

**ELECTRONIC DATA PROCESSING OF NUMBER OF POPULATION
IN THE MUNICIPALITY OF PRESEVO AND USE OF INFORMATION
TECHNOLOGY FOR MANAGEMENT OF DATABASES AND HUMAN
RESOURCES**

**ELEKTRONSKO PROCESUIRANJE BROJA STANOVNIKA OPŠTINE
PREŠEVO I UPOTREBA INFORMACIONE TEHNOLOGIJE U
RUKOVOĐENJU BAZAMA PODATAKA I LJUDSKIH RESURSA**

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Summary: *The aim of this study is to describe some of demographic parameters of population in the municipality of Presevo. The study will include the number and ethnic structure of population for a period from 2002 until 2012. Based on the census from 2002 and the study on number of population in 2012 a very approximate and credible national structure of the municipality of Presevo will be determined. The study has used official data from the Republican Institute for Statistics with regards to the results of census of population in 2002. Also the official data of the Institute for Development of Small and Medium Enterprises, which is based in Belgrade, from the document “Strategy for economic development of municipality of Presevo 2007-2017”, adopted by the Municipal Assembly of Presevo in 2007, were used in the study. A number of references, including various official internet presentations, were used as important sources of information. Based on the analysis on demographic characteristics the study has succeeded to come out with data about human resources in the municipality of Presevo that serve as a base for a sustainable economic development and represent a document for business rights to all citizens of Presevo municipality.*

Key words: *population, citizens, database, information, technology, business, economy*

Sadržaj: *Cilj ove studije je da u kratkim tačkama iznese neke od demografskih parametra stanovništva Opštine Preševo. U ovom radu obuhvaćen je broj stanovništva u poslednjih deset godina – od 2002 do 2012. godine, kao i struktura stanovništva svih nacionalnosti. Na osnovu popisa stanovništva u 2002. god., i studije za broj stanovništva za 2012. god., utvrđuje se u dosta približna vrednost i pouzdana sa nacionalnim sastavom Opštine Preševo. U vezi popisa stanovništva 2002. god., korišćeni su službeni podaci Republičkog statističkog zavoda u okviru Vlade Republike Srbije. U međuvremenu su korišćeni i službeni podaci Instituta za razvoj malih i srednjih preduzeća sa sedištem u Beogradu iz dokumenta “Strategija*

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ekonomskog razvoja Opštine Preševo 2007-2017” usvojena od strane Skupštine Opštine Preševo u 2007 god. Nema sumnje da je u toku izrade studije upotrebljeno i niz drugih preporuka, a naročito službenih stranica u internetu kao izvor podataka. Analizirajući demografske karakteristike izdati su podaci u vezi ljudskih resursa u Opštini Preševo, koji su osnova za održiv ekonomski razvoj sa jedne strane, a sa druge strane, dokumentovanje poslovnog prava za sve građane Opštine Preševo.

Ključne reči: *stanovništvo, građanin, baze podataka, informacija, tehnologija, poslovanje, ekonomija*

INTRODUCTION

The municipality of Presevo is situated in the most southern part of Serbia. Over 56.000 residents live in a territory with a total surface of 264 km² in the municipality of Presevo. The population density is over 212 inhabitants per one square kilometer and it represents one of the densest populated municipalities in the region. Over 30% of the Presevo population has migrated in countries of Western Europe and other highly industrialised and economic powerful countries with considerable political stability. The remaining part of the population in Presevo municipality is mainly jobless and the general rate of unemployment in the municipality is almost 70%. This rate of unemployment is approximately five times bigger than the rate of average unemployment in Serbia and ten times higher than the unemployment rates in EU countries.

The study for determination of the number of population for 2012 is based on many databases: number of births and deaths in the municipality of Presevo from civil registry system of Municipal Administration in Presevo municipality in a period from 2002 until 2012, number of IDs, passports and personal number of citizens in municipality of Presevo based on the data of Ministry of Interior Affairs, i.e. police station in Presevo, number of health insurance cards of citizens of Presevo municipality based on the data of Institute for Health Protection in Vranje, number of births and deaths of citizens of Presevo municipality for 2013 and 2014 based on the official data of Municipal Administration in Presevo, voters lists from local elections from 2002 until 2012. After a maximal cautious research and use of considerable references that led to five credible conclusions the study has concluded that the general number of population in the municipality of Presevo in 2012 was: **56 129 residents**.



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Faculties: Economics, Law, Political Science and Information Technology, Management and programming of industrial machines with computer Conducting "Blow Moulding Maschine" and "Injections Moulding Maschine" American and Swiss production, 1997-2004 in the company "FLUIDI", in Presevo and Gjilan. In Italy in the year 1997 and Switzerland 2000 for managing industrial processes with automatic and computer Conducting.
Programming in the field of accounting for small and medium enterprises private and public institutions, mainly applications of the MS OFFICE package for the needs of accounting and finances, from the year 2000 onwards, Presevo and Bujanovac.
President of the Albanian Association of Independent Intellectuals, 2000-2003, Leader of the Albanian Democratic Party, 2003-2016
Mayor of Presevo, 2005-2016. Ambassador For Peace, April 28, 2012, in Tirana from "Universal Peace Federation" in the World for political activity and the conference topic: "The Role and Importance of Sustainable Peace of Albanians in the Balkan"
Participator in the political science Conferences, also political and scientific tribunes and round table meetings of regional and international character in the following topics: of human resources management, e-governance, energy efficiency, smart city, decentralization of central governments, good management of local government, agriculture, ecology, computerization of local administration, the implementation of information technology in the education and health etc.

MATERIAL AND METHODOLOGY

The study has used as material the databases of following institutions: elementary and secondary schools, preschool institution, the institute for health protection, institute for employment, the service for update of voters lists for local and parliamentary elections, voters registers of the ministry for regional development and local self-government, the data from censuses from 1948, 1961, 1971, 1981, 1991, 2002 and 2011. Also the study has used official data of local offices, civil registry system on births and deaths, the data of civil registry from police station of Ministry of Interior Affairs for the number of citizens that possess identification cards, passports and unique personal identification numbers. All these data archived by different competent institutions were analysed and reviewed in order to study the structure of population according to ethnic breakdown, including the increase of population during a certain period of time. Mathematical-statistical calculations were used as main methods in this study and all calculations are listed in different tables and are presented in graphics.

ANALYSIS AND DISCUSSION OF RESULTS

a) Number of citizens according to population censuses from 1948 until 2002

In municipality of Presevo population censuses were usually held each decade in certain periods of time. Data on the number of population in Presevo municipality, according to documents from archives of databases of Republican Institute for Statistics in Serbia, [12], [13], [14], uploaded in their internet page, and strategy for economic development of Presevo municipality 2007 – 2017 of the Institute for small and medium enterprises [9] as well as the archive of Presevo Municipality for several decades during 19th and beginning of 20th centuries, look as below:

Year of census	1948	1961	1971	1981	1991	2002
Number of residents	23 379	26 739	30 056	33 948	38 343	48 904
Difference between decade (growth)		3 360	3 317	3 892	4 395	10 561

Table 1. No of residents according to civil censuses 1948 - 2002 in Presevo municipality; [9], [14]

Lack of participation of Albanians in the census in 2011 in Serbia and very unrealistic figures on population in Presevo municipality presented by the Republican Institute for Statistics in Belgrade is the main motive of this study and its endeavour to find an approximate number of Presevo municipality population. The Table 1 clearly indicates a slight increase of population in the municipality of Presevo from 1948 up to the present. Such an increase of population implies at the same time an increase in the number of families who are the main catalysts for the increase of population. If these data from the Table 1 are presented in graphics with number of population per year of census, with increases and decreases included, the graphics would look like as follows:



Kamberi Naser in June of 1979/80 he enrolled the Faculty of the Natural sciences and Maths and in 1984 was elected for the title Professor of Biology.

With the same mentor in 2005 in the Faculty of the Natural Sciences in Tirana he enrolled PhD Studies and in February 18th, 2009 in front of the jury he presented his PhD thesis and

got the title of Doctor of the Human Genetics Sciences.

21.04.1991 – In the University of Nis he has finished the professional exam, where he got acquainted with his Licence as a Professor of Biology. (Acquainted with a certificate).

02.09.199 – In the University of Prishtina – the Philological Faculty he got acquainted with a certificate for English Language.

He published numerous national and international articles - 27.

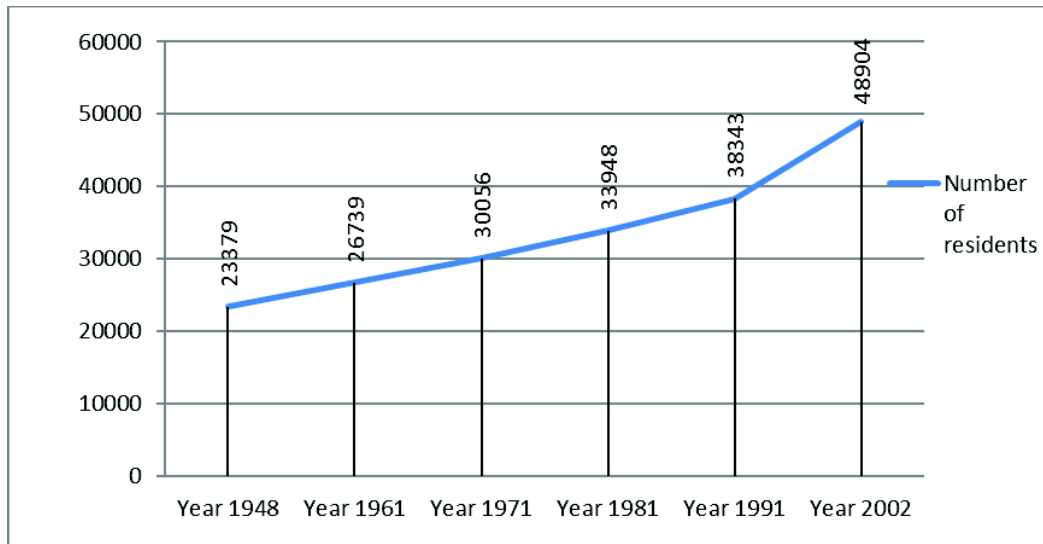
CERTIFICATE OF PARTICIPATION IN SEMINARS:

1. The certificate mastered professional training programs completion - "Increased availability of quality education through individual approach to the child / student-Inclusive education and individual educational plan" - In the period 21-22. 03.2015- Number 18 points.

2. Certificate of vocational training programs- "Application of ICT in teaching" in the period from 24 to 26.08.2014- Number of points 24th

Specialization: CERTIFICATE

From 04-07.02.2014, Association - MoniQA from Austria organized scientific training on a topic: "Alternative methods for the microbiological analysis of food and types of meals at the University of Food Technologies in Plovdiv, Bulgaria.



Graphics 1. No of residents according to years of population census from 1948 – 2002 in Presevo municipality

The graphics shows that coefficient of increase of population (multiplier of the number of population in respective year with the number of population during a preceding year of the census) from census in 1948 up to the one in 2002 is always bigger than (>1) which implies a certain increase of population through decades. The number of families in the territory of municipality of Presevo has also increased, ultimately resulting into an increase of population. Using data from internet pages [13], [14] and data from the strategy for economic development of Presevo municipality 2007-2017, [9] and data based on census results of population in 2002 and 2011 we will present the structure of population for these two cases of population censuses. The data on population, ethnic breakdown and percentages will be presented in the following table:

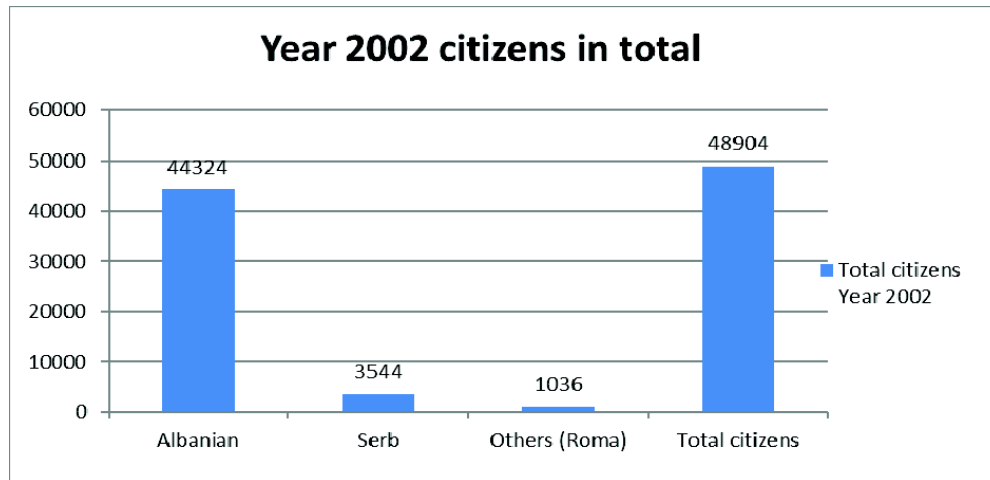
Nationality according to year of population census	Year 2002 resident citizens	Year 2002 non-resident citizens	Year 2002 citizens in total	Percentages (%) year 2002	Year 2011 registered citizens	Percentage (%) of nationalities in 2011
Albanian	31 098	13 226	44 324	90.65	416	13.51
Serb	2 984	560	3 544	7.24	2 294	74.48
Others (Roma)	822	214	1 036	2.11	370	12.01
Citizens total	34 904	14 000	48 904	100	3 080	100

Table 2. No of Albanians, Serbs and others in Presevo municipality: [13], [14], [15]



Mentor Shaqiri holds a **PhD degree** in the field of **Human Resources Management** given by Interregional Academy of Personnel Management in Kiev, Ukraine. He is born in Presheva when finished elementary and secondary school. Bachelor and Master studies finished in the Faculty of Economics, University of Prishtina in the field of Management and Information. Since 2004, he is working in the Higher Education Institutions in Prishtina, starting as assistant in the Pjeter Budi University. Now he is working in Dardania University as Professor of Management and Information subjects. He is author and coauthor of many scientific papers published in many countries such as Serbia, Kosovo, Macedonia, Albania, Montenegro, Croatia and Ukraine. He also took place in scientific conferences in all those countries mentioned above.

The two columns of the table written in red do not reflect the reality at all. If the percentage of Albanians was 90.65% in 2002, then figures of census in 2012, showing the number of Albanians decreased to 13.51%, cannot be credible. The data from census in 2012 are inaccurate because Albanians boycotted the census for political reasons. However, senior officials of the government in Belgrade unfortunately continue to use these figures in spite of the fact that they do not reflect reality on the ground. Such a drastic decrease of population can happen only as a result of a large-scale natural disaster, but even in such a case the number of Serbian population cannot increase from 7.24% into 74.48%, because we all know natural disasters are not selective. Taking into consideration that the data of census from 2002, [20], [23] are more credible we will present in graphics the number of population according to ethnic breakdown.



Graphics 2. No Albanians, Serbs and others (Roma) in Presevo municipality; [20], [23].

According to census results from 2002, over 44 324 Albanian citizens live in Presevo municipality. If an approximate similar number of Albanians lives in Bujanovac municipality as in Presevo and a small number of Albanians in Medvedja, and a certain number of Albanian citizens live in Vojvodina and Serbia, then we can conclude that the number of Albanians in Serbia is over **90 000**. This study concluded that data from the official web site of Republican Institute for Statistics of Serbian Government [14] about the total number of 61 647 Albanians in Serbia is not accurate. In order to find an approximate credible number of citizens in Presevo municipality, including the ethnic breakdown, the study will use other alternative sources that offer more reliable facts on the number of citizens in Presevo municipality.



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June 2009 participated in IPKO foundation scholarship, in which he has been awarded two year scholarship for the academic year 2009/2010 and 2010/2011

May 2010 - December 2010 attended CISCO Networking Academy where he has finished two levels CCNA Discovery 1 and CCNA Discovery 2 and Awarded with certificate by IDI Company in Prishtina.

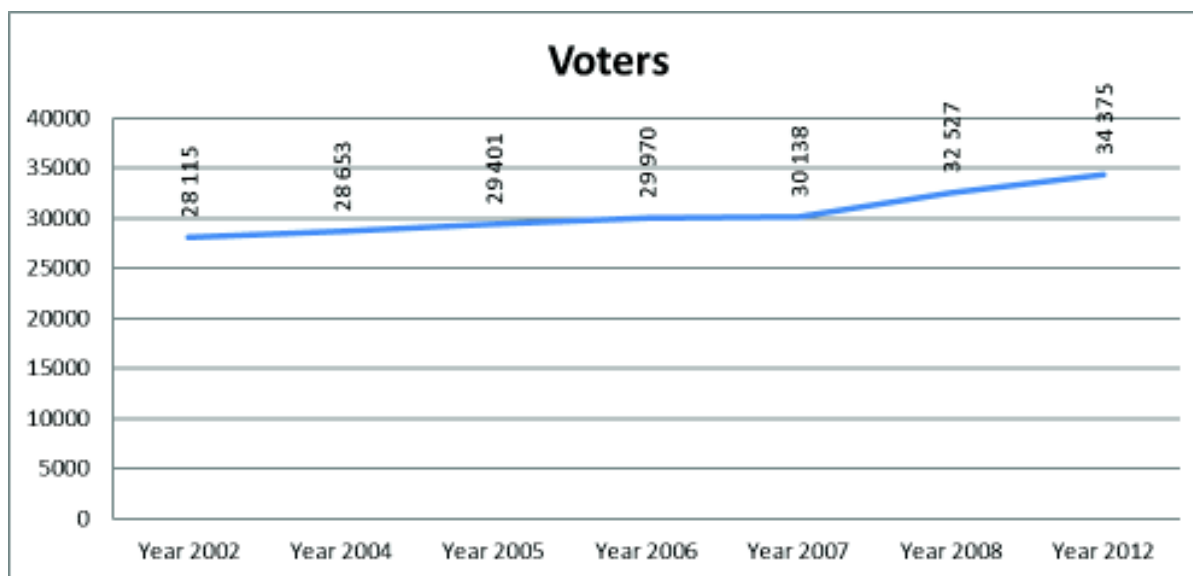
b) Total number of citizens with a voting right registered in Voters Lists from 2002 until 2012 in Presevo municipality

Table 3 has data about number of citizens with a right of vote in Presevo municipality for local and parliamentary elections. The same table has also differences in the number of voters during a year of elections compared to a preceding year (difference 1) and also a difference in number of voters in a year of elections compared to local elections in 2012 (difference).

Year	2002	2004	2005	2006	2007	2008	2012
Voters	28 115	28 653	29 401	29 970	30 138	32 527	34 375
Difference 1		538	748	569	168	2 389	1 848
Difference 2		538	1 286	1 855	2 023	4 412	6 260

Table 3. No of voters and differences between years 2002 and 2012

The table above clearly indicates that number of citizens with a voting right has increased in 2012 for **6 260** voters. This numerical value indicates also an increase of population. The graphic presentation of number of voters and difference in years from 2002 until 2012 looks as follows:



Graphic 3. Linear increase of total no of voters for a period of ten years in Presevo municipality

Data from Table 3 clearly show that the increase of number of voters in years 2002 until 2012 is linear as it is accurately presented in the Graphics 3 above.

If we examine the differences in number of births and deaths from 2002 up to 2012, which in fact is **7 832** according to the report 01 Nr 200 - 100 date 26.02.2013, issued by the head of municipal administration in Presevo [10], then we can find the number of citizens for

municipality of Presevo without needing to send commissions to door-to-door registration of population. Therefore, the number of citizens in Presevo municipality in 2012, compared to the number of population as according to results of census in 2002, has increased for **7 832** citizens. Table 2 has the total number of population in Presevo municipality according to results of population census in 2002, which was **48 904**. Having in mind that the number of Serbian population and others had no positive growth, according to results of census of population [15] which was held in 2011, and if we add the calculated number of births and deaths in a period from 2002 until 2012, then we can come to this number of citizens for 2012 for Presevo municipality:

$$\text{Conclusion: } 48\,904 + 7\,832 = 56\,736 \text{ citizens} \quad (1)$$

Coefficient (k) of the increase of number of voters in 2012 compared to year 2002, according to the data on Table 3 (number of voters in 2002 and 2012) can be calculated according to this relation:

$$8\,115 \cdot k = 34\,375, k = 34\,375 : 28\,115, k = 1.2226 \quad (2)$$

this means that the number of voters in Presevo municipality has increased for **1.2226** times for ten years, or the number of voters in 2012 has increased for: **34 375 – 28 115 = 6 260 voters**, or expressed in percentages it would be a total increase of voters for **22.26%** compared to 2002.

c) Number of Albanian, Serbian and other (Roma) voters compared to the general number of voters and their presentation in percentages

Using the data from local and parliamentary elections in 2002, 2004, 2008 and 2012 we can create the Table 4, which would look like as follows: [18]

	Local elections 2002	%	Local elections 2004	%	Local elections 2008	%	Local elections 2012	%
Albanian	10 764	90.88	12 557	93.91	11 878	93.09	15 204	94.56
Serb and others	1 079	9.2	814	6.09	881	6.91	873	5.44
Total voters	11 843	100	13 371	100	12 759	100	16 077	100

Table 4. Number of Serb and other (Roma) voters compared to the general number of voters and the percentage of Albanians in the general number of voters; [18]

The average of percentage of Serbs and others in Presevo municipality according to turnout in local and parliamentary elections from 2002 until 2012 in Presevo municipality would be:

$$(9.2+6.09+6.91+5.44)/4 = 6.91 \% \quad (3)$$

Therefore, percentage of participation of Albanians in local and parliamentary elections in Presevo municipality from 2002 up to 2012 has been **93.09 %** of total number of voters.

Taking into account the number of Albanians in 2002; Table 2: **44 324** Albanian citizens; the number of Albanian citizens in Presevo municipality according to increasing coefficient (1.2226) of the number of citizens with a right to vote in 2012 would be:

$$44\ 324 * 1.2226 = 52\ 696 \text{ Albanian citizens} \quad (4)$$

Number of Serbs and others in Presevo municipality has not increased in 2012 compared to 2002 according to Table and the census results of 2011; [15]. Therefore the number of Serbs is **2 294** and others is **370**. The general number of Albanian, Serb and other citizens in Presevo municipality in 2012 would be:

$$\text{Conclusion: } 52\ 696 + 2294 + 370 = 55\ 360 \text{ citizens} \quad (5)$$

14 000 citizens out of **48 904** total number of residents registered in the municipality of Presevo in the census in 2002 are reported to be temporarily working abroad or are considered as non-resident citizens; [9], [11] and [14]. If this is presented in percentages then it would be **28.63%** of Presevo citizens live abroad. Proportional increase of population in Presevo municipality has produced also a proportional increase of migration towards third countries. If the percentage of Presevo citizens living abroad, according to census results of 2002, was 28.63% then it should be 1.226 times bigger for 2012: $1.2226 * 28.63 \% = 35.003 \%$ because also new cases of births of Presevo citizens happened every year outside the territory of Presevo municipality in countries of Western Europe and United States of America. Therefore the number of non-resident citizens of Presevo municipality who are temporarily abroad is: $55\ 360 * 35.003 \% = 19\ 377 \text{ citizens}$. Whilst the number of resident citizens inside the territory of municipality of Presevo would be: **35 983 citizens**. This numerical data and data from the population census carried out door-to-door by commissions will be presented in a form of a table and graphics in order to be more comprehensible. The table presentation of the number of Albanian, Serbian and other citizens for 2002, as according to results of population census, and 2012, as approximately calculated, looks as below:

Nationality as according to year of census and population estimates in Presevo municipality	Year 2002 resident citizens	Year 2002 non-resident citizens	Year 2002 total citizens	Percentage year 2002	Year 2012 Total possible citizens	Percentage of nationalities year 2012	Total resident citizens Year 2012 possible citizens	Total non-resident citizens Year 2012 possible citizens
Albanian	31 098	13 226	44 324	90.65	52 696	95.19	34 266	18 430
Serb	2 984	560	3 544	7.24	2 294	4.14	1 610	684
Others (Roma)	822	214	1 036	2.11	370	0.67	107	263
Total citizens	34 904	14 000	48 904	100	55 360	100	35 983	19 377

Table 4. Number of Albanians, Serbs and others (mainly Roma) in Presevo municipality in 2002 and 2012; [9], [11] e [14]

d) Database from the civil register of Minister of Interior Affairs, police station in Presevo and Institute for Health Insurance, Vranje

The official document Number: 205–63/115 date 03.02.2015 in Presevo issued by Ministry of Interior Affairs, police administration in Vranje, police station in Presevo, gives the number of Presevo citizens who possess identification cards, passports and personal number [16]. The same document issued by police station in Presevo has an explanation about the issued number and possible errors, which can happen during the transfer of personal data, doubling and cases of deletion of data. The table 5 on the number of citizens with official documents looks like as below.

	Citizens with IDs	Citizens with Passports	Citizens with Personal Numbers
Number of data	42 490	57 188	59 681
According to probability of error up to 3%	41 215	55 472	57 890

Table 5. Number of citizens in Presevo municipality, who possess IDs, passports and personal numbers [16].

By analysing the given data it can be easily concluded the number of citizens with documents as table 6 above describes.

On the other hand the study will present another table with regards to the number of births and deaths for a period from 2013 until 2014 prepared by Municipal Administration in Presevo:

Year	No of births	No of deaths	Difference of births from deaths
2013	297	120	137
2014	300	159	141
Total:	597	279	318

Table 6. Number of births and deaths for years 2013 and 2015 [17]

Therefore, Table 5 needs to reduce the number of passports with the figure of citizens personal numbers for the values of difference gained in Table 6, precisely for **318**. Ultimately Table 7 presents the gained number of citizens from Presevo municipality much closer to reality with personal documents.

	Citizens with IDs	Citizens with passports	Citizens with personal numbers
Gained no of the data	41 215	55 154	57 572

Table 7. The number of gained citizens of Presevo municipality that possess IDs, passports and personal numbers [16] and [17].

Based on the above analyses and data in Table 8 we can make a conclusion that the approximate total number of citizens in settlements in the territory of municipality of Presevo is:

Conclusion: 57 572 citizens

This result on the number of population in Presevo municipality is much more credible because the data of Ministry of Interior Affairs of Serbia are based on issuance of biometric IDs and passports, a process that started in 2008 for the first time. From this we can conclude that nobody has requested replacement of passports due to expiry data in a period from 2008 until 2012 because passports to adults were issued for ten years, whilst to the minors for five years.

On the other hand according to the data of Institute for Health Insurance in Vranje: 02 Number 180 – 215 / 15 date 02.03.2015 [19] the number of health cards for citizens in

Presevo municipality for all ages is **33 064**. This fact concluded the number of health cards confirms the presence of citizens in the municipality of Presevo in their settlements. We should also not forget that a high percentage of citizens have not been able to realise their right for health insurance because of high unemployment rate that is almost 70%, but also the presence of significant migration of population and a number of other reasons. However, if we take into consideration the number of citizens that have health insurance, according to the above-mentioned data and their number is **33 064**, and the number of citizens who are currently abroad outside the territory of Presevo municipality who largely do not possess any health cards in Serbia, then we have a different number regarding the total population. Table 4 and its last column makes clear that the number of non-resident citizens that are in third countries is **19 877**, then the number of citizens of Presevo municipality, counting around 1000 of them who live in Presevo and have no insurance cards, would be :

$$\text{Conclusion: } 33\,064 + 19\,877 + 1\,000 = 53\,941 \text{ citizens} \quad (6)$$

Another conclusion can be made according to the official results of the population census from 2002 [14] and [15] and which is **48 904** citizens and Table 1, the report of Municipal Administration in Presevo about the increase of population from 2002 until 2012, which is **7 832** citizens. In this case we will count an additional **300** unregistered babies in the local offices in Presevo who were born in a period from 2002 until 2012 in different places in the world, especially in Kosovo and who could not be registered due to political reasons. Therefore the number of citizens in Presevo municipality according to these data would be:

$$\text{Conclusion: } 48\,904 + 7\,832 + 300 = 57\,036 \text{ citizens} \quad (7)$$

Taking into account that the study has come to five conclusions about the number of citizens of Presevo municipality then the average value of the number of population of Presevo municipality for year 2012, based on the data from five different conclusions (different official documents), would be: (P_t – number of population); [15]

$$P_t = \frac{56\,786 + 55\,860 + 57\,572 + 53\,941 + 57\,036}{5} = 56\,129 \text{ citizens} \quad (8)$$

Therefore, number of population of Presevo municipality in 2012 was definitely: **56 129** citizens.

Based on the number of population estimated for 2012 and the results of the population census in 2002 the growth of population can be calculated for the past ten years: [15]

$$D = P_t - P_{t-n} \quad (9)$$

D – Growth of population; P_t – number of population estimated for 2012; P_{t-n} - number of population according to previous census in 2002.

$$D = 56\,129 - 48\,904 = 7\,225 \text{ citizens} \quad (10)$$

This difference matches approximately with the difference in numbers between births and deaths of citizens in a period from 2002 until 2012 [10], which is **7 832** citizens.

The absolute error between the official correct value of the civil service in Presevo municipal administration (**7 832**) and estimated value (**7 225**) is:

$$7\ 832 - 7\ 225 = 607 \quad (11)$$

$$\text{From the equation: } 7\ 832 : 100 = 607 : X \quad (12)$$

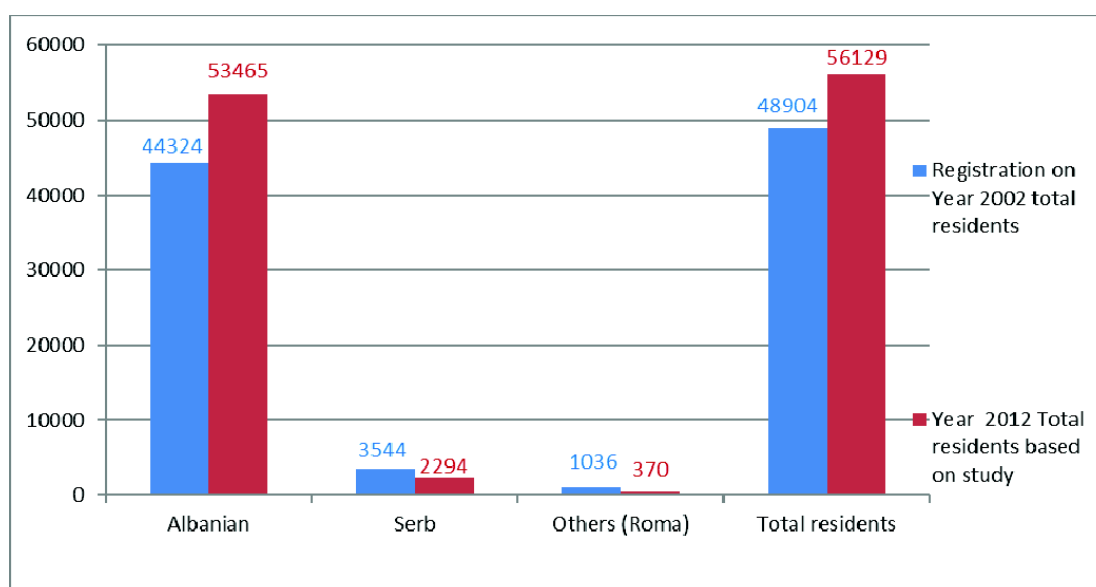
$$\text{the error expressed in percentages is: } X = 7.75 \% \quad (13)$$

This means that the estimation error and findings is **7.75%** in the damage of the realistic number of population in Presevo municipality. According to this number the real figure on population in Presevo municipality should be: **56 736** citizens (conclusion 1). However, the credible number of citizens and Presevo municipality population for 2012 is based on the data of the study and its five conclusions on estimations and the average value of all five conclusions. The structure of the population based on national affiliation in Presevo municipality in 2012, based on results of population census in 2002, population census in 2011, growth of non-resident population and the final estimated number of population for 2012 in Presevo municipality, according to five different conclusions, looks like as below in the table:

Nationality	Census 2002 resident citizens	Census 2002 non-resident citizens (28.63)	Census in 2002 total citizens	Percentage (%) according to census in 2002	Total resident citizens in 2012, according to the study	Total non-resident citizens in 2012 (35.003%), according to the study	Year 2012 Total citizens according to the study	Percentage (%) of nationalities in 2012 according to the study
<i>Albanian</i>	31 098	13 226	44 324	90.65	34 592	18 873	53 465	95.25
<i>Serb</i>	2 984	560	3 544	7.24	1 734	560	2 294	4.09
<i>Others (Roma)</i>	822	214	1 036	2.11	156	214	370	0.66
<i>Total citizens</i>	34 904	14 000	48 904	100	36 482	19 647	56 129	100

Table 8. No Albanians, Serbs and others in Presevo municipality

Table 8 for 2012 according to the study (the two last columns), clearly indicates that out of **56 129** total citizens of Presevo municipality, **95.25%** are ethnic Albanians or **53 465** citizens, **4.09%** are Serbs or **2 294** citizens and others (mainly Roma) are **0.66%** or **370** citizens.



Graphics 4. Number of Albanians, Serbs and others (mainly Roma), according to population census in 2002, and estimation for 2012 according to the study.

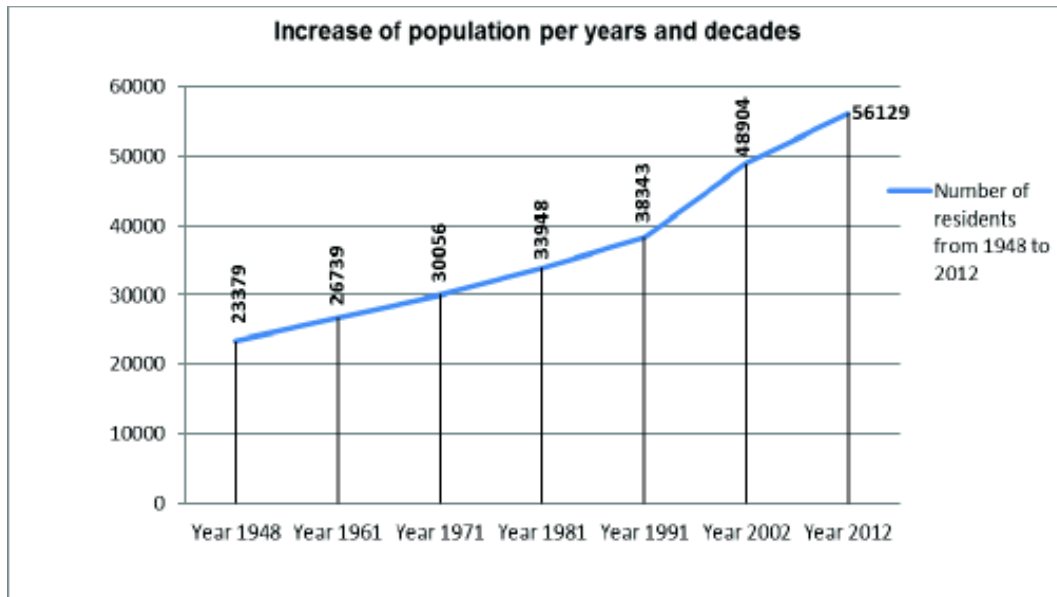
CONCLUSION

Based on results of this research we can conclude that the growth of population is declining, especially in relation to ethnic Serbs and others, whilst there is an increase of Albanian population in all periods. However, in the recent time since 2012 and later it has been noticed a slight decrease in the increase of general population. The main factors for this phenomenon are the social-economic and political reasons. In order to improve the growth of population or to keep the current demographic trends there is undoubtedly a need to work much harder in creating suitable and a desirable social-economic and political environment. The republican government, which can bring positive results and improve the living environment and safety for all of its citizens in Presevo municipality, is in charge and responsible of these factors.

The natural growth of Albanian population in Presevo municipality does not imply any nationalistic effort as often prejudiced by some foreign demographics experts, but it is more a reflection of tradition, culture and courage to have full and sound families.

Year of population census	1948	1961	1971	1981	1991	2002	2012
Number of inhabitants	23 379	26 739	30 056	33 948	38 343	48 904	56 129
Difference between decade (growth)		3 360	3 317	3 892	4 395	10 561	7225

Table 9. Number of inhabitants according to population censuses 1948 – 2012 in Presevo municipality



Graphics 5. Number of population according to years of censuses from 1948 until 2012 in Presevo municipality

The graphics data on growth of population for 64 years from 1948 until 2012 tells that population has increased for 2.4 times in Presevo municipality. It is important to underline that during this same period of time the growth of population in The Mustafa family only in the village of Zuince in Presevo municipality has increased for approximately six times, and more in 2012 than in 1948.

REFERENCES

- [1] Baletiq W.A.1979. Demographics. Zagreb (Translators Binak Maxharri and Hivzi Islami), page.121-234
- [2] Holger Kächelein; Academic paper, Tirana, 2011.
- [3] Islami, H.1985.Village of Kosovo.Prishtina. page-158-169.
- [4] Mustafa, N. 2004. Demographic Genetic Study of Presevo population. (Master thesis, FSHMN.Tetovo)
- [5] Nedo Balaban, Živan Ristić, Jovica Đuković, Jelica Trnić, Pere Tumbas; Information Technologies, Information systems; 2011, Novi Sad
- [6]. <http://europa.eu/scadplus/> - European Union Customs
- [7] Local governance, Dr. Esat Stavileci, Prishtina, 2009
- [8] Entrepreneurship Management, Group of authors, Serbia, 2011
- [9] “Local economic strategies of municipality of Presevo 2007-2017”, Municipal Assembly of Presevo. Official Gazette of Pcinje District, nr. 4, 30 April 2007; Institute for small and medium enterprises, Belgrade.
- [10] Report 01 Nr. 200 - 100 date 26.02.2013 of the head of municipal administration in Municipality of Presevo
- [11] http://webrzs.stat.gov.rs/WebSite/repository/documents/00/01/26/62/10-Procene_stanovnistva_2008-2012.pdf

- [12] <http://webrzs.stat.gov.rs/WebSite/Public/ReportResultView.aspx?rptId=1210>
- [13] <http://webrzs.stat.gov.rs/WebSite/repository/documents/00/01/63/40/Dem.pdf>
- [14] <http://pod2.stat.gov.rs/ObjavljenePublikacije/G2002/pdfE/G20021295.pdf>
- [15] http://sr.wikipedia.org/wiki/Opstina_Presevo
- [16] Official document Number: 205 – 63 / 115 data 03.02.2015 in Presevo issued by Ministry of Interior Affairs, police administration in Vranje, police station in Presevo.
- [17] Number of births and deaths for calendaric years 2013 and 2014, official document
- [18] Number of voters based on voters lists for local elections in the municipality of Presevo, official document
- [19] Data of the Institute for health insurance in Vranje: 02 Number 180 – 215 / 15 date 02.03.2015