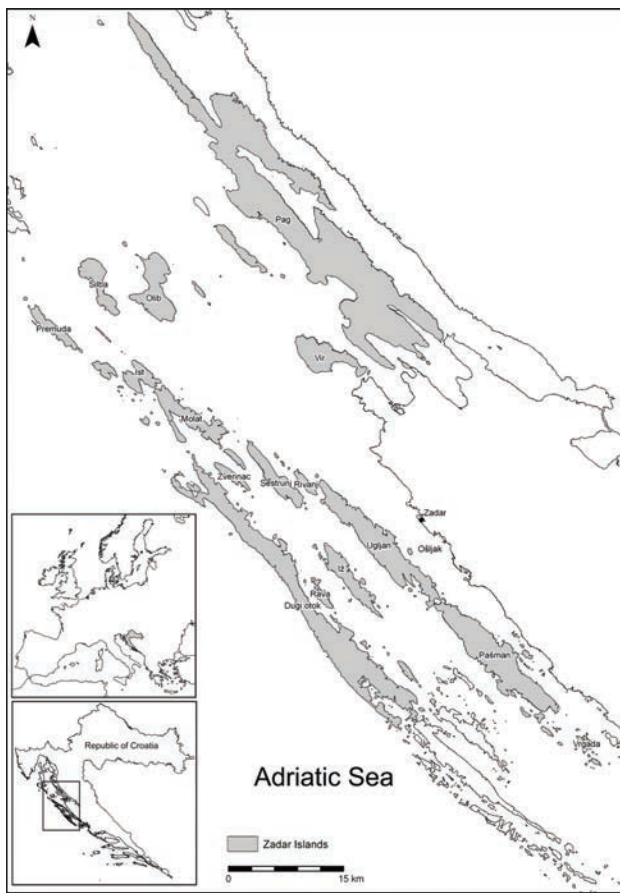


Fig. 1: Geographical position of Zadar Islands

length of 4398 km. It comprises of 79 islands, 525 islets and 642 rocks and reefs (Duplančić et al., 2004). Considering number and diversity, Croatian Islands can be divided into several groups depending on various criteria: natural-geographic, demographic, social, economic or administrative. Functional and administrative-territorial connections between islands and specific (urban) centres on the mainland prove transversal, whereas natural-geographic features indicate longitudinal fragmentation of Croatian Islands. By analysing islands demographic features and their connections to the mainland regarding distance, Klempić and Lajić (2003), Lajić and Mišetić (2006) divided Croatian Islands into coastal, channel and offshore. According to demographic criteria, Crnošija and Starc (1994) divided certain Croatian Islands in a more complex way, determining Islands demographic features based on the maximal recorded population number.

Zadar Islands are a part of larger, North Dalmatian group of islands (Fig. 1). Their main features are large number of small, scattered islands with NW-SE orientation in three and sometimes four parallel relief structures. Out of 17 settled islands (Table 1), Pag and Vir Islands are bridged, and there is also a bridge connecting Pašman and Ugljan Islands. Island's parallelism with the coast same as their distance from the mainland determined the grouping of islands into inner, middle and outer series islands (Skračić, 1994; Klempić, Lajić, 2003).

LOCAL ECONOMY ON ZADAR ISLANDS

Due to their geographical restrictions, islands are faced with limited developmental possibilities. Distance

Table 1: Basic features of Zadar Islands

Zadar Islands	Area (km ²)	Coastline length (km)	Population number in 2011
Dugi Otok	113.30	1,821.08	1,641
Ist	9.73	23.03	178
Iž	16.51	35.22	559
Molat	22.17	51.59	192
Olib	26.14	33.34	132
Ošljak	0.33	2.40	27
Pag	284.18	302.47	9,201
Pašman	60.11	702.05	2,844
Premuda	8.66	25.73	62
Rava	3.63	15.99	108
Rivanj	3.61	10.34	30
Sestrunj	15.12	29.34	45
Silba	14.27	26.23	286
Ugljan	51.04	78.74	6,126
Vir	22.07	31.94	3,032
Vrgada	2.31	9.18	240
Zverinac	4.17	14.27	42
Total	657.35	3,212.94	15,544

Source: Duplančić et al. (2004), Census of Population, Households and Dwellings 2011, CBS, Zagreb, 2012

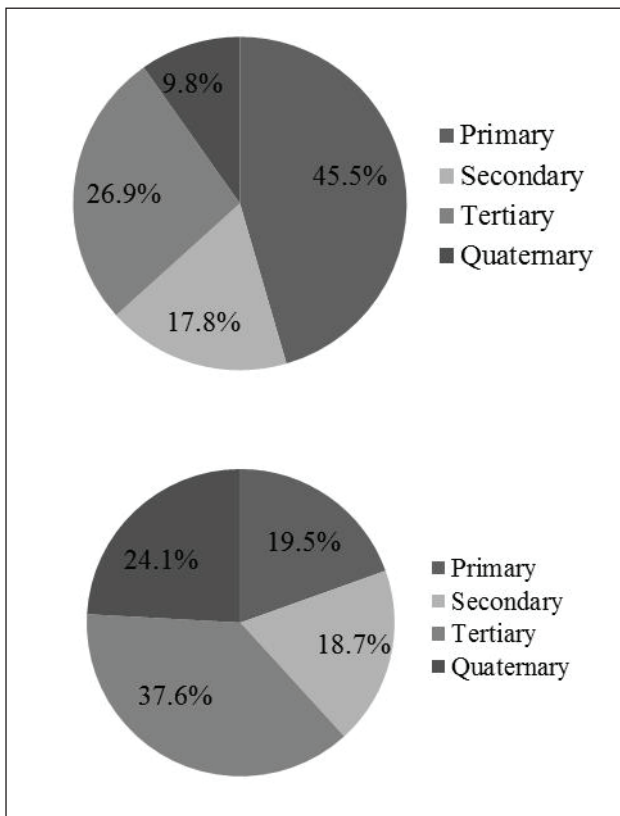


Fig. 2: Employed population on Zadar Islands according to activity domain in 1971 and 2001

Source: Census of Population, Households, and Dwellings 1971, Population according to Activity, results by settlements, bk. X, Federal Institute for Statistics, Belgrade, 1974, Census of Population, Households and Dwellings 2001, Population according to activity and ownership, CBS, Zagreb, 2005

and separation from land accentuate islands' economy problems. The most common ones are limited labour market, reduced economy development possibilities and inadequate population structure (Foghagen, 2011). In the past Zadar Islands went through periods of economic prosperity and adversity, but they were usually regions where inhabitants were engaged in agriculture, fishery and maritime transport – complementary activities based on local natural resources: sea, arable land and pastures. Throughout the history, the island economy can be described as a small-scale economy (Farić, 2006; 2012).

Significant changes in local economic structure occurred during the last decades of the 20th century. This change is a long-term process corresponding with economic development level of the entire region (Wertheimer-Baletić, 1999). Overall tertiarization of modern society induced similar processes on islands

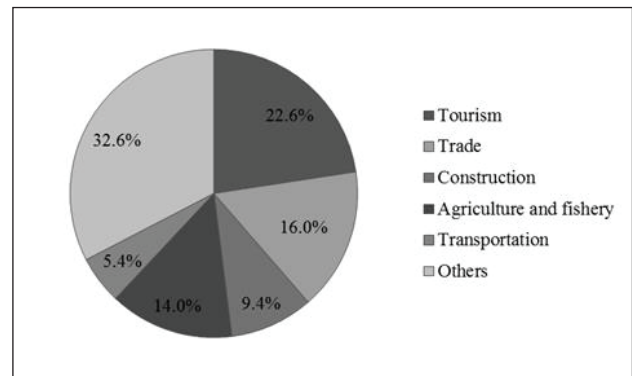


Fig. 3: Structure of entrepreneurs on Zadar Islands in 2011

Source: Association of Trades and Crafts Zadar, 2012

where tourism and other types of service industry became important and dominant, and at the same time traditional activities became neglected. Changes in economic structure in the period from 1971 to 2001¹ are the direct consequence of social, demographic and political circumstances. On Zadar Islands changes refer to decrease of active population in primary sector activities, significant increase of tertiary and quaternary sector activities and slight alterations of secondary sector activities. These changes are caused by socio-economic transition that evolved as the consequence of agriculture abandonment and redirection of economy towards service industry. Already in 1971 significant portion of islands' population was employed in tourism and related service industry, although majority was still employed in agriculture (Fig. 2).

Contemporary employment population structure indicates that the majority of the employees are in tertiary sector, i.e. service industry (37.7%) while the portion of the employees in primary (19.5%) and secondary sector (18.7%) is almost equal. The highest increase was recorded in the number of those employed in quaternary sector activities (24.4%). Small and medium businesses accounted for 79% of overall profit in Zadar County and 88% of all employed persons. During the first decade of the 21st century, the number of small and medium entrepreneurs constantly increased (Croatian Chamber of Economy, 2010).

Catering and tourism industry are the activities with the highest number of craftsmen (22.6%) with significant portion involved in trade (16%) (Fig. 3). Slightly smaller share of craftsmen deal with agriculture and fishery (14%), while smaller share is engaged in construction (9.4%) and transport (5.4%). Regardless its shortcomings, tourism is the most important economic activity on the islands. Majority of investments through

¹ The period from 1971 to 2001 is chosen as the referent one since there are still no available statistical data on economy for 2011 Population Census.

Table 2: Work contingent and demographic reserves on Zadar Islands in 2001 and work contingent in 2011

Island	Work contingent (15-64) 2001	Active population	Used work contingent (in %)	Unused work contingent	Demographic reserves (in %)	Work contingent (15-64) 2011
Dugi Otok	960	552	57.50	408	42.50	955
Ist	111	52	46.84	59	54.68	83
Iž	258	129	50.00	129	50.00	330
Molat	91	36	39.56	55	60.44	72
Olib	64	29	45.31	35	53.22	73
Ošljak	6	2	33.33	4	66.67	17
Pag	5,301	3,471	65.47	1,830	34.52	5,799
Pašman	1,221	899	73.62	322	26.37	1,787
Premuda	30	15	50.00	15	50.00	34
Rava	31	10	32.25	20	64.51	46
Rivanj	5	3	60.00	2	40.00	14
Sestrunj	17	11	64.70	6	35.29	23
Silba	131	69	52.67	62	47.32	178
Ugljan	2,508	1,727	68.85	781	31.14	3,822
Vir	1,126	629	55.86	497	44.13	2,021
Vrgada	144	67	46.52	77	53.47	127
Zverinac	20	6	30.00	14	70.00	23
Total	12,024	7,707	64.09	4,316	35.89	15,418

Source: Lajić, Mišetić, 2006, Census of Population, Households and Dwellings 2001, CBS, Zagreb, 2002, Census of Population, Households and Dwellings 2011, CBS, Zagreb, 2012

state subsidies were given to business owners in tourism industry (36%), and significantly less for shipbuilding (17%), fishery (13%), agriculture (5%) and others (29%) (Croatian Chamber of Economy, 2011).

According to the developmental index, made by Croatian Ministry of Regional Development and EU funds (MRRFEU, 2013), if compared to municipalities on the mainland in Zadar County, islands' municipalities are more developed. The highest ranked are Kolan Municipality on the Pag Island and Vir Municipality (Vir Island). The highest numbers of businesses are registered on Pag, Ugljan and Vir. Pag, Ugljan and Pašman have the highest number of employed persons. According to the mentioned statistical data the Island of Pag is the most developed Zadar Island. Aside tourism there are numerous other traditional activities such as sheep breeding, cheese and salt production. Not only preservation, but also further growth of mentioned activities provides an impulse to synergetic prosperity of the Island of Pag. One of the reasons for such a high number of businesses in comparison to other Zadar Islands is the fact it is bridged. Moreover, Pag has significant work contingent and demographic reserves that should be taken into respect. Island Pag, along with Ugljan and Pašman, has rather

small portion of unused work contingent. On the other hand large portion of unused work contingent is a sign of insufficient and/or undeveloped economy. Besides long lasting depopulation period and unused working contingent, Zadar Islands still have demographic resources for future economic advancement (Table 2).

TOURISM ON ZADAR ISLANDS

Main features of tourism in Croatian littoral area are the highest number of overnight stays during the summer months and the tourist offer almost exclusively based on the sun-sand-sea concept (Petrić, Mimica, 2011). During 1960's until the end of 1980's in spite of various political, socio-demographic and economic changes, tourism on islands mainly trailed the pace of tourism development on the mainland (Mikačić, 1994). It is largely due to the improvements of transportation that tourism on Zadar Islands has developed. The best examples are Islands of Vir and Pag on which the major investments in tourism occurred after the construction of bridges (1968 and 1976).

Already at the beginning of the 20th century, tourism on Zadar Islands started to develop. During 1960s,

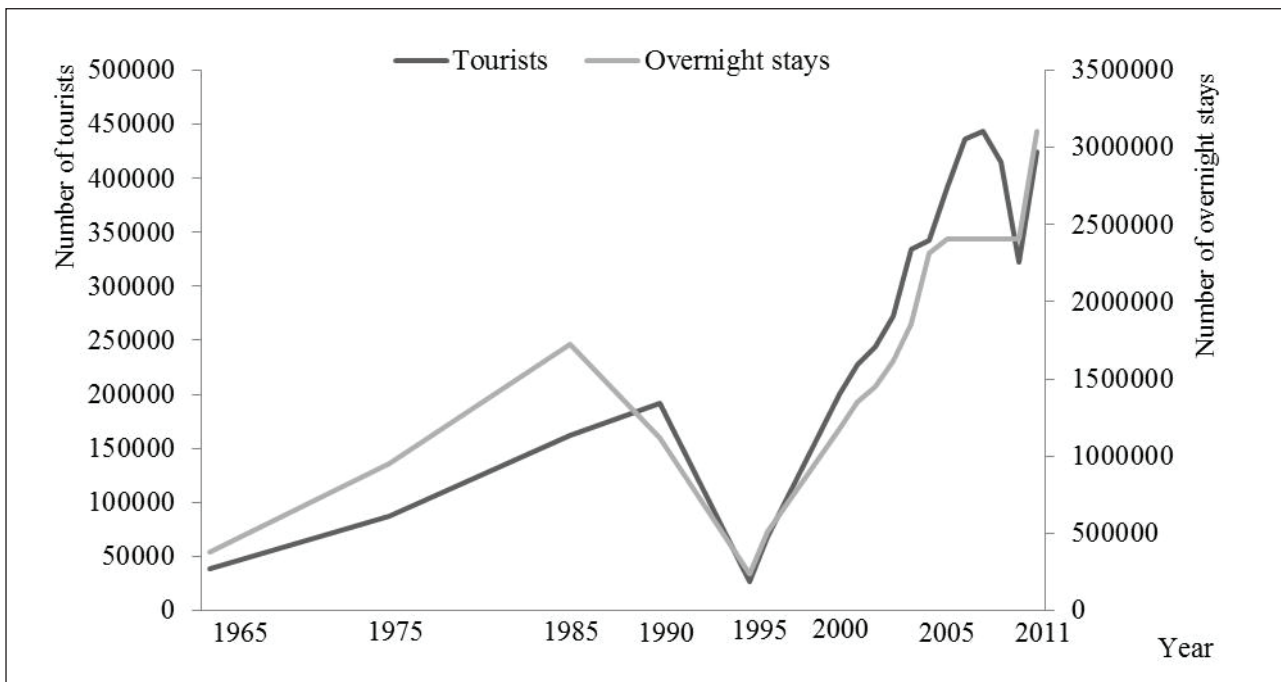


Fig. 4: Number of tourists and overnight stays on Zadar Islands in the period from 1965 to 2011

Source: Tourism in Seaside Resorts and Municipalities, FIS of Socialist Republic of Croatia, doc. 3.8/1965, Zagreb, 1966; Tourism in Seaside Resorts and Municipalities, FIS of Socialist Republic of Croatia, doc. 244/1975, Zagreb 1976; doc. 661/1986, Zagreb doc. 812/1990; Zagreb 1991., Tourism in Seaside Resorts and Municipalities CBS, doc. 994/1995, Zagreb, 1996; doc. 1135/2000, Zagreb, 2001, doc. 1297/2005, Zagreb, 2006; Tourism in Seaside Resorts and Municipalities, CBS, doc. 1331-5146/2010, Zagreb 2011

following the first phase of mass tourism development almost all islands became attractive tourist destinations. Whereas during the middle 1960s less than half of all islands' settlements recorded tourist activity, today in 60 out of 68 island settlements, there is a record of tourist activity. In the period from 1965 to 2010 the number of tourists on Zadar Islands has doubled (Fig. 4). Accordingly, it can be concluded that the majority of settlements are tourism oriented.

Tourism on Zadar Islands is greatly dependent on climatic conditions and essentially only one prevailing type of the tourism is developed – so called sun-sand-sea tourism. The tourist accommodation sector experiences strong seasonal fluctuations (Mikačić, 1994; Kunst, 1997; Faričić, 2012; Brkić-Vejmelka, 2013). Tourism activities start rather late, in May or more often June and end in September and rarely October. Seasonality in Zadar Islands can be seen from the following, in 2012, 78% of tourist came during July and August and if June is also included then figure rises up to 90% (Tourism Development Master Plan of Zadar County 2013-2023, 2013). Unfavourable distribution of tourist activity does not contribute to the balanced progress and economic development. Seasonality is one of the main problems facing tourism on Zadar Islands. Even

though all tourist destinations are more or less affected by seasonality its impact on Zadar Islands is rather severe.

Other important type of tourism developed on Zadar Islands is nautical tourism. Considering number of islands, indented coastline and the sea surface area², Zadar Islands represent a region ideal for nautical tourism development. Zadar Islands have numerous advantages such as the vicinity of emissive tourist regions, new and quality road transport system on the mainland, numerous maritime ports and international airport in the hinterland. Important destinations for yachtsmen are both marinas on the mainland and the ones on the islands. Due to attractive nautical surrounding, especially Nature park Telašćica and National park Kornati, Zadar Islands became a prominent nautical destination. The number of yachtsmen in the overall tourist number on Zadar Islands is bigger on smaller islands with insufficient accommodation capacities. On certain Zadar Islands yachtsmen are the only tourists. For example, on Olib island they accounted for 100%, and on Rava, Premuda and Ist Islands 90% of the overall tourist number (Fig. 5). In the nautical ports crucial problems are not only optimal occupancy but quality of services and lack of berths, especially during July and August. There are

² With the sea surface of 3,632.9 km², Zadar County comprises 11.6% of total Croatian sea surface.

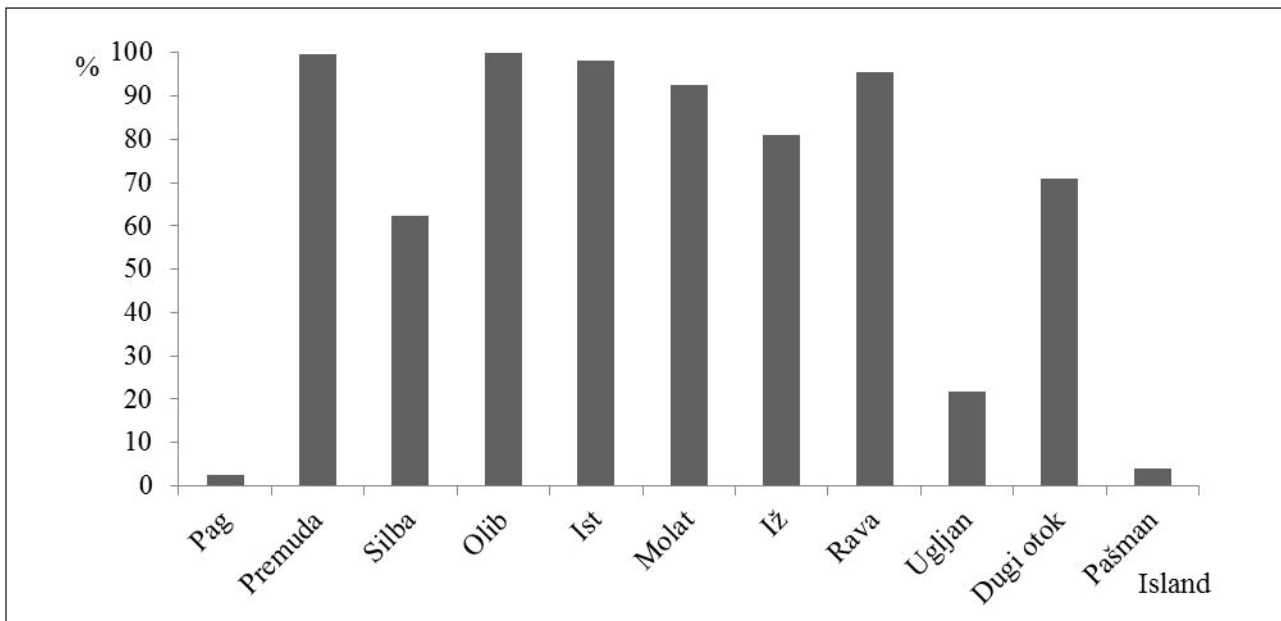


Fig. 5: Share of yachtsmen in overall tourist number on Zadar Islands in 2011

Source: Nautical tourism, Capacity and Turnover of Ports, 2012

still problems with fuel³, water or electricity supply, and absence of numerous services⁴ such as boat or boat engines repairing, cleaning services, etc.

ISLANDS' DEMOGRAPHIC AND SOCIO-CULTURAL PROFILE

Like other Croatian Islands, Zadar Islands are faced with demographic difficulties evident in a type of "depopulation landscape" that has evolved during the second half of the 20th century (Nejašmić, 1991). Modifications in settlement patterns are determined by various elements. One of them is the peculiarity of geographical position. There are distinctive variances between islands closer to mainland, the bridged ones and offshore islands. As opposed to bridged islands and those closer to mainland, depopulation processes are more evident on small and offshore islands (Podgorelec, 1998; Friganović, 2002; Klempić, Lajić, 2003).

Contemporary depopulation processes on Zadar Islands should be regarded in the context of demographic situation in Croatia which is also marked by depopulation and aging. Aside from above mentioned facts, imbalanced population distribution in Croatia caused unequal socio-economic and regional development and monocentric nodal-functional settlement network (Nejašmić, 2005). Due to depopulation processes there is unequal development of certain regions same as im-

balanced development within regions confirming firm correlation between demographic and economic processes (Akrap, 2002). Because of the economic polarization there is a constant decrease in population number, which is common characteristic of transition from traditionally agrarian into industrial and post-industrial society (Nejašmić, Štambuk, 2003; Pejnović, 2004). As regions of typical periphery Croatian Islands also experience these processes (Sić, 2003).

Depopulation processes intensified after the Second World War and consequences are evident even today. The most intense decrease of the overall population number was recorded in the period from 1948 to 1971. Polarization of economic and demographic development (coast vs. islands vs. hinterland) and the strengthening of urban centres on the mainland became the dominant feature of Croatian territory. Systematic and constant stimulation of industrialization in towns and simultaneously disregarding of rural area reflected on rural and island's population number (Magaš, 1999; Magaš, Lončarić, 2006). Because of emigration and constant natural decrease, reduction of population number after 1970s was even more apparent. In the period from 1971 to 2011 overall number of population on Zadar Islands decreased by 20.1% (Fig. 6).

The highest decrease of population was recorded between 1971 and 1981 when the overall number was reduced by 24.7%. At the same time, this is the age of so-

³ Pag, Ugljan and Pašman Islands are the only Zadar Islands where seafarers can buy fuel for motor boats.

⁴ Research TOMAS Nautika 2007 indicates that according to yachtsmen, the biggest problem in Croatian marinas is their poor infrastructure and lack of services they provide.

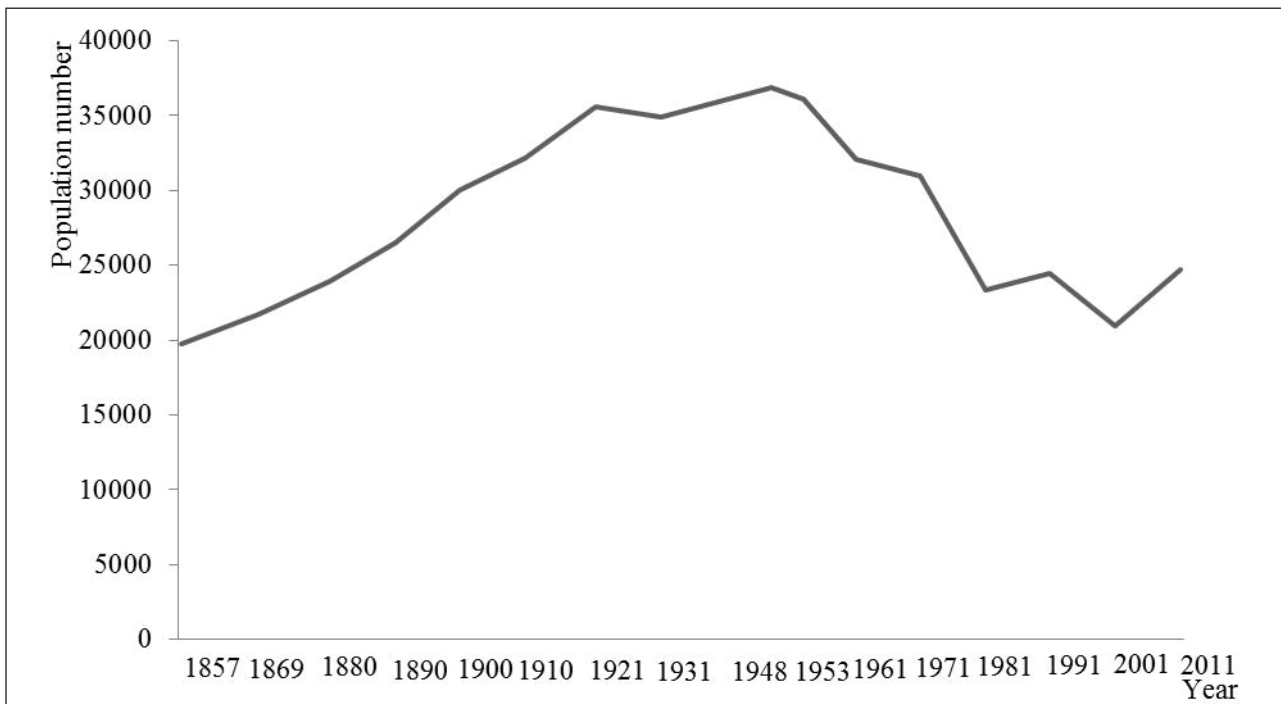


Fig. 6: Population of Zadar Islands from 1857 to 2011

Source: Settlements and Population of the Republic of Croatia – Retrospect 1857-2001, Zagreb, 2005; CBS, Census of Population, Households and Dwellings 2011, Zagreb, 2012

called “golden era of Croatian tourism” (Vukonić, 2005). In intercensal period from 1991 to 2001, for the first time the population number slightly increased. However, that growth was not the result of positive demographic changes such as immigration or positive natural change, but the consequence of so-called “administrative” immigration. This is the category of “fictive islands’ population” referring to persons staying on islands only occasionally, most often during summer (Klempić, Lajić, 2003). During the last decades, there has been immigration of younger retirees into second homes or houses

they have inherited on islands. Namely, some of second homeowners transferred their place of residence from mainland to islands. Motives for such action very often are numerous privileges for those with permanent place of residence on islands such as avoiding paying taxes for two real estates, lower price for water supply, low-cost boat and ferry tickets, etc.

In the last intercensal period Zadar Islands had the highest increase in comparison to all others Croatian Island groups (9.6%). Certain islands recorded minor (Ugljan, Dugi Otok, Olib, Zverinac, Sestrunj) and some

Table 3: Number of inhabitants on Croatian Islands from 1948 to 2011

Islands	1948	1971	2001	2011	Change 2001=100	Change 1948=100
Kvarner Islands	39,841	31,140	38,687	39,622	102.4	97.1
North Dalmatian Islands	48,421	39,872	28,865	30,703	106.3	59.6
Zadar Islands	36,862	30,936	22,565	24,745	109.6	67.1
Central Dalmatian Islands	41,290	34,284	34,927	36,267	103.8	84.6
South Dalmatian Islands	23,285	22,497	19,007	18,190	95.7	81.6
Overall Islands	153,332	127,793	121,486	124,842	102.7	81.4
Share of Zadar Islands	24.0	24.0	18.5	19.8	-	-

Source: CBS, Settlements and Population of the Republic of Croatia – Retrospect 1857-2001, Zagreb, 2005; CBS, Census of Population, Households and Dwellings 2011, Zagreb, 2012

more significant (Pag, Pašman, Vir) population increase. Population increase was recorded even on some small islands (Premuda, Silba, Rivanj, Rava). With 24,745 inhabitants Zadar Islands make 19.8% of Croatian Islands population (Table 3). Population increase detected after the last population census is mainly the consequence of so called “occasional” inhabitants, mostly second home owners. Even though their influence on demographic picture can be discussed, overall activities on islands could be brought into question without their intermittent presence.

LANDSCAPE TRANSFORMATION

Islands landscape developed in an area of specific natural-geographic features with karst hydrology, karst relief forms and particular Mediterranean vegetation. Main features of island landscape are indented coast and specific landscape physiognomies (Bralić, 1999). Dominant characteristic of Zadar Islands' landscapes are abandoned agricultural area and numerous devastated stone walls between agricultural plots (Faričić, Mikuličić, 2010), abandoned houses and overgrown

Table 4: Permanently occupied dwellings and dwellings for vacation and recreation on Zadar Islands in 1971 and 2001

Island	1971			2001			2011
	Number of permanently occupied dwellings	Number of dwellings for vacation and recreation	Number of dwellings for vacation and recreation per 100 permanently occupied dwellings	Number of permanently occupied dwellings	Number of dwellings for vacation and recreation	Number of dwellings for vacation and recreation per 100 permanently occupied dwellings	
Dugi Otok	772	51	6.6	662	371	56.0	1044
Ist	107	27	25.2	90	128	142.2	96
Iž	434	113	26.0	308	456	148.1	560
Molat	191	57	29.8	127	269	211.8	137
Olib	128	18	14.1	68	88	129.4	72
Ošljak	-	-	-	13	28	215.4	29
Pag	1,998	325	16.2	2,956	5,572	188.4	5,592
Pašman	824	76	9.2	857	1221	142.5	1,579
Premuda	54	-	-	43	49	113.9	43
Rava	63	11	17.5	55	36	65.4	107
Rivanj	17	4	23.5	14	33	235.7	56
Sestrunj	62	1	1.6	32	56	175.0	114
Silba	135	156	115.5	131	443	338.2	163
Ugljan	2,050	177	8.6	1,993	1,402	70.3	3,871
Vir	245	9	3.6	514	5,960	1,159.5	1,297
Vrgada	93	34	36.6	94	84	89.4	235
Zverinac	29	2	6.9	22	8	36.4	33
Total	7,202	1,061	14.7	7,979	16,204	203.1	15,028

Sources: FIS, Population and Housing Census 1971, Dwellings – Size, ownership, households and persons, Bk. II, Belgrade, 1972; FIS, Population and housing census 1971, Vacation and Recreation Dwellings, Bk. VI, Federal Institute for Statistics, Belgrade, 1973; CBS, Population, Housing and Dwelling Census 2001, Dwellings by Occupancy, Zagreb, 2002; Population, Housing and Dwelling, first results by Settlements, Census 2011, CBS, Zagreb, 2011

field paths. Economic conditions and general regression resulted in dysfunctional landscape.

Due to the development of mass tourism, coasts and the sea became the most attractive and the most exposed areas. Very attractive bays and beaches are under the distinct anthropogenic influence, various pollution, and waste disposed on the land or washed out from the sea. Negative influences on coastal habitats such as, overloading the coasts, excessive apartments building, construction of infrastructure on beaches, are the most common consequences of concentrated tourist activities. Islands' coasts are faced with the problem of lacking wastewater drainage system, appropriate solid waste disposal and further accelerated excessive apartments building (Trumbić, 2003). Particularly endangered are shallow and coastal seas up to 30 meters of depth and 300 meters from the coastline (Favro, Kovačić, 2010).

Large portion of previously cultivated land on Zadar Islands has been overgrown by forests, thick macchia and due to the abandonment of sheep and goats breeding area under pastures has decreased. In the self-grown vegetation, that is usually very thick and pathless, patterns of stonewalls and terraces are vanishing. During the second half of the 20th century settlements on the hills or further away from the coast (for example Gorica, Stara Vas, Vrčići, Kolan on Pag Island, or , Zaglav, Savar, Sali, Žman on Dugi Otok Island and Lukoran on Ugljan Island) expanded toward coast and along it (Sestrunj, Premuda, Rivanj). This is caused by several reasons. In some cases shift toward coast was due to maritime transport development (location of ports) or economic infrastructure (warehouses for diverse commodities such as fish or agricultural products or tools) and lately mainly due to tourism development. Even though traditional rural settlements are unavoidable landscape component and have cultural value (Marinović-Uzelac, 2002), owing to changed physiognomy, morphology and structure, sometimes they are losing their identity. Island settlements traditional arrangements, characterized by rhythmic exchange of typical architecture and natural landscape, have exceptional social, cultural and esthetical value, but frequently are insufficiently valued and used. Tourism also triggered "the creation" of completely new island settlements, often comprising of only second homes and/or apartments such as in Gajac and Kolanjski Gajac on Pag Island. Pag and Vir Islands have the largest overall number of apartments (Table 4).

Starting from middle 1960s tourism on islands was followed by construction of second homes, influencing spatial-functional relations, transforming majority of larger island settlements into predominantly recreational and leisure areas. Weekend tourism marked tourist development of Zadar Islands, and consequently owners and users of second homes became the new most

prominent subjects on islands (Rogić, 1994). Along with their primary function (recreation and leisure), second homes are often rented providing financial gain for their owners. Simultaneously, second homes provide additional number of accommodation units⁴. Renting of second homes is more frequent on smaller and offshore islands with limited tourist accommodation capacities. Almost half of all second homes built in Zadar region are situated on islands; confirming the hypothesis that islands are extremely attractive leisure zones regardless of transport isolation and accessibility, inadequate infrastructure (lack of water supply, problems with waste management, lack of ship and ferry-boat lines) or higher living costs.

EMPIRICAL RESEARCH

As a supplement to previous research an empirical research has been conducted. Repeatedly scientific researches on tourism examine local population and tourist's attitudes (Sirakaya-Turk, 2007). For the analyses of geographical processes, non-parametric methods were used, Chi-square test and Mann-Whitney test. The aim of surveying local population was to determine their perception towards island as a (suitable) place for living and the function of tourism for island's future development. Survey has been conducted on Silba Island during summer months in 2010 and 2011 and afterwards on Vir Island (2011) and Ugljan Island (2011). Due to its position near the mainland and Zadar (centre of Zadar County) Ugljan Island can be considered as its suburban zone. The aim of these parallel surveys of local population was to study the differences and similarities concerning their perceptions on living on the island.

Questions were divided in four different groups. First group included questions on the basic population characteristics such as age, sex, education, occupation, economic activity. The second group included questions on the various important issues for the everyday activities such as traffic connections, health care, social life, etc. Within the third group, there were questions on reason for staying or leaving the island. Finally the fourth group of questions related to the population's attitudes towards the improvements of life conditions and the opinions/attitudes on the pillars of the island's economic development. Overall number of the examinees was 148; 33 on Silba Island, 67 on Vir Island and 48 on Ugljan Island. The largest number of examinees (57%) were older than 65. A comparison of the census data from 1971 and 2011 shows that the population of Zadar Islands has been affected by ageing. There is a continuous decline of the proportion of young people and the simultaneous increase in the share of the elderly (Faričić, 2006, 2012; Brkić, 2013). Due to insufficient infrastructure, inadequate organisation of social activities, lack of edu-

4 It has been estimated that the average usage of beds in second homes in Littoral Croatia is around 30 days per year (Mikačić, 2007).

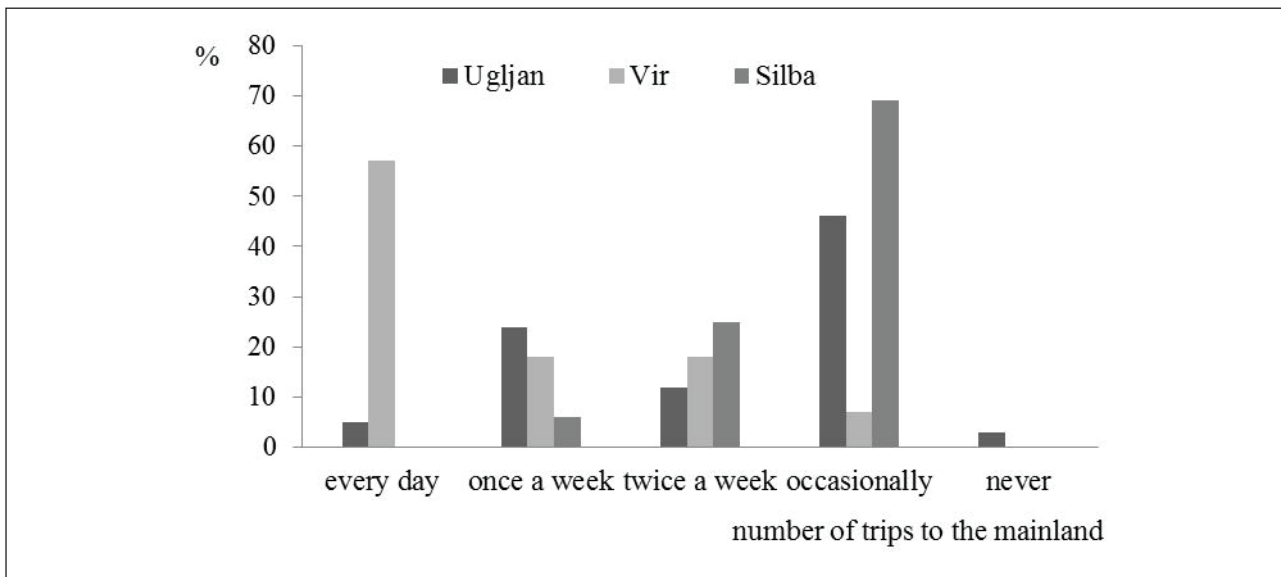


Fig. 7: Share of population according to the number of trips to the mainland on Ugljan, Vir and Silba Island

Source: author's survey

cational facilities, inadequate transport connections, young families with children moved to mainland and stay on the islands solely during summer months (Čuka, 2011).

Zadar Islands depend on maritime transport to access essential socioeconomic services situated on the mainland. On all inhabited Zadar Islands there is at least one ferry terminal providing efficient maritime transport for local population, tourists, and the distribution of freight.

Among all examinees, ones from Vir Island travelled the most (Fig. 7). This is because Vir Island has been bridged in 1976. Opposite to population living on Vir Island those from Silba Island travelled the least. In this case the reason is limited number of ferry lines throughout the day and small portion of young people living on the island. Regardless whether the island is bridged or not and how many ferry lines are there throughout the week local population depends on services situated

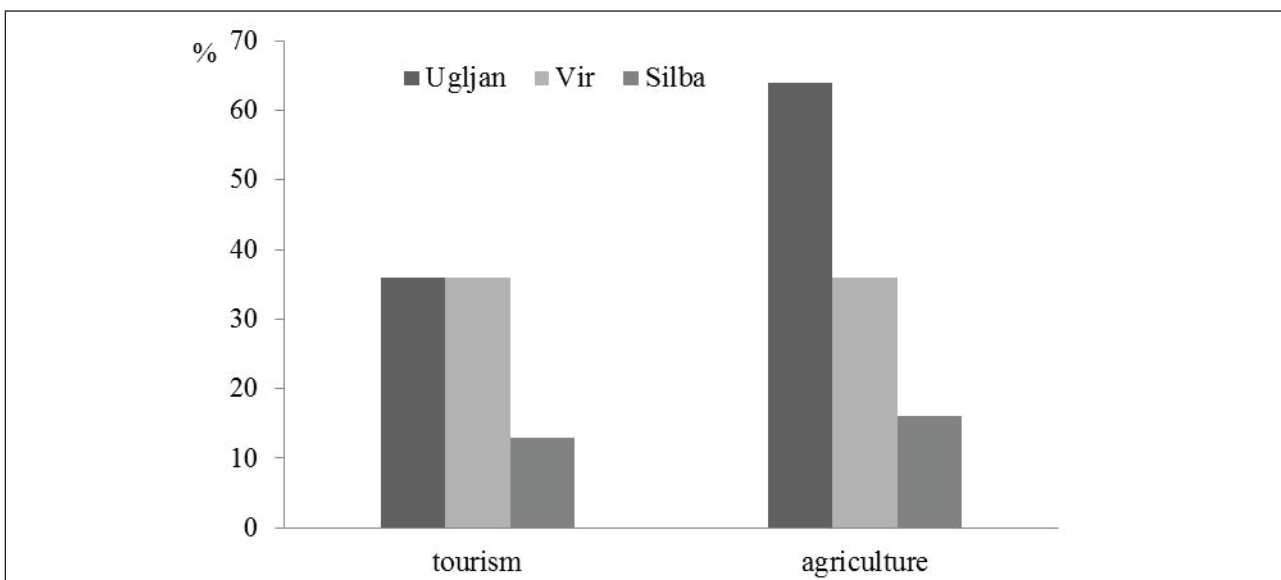


Fig. 8: Share of population according to the additional source of income on Ugljan, Vir and Silba Island

Source: author's survey

Table 5: Mann-Whitney test for variable for samples of population of Silba, Ugljan and Vir Islands

Analysed samples	Variable	Mann-Whitney test
Ugljan Island – Silba Island	Transport connections with mainland	52.500*
	Health care	197.000
	Social events	166.000
Vir Island – Silba Island	Transport connections with mainland	92.000*
	Health care	267.500
	Social events	162.500*

* $p < 0.05$

Source: authors' survey

on the mainland and therefore they travel practically on regular daily basis. The exception is Silba Island since local population travels to mainland only once or twice a week and in some cases even more rarely.

If we compare the population on Silba, Ugljan and Vir Island according to their additional source of income, both tourism and agriculture are recognised as important economic activities (Fig. 8). On Ugljan Island 63% of the examinees, deal with agriculture while only 16.2% examinees practice agriculture on Vir Island. Altogether, agriculture and crafts play a minor role in the Zadar Islands' economy, constrained by the limited availability of cultivable land and shortage of domestic labour. This is even more emphasized on small islands such as Silba.

By application of Mann-Whitney test method on the population living on Silba, Vir and Ugljan Islands statistical differences variables were determined. Data analyses confirmed statistically significant difference for variable transport connections with mainland (Table 5). Examinees from the bridged island (Vir) and the island which is closer to mainland (Ugljan) were very pleased with transport system and ferry lines frequency. Ferry lines for Ugljan

Island are one of the most frequent ones on the Eastern Adriatic. Nevertheless even population living on Silba Island was not completely dissatisfied since during the last couple of years schedule for ferries and catamarans was adjusted and freight and passenger traffic were separated. The problem remains during the winter months when the number of ferry lines is decreased.

Analyses showed that there is no statistical difference for health care variable. Bearing in mind that population living on Zadar Island is predominantly old, quality of health care is one of the most important factors in their perception of life quality on the island. Examinees are very pleased with the provided health care especially on Silba Island where there is an infirmary, doctor, pharmacy and a heliobrom for emergencies. Besides, local government plans to provide one ship for all medical and other emergencies for small islands. On the other hand, there is statistical significant difference in attitudes towards social events. Deficiency of social events throughout the year is even more emphasized on the small islands. During summer, there are numerous social events on all Zadar Islands whereas during win-

Table 6: Mann-Whitney test for variable for samples of population of Silba, Ugljan and Vir Islands

Analysed samples	Variable	Mann-Whitney test
Ugljan Island – Silba Island	Indifference towards living on island	157.500
	Absence of educational programmes	163.500
	Spatial isolation	168.000
	Absence of businesses	213.500
	Absence of social events	192.500
Vir Island – Silba Island	Indifference towards living on island	264.500
	Lack of educational programmes	272.000
	Spatial isolation	231.500
	Absence of businesses	206.000
	Absence of social events	263.000

* $p < 0.05$

Source: authors' survey

Table 7: Chi-square test for variables on samples of Silba, Ugljan and Vir Islands population

Variable	Chi-square (χ^2)
Tourism development	2.571
Agriculture development	61.460*
Fishery development	38.889*
Stimulation of entrepreneurs	3.841*
Formation of associations (societies)	56.000*
Formations of guilds	19.841*

* $p < 0.05$

Source: authors' survey

ter period very few are. Previous survey done in Sali on Dugi Otok by Graovac (2009) showed that all the examinees confirmed that the biggest disadvantage of living on the island is the lack of social and cultural events.

After analysing variables causing emigration, particularly of young population, it has been determined that there is no significant difference between islands (Table 6). Even though not all islands have the same geographical position in relation to mainland, all examinees said that young people would leave the islands because of several factors. The most important factor causing permanent emigration towards mainland is the lack of working places and entrepreneurs.

After the analyses of survey using Chi-square test it has been determined that there is no significant statistical difference for variable regarding tourism development. Tourism is viewed as one of the most important factors that can stop depopulation and emigration from islands (Table 7). Similar results can be found in a research by Segarić (2009). All examinees from Kukljica settlement on Ugljan Island said that tourism is the only economic activity that can initiate development, enable new jobs and stop emigration. This thesis has also been confirmed in this research.

DISCUSSION

Because of continuous depopulation and aging processes, total livelihood existence on islands came into question, both demographic and economic. Zadar Islands are characterized by general retrograde processes that can all be confirmed by statistical data. Depopulation is serious demographic, social, economic and even political problem. Lack of human capital is islands' deficiency reflected on an overall economic development (Kim, Uysal, 2002). Demographic regression on Zadar Islands was affected by several interrelated factors: emigration as the result of vine-growing crisis, agrarian overpopulation and long-term emigration of the most vital population that led to reduction of fertile contingent.

During recent years, the number of overnights spent in tourist accommodation establishments on Zadar Is-

lands has generally shown an upward trend. However, there was a short-lived downturn in the number of nights spent in tourist accommodation establishments in 2008 and 2009 because of the financial and economic crisis. In 2010, however, the number of overnight stays increased and this positive trend continued. Majority of activities on islands are tourism dependent and mutually related so problems of islands' economy are mirrored throughout the distinctive seasonality not only in the case of tourism but also trade, construction, fishery and transport. However, tourism affected the development of small and medium entrepreneurs and (self) employment. Those involved in tourism industry are usually included in the category of self-employed small entrepreneurs (Tajnikar, 2000). Even though the earnings of small entrepreneurs are very often below average, small businesses can be the initiators of islands' economy and providers of valuable services strengthening local communities and economy's driving force. Although it can be concluded that the structure of employees according to activity domain indicates high developmental level, large portion of inhabitants of certain islands' settlements employed in quaternary sector activities is to a greater extent reflection of economic regression (Faričić, 2012) rather than economic progression.

Largest share of new built elements are second homes and tourist infrastructure. Second homes have multiple effects on landscape visual patterns. Very often they have disrupted existing settlement structure and devastated traditionally balanced esthetical corpuses. Prevailing leisure and recreational activities influenced contemporary physiognomic changes in most of the islands' settlements. Settlements have expanded, either within or outside construction zones.

Research done on the Zadar Islands indicates numerous similarities regarding perceptions of local population same as the possible solutions, bearing in mind differences provoked by geographical location and population age structure. Island population recognises the problem of insufficient economic development and social isolation. Because of mentioned deficiencies, local population is trying to consolidate possible future



Fig 9: Silba Island. Source: *Ljetni olimpijski centar na Silbi. From Zadarski list.*

solutions such as for example encouragement of small businesses initiatives and the strengthening of social inclusion. All the examinees see tourism as strong and vital initiator of the economy. Even though tourist activity on the islands has been present from the second half of the 20th century it still has not triggered sufficiently the reinforcement of other economic activities. Therefore even the quality of tourism on Zadar Islands is questionable. In some settlements, traditional activities like fishery or agriculture almost ceased to exist and tourism is generating more revenue than fishing, shipping and agriculture together. Overgrowth of tourism in a given region or on all islands could be environmentally and culturally disruptive and detrimental to primary sector activities (Brkić-Vejmelka, 2013).

For majority of examinees far less significant reasons for leaving the islands are spatial isolation, infrastructure, or absence of educational programmes. This kind of perception is the result of improved living conditions in the second half of the 20th and the beginning of the 21st century. New ferry ports were built, new ferry and catamaran lines were introduced, water supply has improved, and the problem with waste deposit is almost solved since nowadays it is regularly transported to the mainland. Nevertheless, the nonexistence of employ-

ment, lack of companies and entrepreneurs, is the biggest limitation factor.

CONCLUSION

Contemporary tourism on Zadar Islands can be described as mass tourism based on sun-sand-sea concept with basic tourist offer. One of its main and the biggest problems is seasonality. In case of Zadar Islands, all economic activities are strongly connected and dependent on tourism and occur during summer period. Throughout rest of the year islands are only dwelling places for a small number of inhabitants. After several last decades, tourism has strongly influenced island landscape transformation, and among the most significant alterations are general re-growth, reforestation, and overgrowth of vegetation as the direct consequence of the agriculture abandonment. Instead of being a place for work and production, islands became almost solely a place of leisure.

The concept and scope of tourism have been progressively changing. Therefore, it is necessary to conduct further researches concerning not only population attitudes towards tourism but also to include theoretical and applicable analysis involving different issues in formulating future strategies for tourism development. This

research just underlined basic conditions concerning tourism on Zadar Islands at the beginning of the 21st century and it was limited to several analyses types. Future analyses should include continuous surveys concerning population attitudes towards tourism but also other methods such as field work, data analyses, investigation of the tourism influence on the islands' sustainability, etc.

During the second half of the 20th century, tourism has determined islands' economic past and now it has a strong impact on their future. Some of the future tasks for tourism development of Zadar Islands are to improve the quality of accommodation, start joint marketing initiatives for local products, induce diverse tourism activities, develop new products, etc. All this needs to be done in order to expand short tourist season and also to support other economic activities, like agriculture, farming and fishery. In long term this could eventually influence population trend in addition to social and economic cohesion. However, even though tourism has become the most important activity on Zadar Islands, it is still underdeveloped and very much seasonal, and therefore still unable to change negative demographic, social and economic trends. Tourism can be considered as the future for Zadar Islands but certainly not the only possible one.

RAZVOJNE MOŽNOSTI ZADARSKIH OTOKOV- ALI JE TURIZEM NJIHOVA GONILNA SILA

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POVZETEK

V drugi polovici 20. stoletja je imel turizem močan vpliv na hrvaške otoke. Avtorji so analizirali podatke števila prebivalcev, prihodov turistov, nočitev in dostopne podatke o gospodarstvu. Za potrebe tega članka je bila narejena raziskava med prebivalci treh zadarskih otokov – Ugljana, Silbe in Vira. Vprašanci so bili izbrani naključno. Rezultati so bili analizirani z neparametričnimi metodami, Man Whitney (U test), Hi kvadrat test in obdelani v SPSS 17,0 programu. Cilj raziskave je bil ugotoviti ali statistično obstajajo značilne razlike med odgovori na Ugljanu, Silbi in Viru, kot tudi pridobiti mnenja otoškega prebivalstva o tipičnih problemih življenja na otoku. Raziskava je bila narejena tudi zaradi potrditve spoznanj, povezanih z analizo statističnih podatkov. Zaradi dolgotrajnega procesa depopulacije in staranja otoškega prebivalstva se postavlja vprašanje obstoja otoka, tako demografsko kot tudi ekonomsko. Zadarske otoke določajo retrogardni procesi, ki se zrcalijo tudi v statističnih podatkih. Čeprav je turizem postal najpomembnejša gospodarska panoga je še vedno premalo razvit in preveč sezonsko naravnan. Zato je nezadosten za pozitivne demografske, družbene in gospodarske spremembe. Čeprav je turizem pomemben dejavnik za prihodnost zadarskih otokov, vsekakor ni edina možnost.

Ključne besede: turizem, Zadarski otoki, depopulacija, ekonomski razvoj

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