

## TRAFFIC CONNECTION AND REASONS FOR COMMUTING FROM ZADAR ISLANDS TO ZADAR

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The authors expound the reasons why population uses the daily ferry and shipping line services between Zadar and its islands, based on the poll which included 209 passengers. The obtained results indicate that the islands' population uses these services mostly for shopping purposes, medical care and less for the work or school. The highest frequency of the ferry and shipping lines is early in the morning (5-6 a.m.) for departure, and early in the afternoon (1-3 p.m.) for return. However, the available traffic connections are not strong enough to integrate the urban core on the coast with the islands, particularly with remote islands of the Zadar islands group, into unique economic entity. Insufficient number of well equipped shops, badly organized medical care, non existence of important institutions on the islands influenced a stronger depopulation. That is why the aim of the research is to show that modernisation of the ferry boat lines would positively influence on economic and demographic development of the islands.

**Key words:** Zadar islands, traffic connection, depopulation, development

U radu su prezentirani rezultati istraživanja provedenog na 209 ispitanika o razlozima dnevnih migracija na relaciji između zadarskih otoka i grada Zadra koji ukazuju na to da se trajektnim i brodskim prometom otočani uglavnom služe radi kupovine, odlaska liječniku te u manjoj mjeri radi odlaska na posao ili u školu. Trajektni i brodski promet najfrekventniji su u ranim jutarnjim satima (između 5.00 i 6.00 sati) s otoka prema Zadru, te u ranim popodnevnim satima (između 13.00 i 15.00 sati) iz Zadra prema otocima. Trenutna prometna veza još uvijek nije dovoljno jaka da bi integrirala u jedinstvenu gospodarsku cjelinu urbani centar na obali s okolnim otocima. Važno je napomenuti da su u posebno nepovoljnom položaju površinom manji i od kopna udaljeniji otoci. Nedovoljan broj dobro opremljenih trgovina, loše organizirana medicinska skrb te nepostojanje važnih institucija na otocima, razlog su pojačane depopulacije. Stoga je cilj istraživanja bio dokazati da bi modernizacija trajektnih i brodskih linija pozitivno utjecala na gospodarski i demografski razvoj otoka.

**Ključne riječi:** zadarski otoci, prometna povezanost, depopulacija, razvoj

## Introduction

The most significant processes on the majority of Croatian islands in the second half of the 20<sup>th</sup> century are emigration and depopulation (NATIONAL PROGRAMME OF ISLANDS' DEVELOPMENT, 1997; NEJAŠMIĆ, 1998). Unlike the North-Adriatic islands (Krk, Rab) and the Central Adriatic islands (Brač, Hvar, Korčula), with their own economic potentials which have been more or less intensively developed in the cooperation with the urban centres on the coast, the Zadar islands are on the outskirts of suburban Zadar. This is particularly observable on the inner string of the islands (Ugljan, Pašman and Vir), which have developed thanks to their daily communication with the town. However, the capacity and intensity of communications greatly depend on the traffic communication between the islands and the coast in such geographical circumstances.

Attempting to revive the insular economy, it is indispensable to analyse the reasons of using the ferry-shipping lines and the demographical structure of the islands' population, i. e. of the passengers. The main reason of the analysis is that the outer insular string belongs to the group of the most undeveloped Adriatic islands: Zverinac, Premuda, Srakane Vele, Rivanj, Rava, Ist, Olib, Molat, Sestrunj, Silba, Iž (MAGAŠ, 1981; MAGAŠ, FILIPI, 1983; MAGAŠ, FARIČIĆ, 1999; MAGAŠ ET AL., 1999; MAGAŠ, FARIČIĆ, 2002; BABIĆ ET AL., 2004). Only the islands of the inner string, Pašman and Ugljan, may be classified into the category of the developed islands. Despite of intensification of the processes of deagrarization and deruralization during 1970s, thanks to better traffic connection, degree of depopulation on the Ugljan Island was rather low compared with other Zadar islands (MAGAŠ, FARIČIĆ, 2000).

Because of specific geographic characteristics and its spatial isolation Zadar islands will always depend on bigger towns on the mainland, primarily on Zadar and Biograd. Although the traffic connections were improved in the second half of the 20<sup>th</sup> century, modernisation of the ferry/ship lines does not follow standards and economic development on the mainland. In order to improve the economic and demographic development of islands one of the possible solutions is connecting islands with the mainland and with each other by bridges. This connection would definitely influence the islands' development, but at the same time it would jeopardize the long cultural and social islands' tradition, as it had already happened on Vir Island.

During the second half of the 20<sup>th</sup> century it has been noticed that improvement of ferry/ship lines did have a positive influence on demographic development of islands, yet it had only decreased a grade of depopulation instead of stopping it (OPAČIĆ, 2002).

## Data and methodology

In order to make a detailed analysis of the traffic communications between the coast and the insular suburban area, in May 2003, during working days, a poll was conducted and randomly chosen passengers were interviewed at the exit from the ferry/ship in the Zadar ferry port. The same group of islanders was questioned about reasons for commuting to Zadar during the weekend. The poll included 209 persons from 8 islands which is 1.67% of the total insular population since there are 12,502 inhabitants living in 41 settlements on 14 Zadar islands (according to census data from 2001), or 2.5% of total population living on 8 islands included in the poll. From total number of

inhabitants, 50.0% are female and 50.0% are male. It is significant that the average age of total islands' population is 53.5 (Fig. 1), which is far away from Croatian average (39.3) or County of Zadar average (38.9). The data do not include population of the islands Pag and Vir, since their communication with the coast occurs by road over the bridges, neither the population of some periodically inhabited settlements or houses used during tourist season.

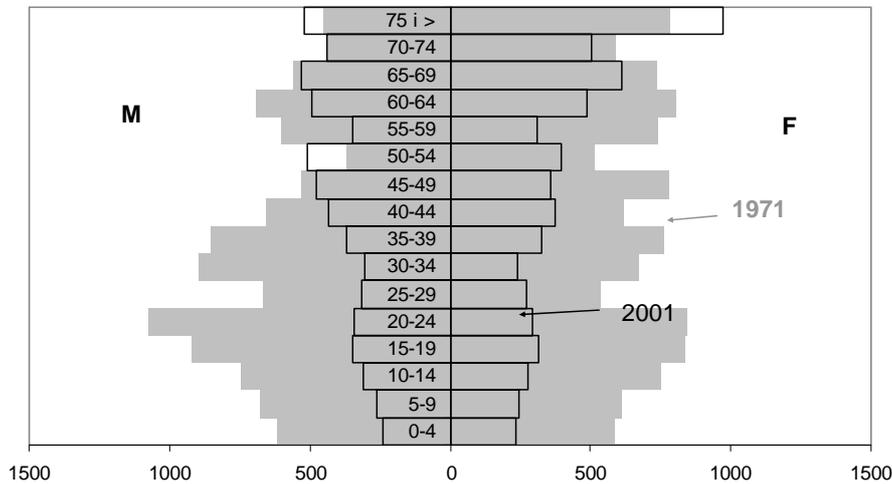


Fig. 1 Age-sex structure of population on Zadar islands in 1971 and 2001 (Vir and Pag are excluded)

*Sl. 1. Dobno-spolna struktura stanovnika zadarskih otoka 1971. i 2001. godine (bez Vira i Paga)*

Age structure of islanders and permanent decrease in number of inhabitants since 1948, are a proof of the highly unfavourable demographic situation. The main reason is emigration of younger population caused primarily by industrialisation on the mainland in the 1960s and 1970s. Besides better working opportunities in urban centres on the coast, another important cause of emigration is the lack of more significant infrastructural investments on the islands. Most of the households have electricity, but a major problem is water lack, especially in the summer period. Because of the karst landscape, there are no streams or similar water flows on the islands, so water from the rainfall must be collected in the private wells during the year. This problem can be solved only by connecting islands' households to the regional water supplying systems, which has successfully been done on the Ugljan Island.

Other important problems that influence demographic development are badly organized medical care, non existence of high schools, insufficient number of elementary schools, badly equipped and very expensive stores etc. On the islands there are no hospitals; basic medical care can be provided only in 13 GP doctors' offices in different settlements on 7 islands. The islands' doctors visit other settlements just once or twice weekly (HEBRANG ET AL., 1997). Only in 13 out of total number of 41 settlements on 7 different islands there are elementary schools (Fig. 2). After children finish elementary

school, they have to attend high schools on the mainland. For that reason, parents often move away from the islands with their children, instead of leaving them in the student dorms, alone in the town. On 11 islands there are post offices in 22 different settlements, but there is only one bank in the village Preko on the island Ugljan.

It must be underlined that the number of main public services is decreasing proportionally with an increase of the distance from the mainland, as well as with a decrease of population number.

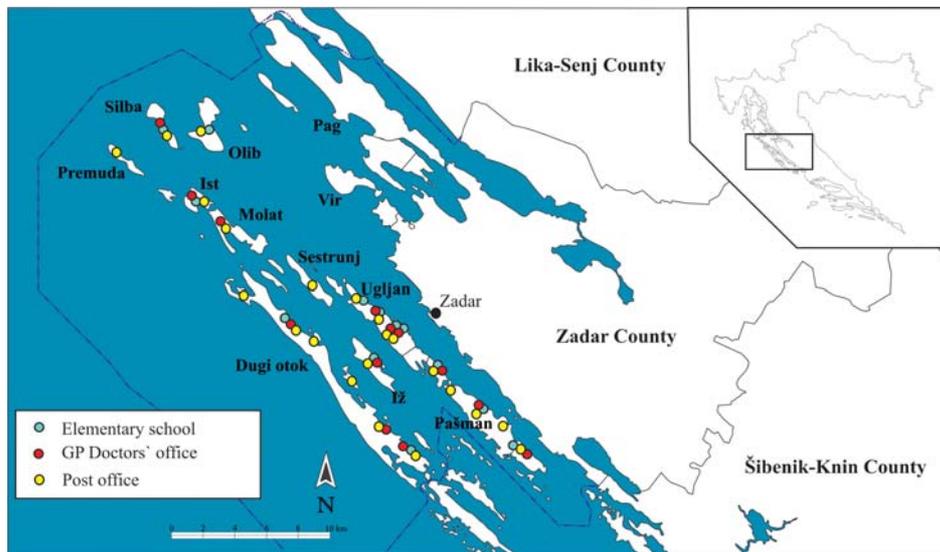


Fig. 2 Main public services on Zadar Islands  
 Sl. 2. Glavne javne službe na zadarskim otocima

The poll conducted in the port of Zadar shows the main reasons for travelling to the mainland, but it also signals the main push factors that cause permanent emigration over the last decades. Therefore the poll contained several basic groups of questions:

1. The reason for their week travel with several possibilities:
  - 1a. commuting to work
  - 1b. commuting to school/faculty
  - 1c. visiting relatives/friends
  - 1d. shopping
  - 1e. using medical services with the GP / medical specialist / hospital
  - 1f. attending state institutions like: local district services, cadastral, court, police etc.
  - 1g. other reasons: travel into the country, trade, funeral, etc.
2. Departure and arrival time
3. Travel during weekend
  - 3a. sports competition and events
  - 3b. cultural events: theatre, cinema, concerts
  - 3c. visit
  - 3d. other reasons
4. Population structure by age and sex

The poll included the inner and outer string of islands of the suburban belt (Ugljan, Iž, Dugi Otok, Molat, Rava, Sestrunj, Ist, Premuda)

**Research results**

*Travel during the week*

The poll included all age and sex groups of population at the almost balanced proportion: male (106 persons) and female (103 persons). The majority of the respondents belong to the mature population; quite naturally since they mostly use the transport services in their commuting to Zadar.

A smaller proportion of respondents is a young population and elderly who are less mobile, whereas a share of younger population on the islands is constantly declining (SMOLJANOVIĆ ET AL., 1999, DRAGIĆ, 2002), both due to the negative natural growth and outflow of the child – bearing population (Tab. 1).

Tab. 1 Age-sex structure of the respondents  
 Tab. 1. Dobna i spolna struktura ispitanika

AGE	Total	% in total	Male total	Male (% in total)	Female total	Female (% in total)
0-14	18	8.6	10	9.4	8	7.7
15-19	33	15.8	19	17.9	14	13.6
20-34	46	22.0	24	22.6	22	21.4
35-49	42	20.1	20	18.9	22	21.4
50-64	42	20.1	20	18.9	22	21.4
≥ 65	28	13.4	13	12.3	15	14.4
<b>TOTAL</b>	<b>209</b>	<b>100.0</b>	<b>106</b>	<b>50.7</b>	<b>103</b>	<b>49.3</b>

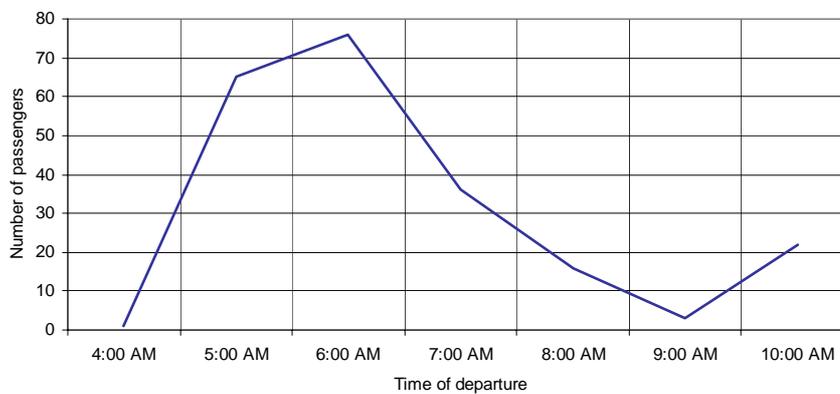


Fig. 3 Time of the departure from islands to the coast  
 Sl. 3. Vrijeme odlaska s otoka prema obali

By time of departure (Fig. 3), early morning hours (5-6 a.m.) are the peak time of departure for the insular population to the coast, mainly because certain islands (Ist, Molat, Sestrunj, Premuda, Olib, Silba, Rava) are connected with Zadar by only one shipping/ferry line a day which is early in the morning (Premuda, Olib 4.30 a.m., Iž, Rava 5 a.m.).

The insular population visit Zadar out of a few mostly existential reasons: shopping (23.9% of respondents) or medical care (22.0%). Some 17.7% of respondents commute to high school or to faculty, whereas less people go to work (9.1%), and to state institutions (9.1%). Other purposes are rather rare, like visiting relatives or friends (7.6%). The resulting slightly unusual structure of travelling is due to the fact that islands are rather badly equipped with many services (stores, post offices, and the basic or specialist medical care – there are almost no medical centres, doctor's offices or pharmacies). This refers particularly to remote islands.

From the analysis of the sex-structure (Tab. 2), it is noticeable that shopping is primarily bound to female population (58.0%), as well as the use of medical care services (58.7%), or attending state institutions for administrative services (52.6%). Questioned male population dominates in: commuting to work (52.6%), to school (62.2%) and for other reasons (72.7%) like sale on the market, travel into the country, where Zadar is only a transit spot, etc. It is interesting to note that during week men travel to visit their relatives and friends more often than women.

Tab. 2 Travel reasons during the week from the island to the mainland

Tab. 2. Razlozi putovanja s otoka prema kopnu radnim danima

Travel reasons	Share of passengers (%)	Share of female (%)
Work	9.1	47.4
School	17.7	37.8
Visit	7.6	43.7
Shopping	23.9	58.0
Doctor	22.0	58.7
Administrative service	9.1	52.6
Other reasons	10.6	27.3
Total	100.0	46.5

A much better insight into the reasons of travelling may be gained if an age of respondents is taken into account. In this case, the population may be grouped into a few basic age groups. Shopping and going to work are main reasons of travel for mature population (Table 3). Older population mainly visits the doctor (69%) and younger population goes to the school (91%). Both, mature and elder population equally attend to administrative services in state institutions (33% mature population and 17% elder population).

Travel to Zadar is focused on several early morning hours (5-6 a.m.). Commuting to work is mostly bound to ferry lines departing at 6 a.m. (55.6%) from the islands closer to Zadar with more intensive daily migrations (island – mainland). The more remote islands are less represented in daily commuting to work, since most work activities are bound to the island. Early morning is also the main period for commuting to

school (5 a.m. – 26%, 6 a.m. 39%). Other reasons of travelling are mainly linked to the first ferry lines for mainland, too: two thirds of population travel before 6 a.m. for shopping reasons (5 a.m. 42%; 6 a.m. 34%). Visit to doctor also accounts for the travel around 5 a.m. (47%).

Tab. 3 Travel reasons by respondents' age

Tab. 3. Razlozi putovanja prema dobi ispitanika

Travel reason	Respondents' age					
	0-14	15-19	20-34	35-49	50-64	65 and >
Commuting to work (%)	0	0	18	15	15	0
Commuting to school/faculty (%)	0	91	11	0	0	0
Visit (%)	22	3	4	10	8	7
Shopping (%)	39	3	31	36	33	0
Doctor's services (%)	11	3	7	17	28	69
Administrative services/state institutions (%)	0	0	11	12	10	17
Other reasons	28	0	18	10	6	7
TOTAL	100	100	100	100	100	100

Travel intensity declines in the late morning hours at 7, 8 and 9 a. m. (Tab. 4). Time of return to the islands is also unbalanced. The majority of passengers return during early afternoon hours (1-3 p.m.), and later in the day the intensity of ferry lines declines. Approximately, one half of all poll participants (45%) returns by ferry lines at 2 p.m., a quarter of them (21%) returns to the island even earlier (12 a.m. to 1 p.m.), whereas only a small number of passengers returns by evening and nocturnal ferry lines at 7 p.m. (1%), at 8 p.m. (3%) and at 9 p.m. (1%).

Tab. 4 Number and share of passengers depending on the time of departure and travel reason

Tab. 4. Broj i udio putnika ovisno o vremenu odlaska i razlogu putovanja

Travel reason	Time of departure											
	5 hours		6 hours		7 hours		8 hours		9 hours		10 hours	
	num	%	num	%	num	%	num	%	num	%	num	%
Work	0	0	10	13	4	19	0	0	0	0	4	17
School	8	13	12	15	5	24	2	12	0	0	4	17
Visit	3	5	6	8	1	5	3	18	0	0	4	17
Shopping	22	34	18	23	2	9	7	40	2	40	2	8
Doctor	20	31	14	18	6	29	2	12	0	0	1	4
Admin. services	4	6	10	13	3	14	3	18	3	60	0	0
Other reasons	7	11	8	10	0	0	0	0	0	0	9	37
TOTAL	64	100	78	100	21	100	17	100	5	100	24	100

**Weekend Travels**

Whereas the travel during the week is bound to the reasons categories like shopping, medical services, commuting to work or to school, week-end travels occur for entirely different reasons which is visiting relatives and friends (Tab. 5). 92 respondents or 44.0% quoted this reason and majority of them are mature (37 persons) and elder people – age 64 (22 persons). In this category, females are represented by 60.9%. The least number of respondents said that they went to Zadar over week-end for cultural reasons (visiting cinema, theatre, exhibitions, concerts), however, this small group (21 persons – 11.5%) is dominated by female (70.8%). Men are much more represented in visiting sports events (25 persons or 86.2%), mainly football or basketball games.

Tab. 5 Weekend travellers by sex

Tab. 5. Putnici tijekom vikenda prema spolu

Travel reason	Male		Female		Total	
	Total	%	Total	%	Total	%
Visit	36	39.1	56	60.9	92	44.0
Cinema/theatre/ exhibitions	7	29.2	17	70.8	24	11.5
Sports events	25	86.2	4	13.8	29	13.9
Other reasons	38	59.4	26	40.6	64	30.6

The category "other reasons" is also very significant, since it was chosen by 64 respondents (30.6%) and it occupies the second place among the most important reasons. The largest number of respondents quoted: visiting market mainly for sale of agricultural produce (cheese, olive oil, wine, fruit and vegetables) and fish. This category is dominated by mature population (41 persons or 19.6% of total participants) older than 19 and younger than 65 (Tab. 6). It also includes shopping reasons, but it must be underlined that islanders, especially older ones, mostly go to Zadar for shopping reasons during the week days since the town centre and shops are less crowded. Another reason is that members of their family, who are living on the mainland, usually visit them during the weekend, so commuting from islands to mainland is more intensive during working days and vice versa.

Tab. 6 Weekend travellers by age

Tab. 6. Putnici tijekom vikenda prema dobi

Travel reason	Age of passengers											
	0-14		15-19		20-34		35-49		50-64		65 and >	
	num.	%	num.	%	num.	%	num.	%	num.	%	num.	%
Visit	8	44.5	10	30.3	13	27.1	24	54.5	22	56.4	15	55.6
Cinema/theatre/ exhibitions	6	33.3	5	15.1	8	16.7	4	9.1	0	0.0	1	3.7
Sport events	0	0.0	9	27.3	11	22.9	3	6.8	5	12.8	1	3.7
Other reasons	4	22.2	9	27.3	16	33.3	13	29.6	12	30.8	10	37.0
TOTAL	18	100.0	33	100.0	48	100.0	44	100.0	39	100.0	27	100.0

Younger population (age 0-14) is barely represented among week-end travels (18 respondents or 8.6%); moreover, their travel to cinema or theatre (33.3%) is mostly bound to their parents' travel too (to the mature population). Therefore, week-end travels are generally attended by mature population of the following age categories: age 20-34 = 22.9%; age 35-49 = 21.1% and age 50-64 = 18.7%. These categories account for 62.7% of all passengers on the week-end ferry lines. Most mature population travels to visit relatives/friends (in the age 35-49 = 54.5%, and in the age 50-64 = 56.4%) or other reasons (in the age 20-34 = 33.3%, and in the age 35-49 = 29.6%).

### *Quality of Ferry – Lines*

The existing ferry and shipping lines are definitely insufficient for any stronger integration of the insular area into the urban Zadar, although some islands are very close to the mainland. On the other hand, it must be underlined that there is a great difference between traffic organisation between islands and the mainland during the tourist season in the summer, and over the school-year. Since the number of passengers rapidly increases from June to September, due to the increased tourist movements, in this period the number of daily lines is doubled. Although the summer situation traffic connection is excellent, islanders are generally not satisfied with it. In order to provide normal life to the people who are permanently living on the islands, summer traffic lines should be active all year.

Underdeveloped infrastructure of the islands, shortage of service activities, of medical care services and of administrative-judicial services as well as a complete or almost complete absence of cultural activities force the insular population to travel to the coast. However, the fact that Zadar islands are badly connected with the mainland, long travel, old ferry boats, absence of small insular airports, inhibit any more intensive integration of islands into coastal economic and cultural activities.

Therefore, the islands remain further on communications isolated, in spite of being spatially within the range of a "suburban string" of Zadar. The poll participants have mainly expressed their wish for a better integration of islands with Zadar (Tab. 7), underlining the weak or a bad traffic connection as the main factor of inhibiting the development of the islands (86.6%).

Only the population of Ugljan is satisfied with the available daily ferry lines (12 lines during the winter and up to 17 lines during summer). The population of remote islands (Ist, Rava, Iž) have the worst communication with the town (the average is 1 line daily) and they give priority to the improvement of the existing lines and to the introduction of new much faster ferry/shipping lines.

It is also one of the possible prerequisites that could stop the depopulation of the islands, by enabling their inhabitants to work on the mainland. Faster and more numerous connections would spur daily commuting from the island to the mainland and more adequate traffic connections could render islands residentially attractive, provided that other infrastructure (water supply, telephone, medical care, service activities) is developed, too.

Tab. 7 Respondents' attitude versus available ferry/shipping links with the islands

Tab. 7. Stav ispitanika prema dostupnosti trajektnih/brodskih veza s otocima

	MALE		POPULATION FEMALE		TOTAL	
	number	%	number	%	number	%
<b>DUGI OTOK</b>						
satisfied	3	13.6	1	5.3	4	9.8
unsatisfied	19	86.4	18	94.7	37	90.3
<b>IST</b>						
satisfied	1	5.0	1	8.3	2	6.2
unsatisfied	19	95.0	11	91.7	30	93.8
<b>IŽ</b>						
satisfied	0	0.0	3	14.3	3	6.3
unsatisfied	27	100.0	18	85.7	45	93.7
<b>MOLAT</b>						
satisfied	0	0.0	0	0.0	0	0.0
unsatisfied	3	100.0	2	100.0	5	100.0
<b>PREMUDA</b>						
satisfied	3	37.5	3	30.0	6	33.3
unsatisfied	5	62.5	7	70.0	12	77.7
<b>RAVA</b>						
satisfied	2	16.7	1	12.5	3	15.0
unsatisfied	10	83.3	7	87.5	17	85.0
<b>SESTRUNJ</b>						
satisfied	0	0.0	0	0.0	0	0.0
unsatisfied	1	100.0	3	100.0	4	100.0
<b>UGLJAN</b>						
satisfied	6	46.1	20	71.4	26	64.4
unsatisfied	7	53.9	8	28.6	15	36.6

## Conclusion

Ferry and shipping lines are indispensable in daily communications between the coast and the islands. Although spatially in immediate vicinity of the coast and of the town Zadar, the available maritime traffic connections are insufficient for any stronger integration of the town with the islands. A more adequate connection, in terms of frequent and faster daily communications are a prerequisite for faster development of the islands and their stronger integration into the coastal economic activities, that is – strengthening of "suburban string of islands".

Shortage of service activities on the islands (grocery stores, textile and footwear stores, furniture and electric appliances stores etc.) are the main reason for visiting the mainland. The second most important reason is visiting doctors/specialists/hospitals. Rather unfavourable demographic trends on the islands – depopulation and a negative natural growth cause the predominance of elderly population, which is also reflected in the structure of passengers commuting to work (9.1%), or to school (17.7%) to Zadar.

Bad traffic connections (1 or 2 lines in a day), and long travel (2-3 hours), especially from the outer string of the islands (Premuda, Olib, Silba) affected the ferry frequency, too. The majority of respondents use the early morning ferry lines (5-6 a.m.) for departure and the early afternoon hours (1-3 p.m.) for the return.

The reasons for week-end travels are completely different from the week travels. Visit to relatives and friends on the mainland and further into the country are the main reasons for the week-end travels. The second most important reason is going to the market to sell the insular agricultural products and fish, represented mostly by female passengers and by mature population. The least quoted reason for week-end travels are cultural events.

The present traffic connections between the coast and the islands are neither supporting any revival or a development of insular area nor they meet the basic travel requirements of the insular population (in terms of daily number of communications, of velocity and equipment of boats). In order to integrate the islands into economic, social and cultural activities on the coast and to develop insular suburban residential area, it is indispensable to modernize the available fleet, both in quality and in quantity.

One of the possible solutions for the improvements of communications is the concept of the "Intra-insular bridge link", referring particularly to the connections Ugljan – Rivanj – Sestrunj and Ist – Molat. Naturally, this could not happen without an adequate road infrastructure on the islands. The realization of the idea is especially vital for the islands Ist, Molat, Rava since they rank among the least developed Zadar islands (ČUKA, MAGAŠ, 2003, MAGAŠ, FARIČIĆ, 1999). Another possible, more realistic and less expensive solution of the islands revival is investment in islands economy which would influence on decrease of the processes of depopulation and demographic regression and result with new investments in infrastructure and public services. Until then, it is necessary to improve traffic connections to improve daily migrations from islands to Zadar and back. It should be taken into consideration that daily migrations are much better option than permanent ones.

## LITERATURE

- BABIĆ, D., LAJIĆ, I., PODGORELEC, S. (2004): *Otoci dviju generacija*, Institut za migracije i narodnosti, Zagreb, pp 233.
- ČUKA, A., MAGAŠ, D. (2003): *Socio-geographic Transformation of Ist Island, Croatia*, Geoadria, 8/2, Zadar, 67-86.
- DRAGIĆ, A. (2002): *Stanovništvo na zadarskim otocima*, Otočni sabor, Zadar, pp 360.
- HEBRANG, A. ET AL. (1997): *Poboljšanje zdravstvene zaštite na hrvatskim otocima*, Ministarstvo zdravstva RH, Zagreb, pp 179.
- MAGAŠ, D. (1981): *Molat. Prilog geografskim istraživanjima u zadarskoj regiji*, Radovi Zavoda JAZU u Zadru, 27-28, Zadar, 355-420.
- MAGAŠ, D., FILIPI, A. R. (1983): *Otok Sestrunj u zadarskom arhipelagu*, Zadar, pp 94.
- MAGAŠ, D., FARIČIĆ, J. (1999): *Osnovna prirodno-geografska obilježja otoka Rave u zadarskom arhipelagu*, Geoadria, 4, Zadar, 33-60.
- MAGAŠ, D., FARIČIĆ, J., SURIĆ, M. (1999): *Osnovna prirodno-geografska obilježja otoka Premude u zadarskom arhipelagu*, Geoadria, 4, Zadar, 61-88.
- MAGAŠ, D., FARIČIĆ, J. (2000): *Geografske osnove razvitka otoka Ugljana*, Geoadria, 5, Zadar, 49-92.
- MAGAŠ, D., FARIČIĆ, J. (2002): *Problemi suvremene socio-geografske preobrazbe otoka Oliba*, Geoadria, 7/2, Zadar, 35-62.

*National Programme of Islands' Development* (Nacionalni program razvitka otoka), Ministarstvo razvitka i obnove RH, Zagreb, 1997.

NEJAŠMIĆ, I. (1998): *Croatian Islands: the Role of Demographic Features in Tourism Development*, Hrvatski geografski glasnik, 60, Zagreb, 17-30.

OPAČIĆ, V., T. (2002): *Geografski aspekt proučavanja trajektnog prometa: primjer hrvatskog otočja*, Geoadria 7/2, Zadar, 95-109.

SMOLJANOVIĆ, M., SMOLJANOVIĆ, A., NEJAŠMIĆ, I. (1999): *Stanovništvo hrvatskih otoka*, Zavod za javno zdravstvo Županije splitsko-dalmatinske, Split, pp 482.

## SOURCES

Croatian bureau of statistics, <http://www.dzs.hr/Popis%202001/popis20001.htm> (15.11.2003.)

## SAŽETAK

### **Željka Šiljković, Anica Čuka: Prometna povezanost i razlozi dnevnih migracija sa zadarskih otoka prema Zadru**

Trajektne i brodske linije prijeko su potreban faktor u svakodnevnoj komunikaciji između obale i otoka. Iako su po svojoj prostornoj udaljenosti u neposrednoj blizini kopna, odnosno grada Zadra, postojeće pomorske prometne veze nisu dovoljne za čvršće povezivanje grada i otoka. Kvalitetnije, a to znači i brojem intenzivnije i brže veze pretpostavka su bržeg razvoja otoka te njihova jačeg uključivanja u priobalne gospodarske aktivnosti, odnosno gospodarsko jačanje "periurbanog otočnog niza".

Nedostatak uslužnih djelatnosti na otocima (trgovine živežnim namirnicama, odjećom i obućom, namještajem, bijelom tehnikom i sl.) glavni su razlog korištenja trajektnih veza prema obali. Drugi po snazi razlog putovanja je odlazak liječniku, specijalistu ili odlazak u bolnicu. Među putnicima prevladavaju žene (58,00%) i stanovništvo zrele dobi. Nepovoljna demografska slika otoka, depopulacija i negativan prirodni prirast uzrokom su dominacije starijeg stanovništva, što se odražava i u strukturi putnika koji odlaze na posao na obalu (9,09%), odnosno na školovanje u Zadar (17,71%).

Slaba prometna povezanost (u prosjeku 1-2 pruge dnevno), kao i dugotrajnost putovanja (2-3 sata), posebno s otoka vanjskog niza (Premuda, Olib, Silba) utjecala je i na frekvenciju putovanja. Glavnina ispitanika odlazi na trajekt u ranim jutarnjim satima (5-6 sati), a vraća se u ranim poslijepodnevnim satima (13-15 sati).

Razlozi putovanja tijekom vikenda potpuno su različiti od tjednih. Posjet rodbini i prijateljima na kopnu ili dalje prema unutrašnjosti glavni je razlog putovanja vikendom. Značajan udio čini odlazak na tržnicu, ovaj put ne radi kupovine, već zbog prodaje otočnih poljoprivrednih proizvoda i ribe. Putnici su ponajviše žene, i to uglavnom zrele dobi. Posjet kulturnim priredbama najrjeđe je navedeni razlog zbog kojeg bi se otočno stanovništvo odlučilo vikendom putovati u Zadar.

Sadašnje stanje prometne povezanosti obale i otoka ne samo da nije poticaj revitalizaciji i razvoju otočnog prostora nego ni ne zadovoljava osnovne potrebe putovanja otočnog stanovništva, ni brojem pruga, ni brzinom i kvalitetom brodova. U perspektivi mogućeg uključivanja otoka u gospodarske, socijalne, kulturne aktivnosti na obali, te stvaranja otočne periurbane stambene cjeline potrebno je osuvremeniti kvantitetom i kvalitetom postojeću flotu.

Kao jedno od mogućih rješenja za poboljšanje komunikacija nameće se i ideja o gradnji međuotočne mostovne veze. Posebno se to odnosi na moguće veze Ugljan – Rivanj – Sestrunj, te Ist – Molat. Dakako da je prethodno potrebno izgraditi i kvalitetnu cestovnu infrastrukturu na otocima. Realizacija te ideje posebno je važna za otoke Ist, Molat, Rivanj i Sestrunj s obzirom na to da pripadaju u red najnerazvijenijih jadranskih otoka.