

**THE WEAK POINTS OF STATISTICAL AND
DEMOGRAPHIC ANALYSES IN ESTIMATIONS OF WAR
VICTIMS IN BOSNIA AND HERZEGOVINA IN THE PERIOD
1992-1995**

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**General Problem with Demographic and Statistical Methods When
Records on Basic Demographic Occurrences Are Not Operative**

The basic demographic events are births, deaths and migration. Every such event is registered in the system of standard civil registration (register files) which is the elementary function of local administration. These records assume filling in statistical forms (questionnaires) which contain all necessary characteristics (information) for the purpose of statistics of population i.e. vital statistics. When death statistics are in question, the procedure requires a competent doctor to determine the cause of death which is classified according to International Statistical Classification of Diseases and Related Health Problems, so it is possible to keep statistics of deaths according to death causes.

The basic components for conducting population statistics in a given moment (time segment) in a defined territory (a country or its part) are population censuses (in the past) and population changes (number of live births, deaths, live births according to age of mother for determining fertility indicators, deaths according to death causes, sex, age, etc, natural increase as a difference between number of births and deaths etc.) as well as mechanical movement of population, i.e. inflow and outflow of population resulting from migration (emigration, immigration, net migrational growth as difference between immigration and emigration).

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In the standard system of population statistics, all stated basic elements are coordinated with international standards (UN recommendations and other standards) in view of periodicals, contents, definitions and classifications. A whole complex of vital statistics as well as current population estimations are carried out at the beginning of the decade and represent an initial data base for deriving annual (and semi-annual) population estimations. Complex indicators of fertility, mortality, migration trends, population projections and other demographic dimensions and indicators are also carried out, as a rule in annual periodicals, and published in publications on population statistics by competent statistic institutions in the country and international organizations responsible for statistics (national annuals and annuals of international organizations responsible for acquiring and publishing global data).

Such a system of population statistics, completely in conformity with international demands, was organized in former Yugoslavia and its republics, uniform on the level of the country with methodological involvement of the Federal Statistical Office and corresponding role of the Republic Statistical Offices in data acquisition, processing and publishing. The Republic Statistical Office and corresponding records (register services) in Bosnia and Herzegovina functioned in this way until the beginning of 1992, in the field of vital events (deaths, births, migrations, change of marital status) on local level (municipality level) based on which population statistics were carried out in a standard way.

Within the bounds of population statistics, population censuses are thorough and a basis for estimating the population every year, together with the statistics of basic vital events (deaths, births, migrations) in the decade after the census, not only for the whole territory of the country but on the level of the smallest administrative-territorial division (on the level of municipalities in the case of Bosnia and Herzegovina and the former Yugoslavia). Estimations for Bosnia and Herzegovina as well as the other former Yugoslav republics were carried out in the Federal Statistical Office for the entirety of the country according to age and sex, and total population estimations for the level of municipalities. The methodological approach in all these estimations was "balanced". The estimation of total population at the end of the year consisted of the sum of the estimated size of total population at the end of the previous year, net migrations (immigration minus emigration) and natural increase (number of live births minus deaths in population). This approach is the only one which provides valid estimations of population in time periods after population censuses, on condition the registration of vital events are all-embracing and neatly maintained.

The weak point of vital statistics in the republics of former Yugoslavia, and in Yugoslavia as a whole was the registration of migrations, especially emigration (out of the republic, namely out of former Yugoslavia). Thus the estimations from the Federal Statistical Office (and from the Republic Statistical Offices) were regarded as approximative, taking that the net migrations were relatively small-scale. Hence, for example, the last estimation of total population for Bosnia and Herzegovina on December 31, 1991 by the Federal Statistical Office was 4570342. Natural increase in 1991 for Bosnia and Herzegovina amounted to 33042, while total population according to 1991 Census was 4367649 (source: Federal Statistical Office and first results of 1991 Census per settlements and ethnic affiliation. According to the UN Statistical Annual for the year 2000, the 1991 Census in Bosnia and Herzegovina registers a total population of 4377033. The final processed census is in question which was not in the competence of the former Yugoslav Federal Statistical Office anymore, nor under the control of the sufficiently competent central statistical institution for Bosnia and Herzegovina. The stated estimation by the Federal Statistical Office on December 31, 1991 was done on the basis of the 1981 Census).

It is certain that civil registration in Bosnia and Herzegovina did not function in the years 1992, 1993, 1994 and 1995. All estimations of population carried out after the year 1995 (for example for 1997, 1999, 2000; Statistical Yearbook 2000, UN, Byron Kotzamanis, Goran Penev and others) are hypothetical and could not be obtained by "balanced" method. Depending on the hypothetical framework, these estimations vary significantly. Thus in the 1997 UN Yearbook, an estimation of 3784000 was stated as "de jure population" for Bosnia and Herzegovina. Kotzamanis specifies a population of 3.8 million in Bosnia and Hercegovina for the year 1999 according to sources such as: Balkan Demographic Data Base, University of Thessaly; Population Reference Bureau, World Population Data Sheet (1999); Eurostat (2000) and others.

G. Penev did two variants of population estimates of Bosnia and Herzegovina for the year 2000 according to sex and age, commencing from the data on number of live born children by mother's age and from the assumed specific fertility rates by age (quotient number of live born children of mothers from a certain age interval and total number of women in same age interval; age intervals are taken in five year periods: 10-14; 15-19;...50-54). The number of female population ages 10-53 and further could be derived in such a way, by applying certain proportions, the total number of female population and total number of male population. The two variants of G. Penev start from the assumption of higher (variant 1) and lower (variant 2) specific fertility. Thus in the first variant the total fertility rate (total number

of live born children to 1000 women) of 1613.1 was derived as a five-fold sum of assumed specific fertility rates by age intervals, and the second total fertility rate was 1406.4. Taking into consideration that the number of live born children is a unique measurement by registration, the first variant gave a total estimation of population less than the estimation according to second variant of fertility. Namely, according to the first variant, the total population in BH in the middle of the year 2000 was estimated at the level of 3380149, and according to the second variant the total population of BH was estimated at the level of 3781182. It can be seen that the UN projection (for 1997) was closer to the second variant, which according to the authors of those projections, takes the total fertility rate of 1.35 children per woman for the period 1995-2000. According to statistics in BH for the second half of the nineties, the total fertility rate was about 1.6 children per woman.

The question which arises in all stated estimations and is relevant for a balanced perception of demographic losses is the following: do these estimations refer only to population in country or to resident (total) population according to census methodology. Detailed explications are not available, but it can be concluded (according to applied method of projected fertility, relying on the number of live born children who could certainly be registered only for population in the country) that an estimated total population in the country is in question in all cases.

We can see that the estimation or projection of total population is especially sensitive in relation to assumptions on (differential) fertility. The differences in possible plausible variants, which are read in total estimated population size, do not have to be relevant from the aspect of "large" numbers, statistical "macro" sizes and approximations. Estimations and projections are, however, completely irrelevant for balanced calculation (estimation) of total or categorized demographic losses in the period 1992-1995, especially when the number of "killed or missing" are in question. On condition that the 1991 Census was comprehensive and precise in respect to ethnic structure as well as in respect of making a difference between the category of population "in the country" and "temporarily working or residing abroad", thus completely including these others, only a new comprehensive census could give a foundation to recognizing demographic losses, although without vital registration censuses for estimating of certain categories of demographic losses are not enough. We will see however, that the 1991 Census was carried out in unfavorable conditions, and that its scope in respect to "concept of resident population" was inadequate.

Problems With Population Census in Bosnia and Herzegovina in 1991

Population censuses in former Yugoslavia were carried out since the establishment of the country. Censuses were carried out in 1921 and 1931 before World War II and in 1948, 1953, 1961, 1971, 1981 and in 1991 in the post war period. The 1941 was regularly planned, but was not carried through because it coincided with the escalation of war in Yugoslavia (April 1941). Each of the following censuses in post war Yugoslavia was carried out in the year or close to the year which represented a turning point for social and political state of the Yugoslav state community. 1948 was, for example, known for the so-called "Inform-bureau Resolution". Yugoslavia stepped out of the communist-block countries coalition of that time.

In 1952 village collectivization was abandoned and market mechanisms were partially introduced. From 1961-1963 the so-called economic reform campaign began which radically opened the process of abandoning central state planning and control. 1971 brought the so-called massive movement in Croatia which marked radicalization of the question on the relation between the federal state and the republics. Many jurists and Yugoslav constitution analysts believed that this event inspired the change of constitution in 1974 whereby many functions of the federal state were transferred to the republics. The role of the central statistics institution had changed fundamentally since the possibility to monitor the process of data acquisition ceased, which became the exclusive jurisdiction of the Republic Statistical Offices. Its function was reduced to unique methodology and data compilation for the whole country. It may be assumed that this moment was of significance for population censuses. During the 1981 Census (from April 1-15), massive demonstrations of Albanians erupted in the Yugoslav province of Kosovo, so the census had to be postponed for a few weeks. Numerous difficulties arose in the data acquisition and processing (not only because of the state in Kosovo) which were a consequence of a sudden and uncontrolled further erosion of the federal state authority and interferences. The coordination of activities for the conducting, processing and publication of data was shattered in the greatest possible extent, namely it transferred to the jurisdiction of the republic bodies.

Data comparability (with possible doubts) was maintained on the basis of three elements of census uniqueness: (1) uniform period of execution (April 1-15); (2) uniform contents (questionnaires); (3) uniform methodological instructions for the field workers, instructors and controllers in the census. That was the minimal framework in which the activity of the Federal Statistical Office evolved in the 1981 and 1991 censuses. Five years after the

effected 1981 Census, the program of making tables and publishing results had not been realized. The different levels of technical and expert qualification of the republic statistical offices conditioned a significant gap in the time necessary for carrying out these operations.

The political crisis in the country escalated and factors of disintegration strengthened in the year of the most intensive preparations (1990) for the 1991 Census. The preparations for the census proceeded relatively steady until the end of 1990, in conditions which could be qualified as favorable. General liberalization and abandoning of single-party system model enabled the statistics to have a completely autonomous position when determining the census contents. The Census Law and main methodological instructions were adopted in 1990. The problems and uncertainties in regard to the success of action appeared in the phase of beginning field preparation and operations (February and March 1991). However, the census was conducted in the greatest part of the Yugoslav population. Taking into consideration the events that occurred, it was the last chance for the field workers to gather data on the territory of Bosnia and Herzegovina and Croatia.

The ethnic characteristics such as ethnic affiliation, mother tongue and religion, were always in focus of the public (political and wider) in population censuses. In the period which preceded the 1991 Census, the political system underwent radical changes, so the articulation of these matters did not depend on political organizations. The decisions which concern these matters were brought on the basis of expert proposals, above all the Federal Statistical Office. Still, in the last census, as before, there was exceptional politicalization of ethnic questions. Political organizations as well as the wider public showed especial interest and great sensitivity regarding ethnic enumeration. Those who were familiar with the Yugoslav and historical milieu understood this moment in Yugoslav censuses. Ethnic and confessional enumerations in censuses were always a motive of public arguments, sharp polarizations, and census disqualifications, often from political individuals or scientific workers as well. National partiality was mainly in question which rose the temperature of national identity in the pre-census period to the point which was determined by the historical moment in which the census was conducted and the present state ideology. The years 1971 and 1991 are identified as regards the intensity of national polarization in post-war censuses. In the 1991 pre-census campaign, numerous new political parties, which appeared in the previous year on the pluralistic political scene, intensively directed their activities towards these questions.

The Federal Statistical Office strived to prevent or make minimal the negative politicalization of the last census through their propaganda activities and expert arbiter authority. However, based on the examination of

events and certain effects, it can be said that those activities were unsuccessful in those Yugoslav areas where, as previous experience showed, strong political factors were present and possible influences on the declaration of citizens on ethnic affiliation (Croatia and Bosnia and Herzegovina).

With respect to the mentioned influences, the Muslims and Yugoslavs were the most sensitive among the ethnic affiliation categories of that time. These two categories were treated differently in post-war censuses (in both cases depending on their constitutional position) according to constitutional acts of Yugoslav republics. In the 1948, 1953 and 1961 censuses, these categories were intermixed. The 1948 Census did not give the possibility for the citizen to be classified as "Yugoslav – undefined" or as "Yugoslav without ethnic determination". The 1953 Census permitted the citizens who did not feel a strong ethnic affiliation to be classified as "Yugoslav – undefined". This qualification also (later) included the Muslims without national determination. However, in 1961 the persons who believed themselves to be Muslims more in an ethnic rather than religious sense were classified as "Muslims" (as ethnic affiliation). Those who declared themselves as Yugoslavs were classified as "Yugoslavs without ethnic determination". Since 1971, official statistics included "Muslims" as one of the six Yugoslav nations. In the 1971 and 1981 censuses, Yugoslavs belonged to a separate group of those who were without ethnic determination. In the 1991 Census it was decided that the Yugoslavs are shown as a separate modality (after the six Yugoslav nations, but before the other classified "ethnic minorities").

The Yugoslavs were therefore shown as a separate category of national declaration in censuses, although a Yugoslav never meant national identity, even less national status. This category of persons arose many discussions, many topical political orientations took a turning point and sociological researches were carried out. The polarization of standpoints, more or less public, on the question of Yugoslavs became especially prominent during the census in those regions (republics) where the population was ethnically heterogeneous (Bosnia and Herzegovina and Croatia). Two contrary and irreconcilable standpoints were present, both having pure political connotations and background: one was that Yugoslavs were a political category, and the other that they represented a national entity in Yugoslavia. However, it was a fact that Yugoslavs mainly came from mixed marriages. Their "mimicry" from census to census was conditioned by the place and moment where repression of national homogenization was more or less present. Accordingly, it turned out that Yugoslavs almost ceased to exist in Croatia in 1991 (a drop from 8.2% in 1981 to 2% in 1991), significantly decreased in Bosnia and Herzegovina (from 8% in

1981 to 5% in 1991), and in Vojvodina (a part in Serbia) retained the same percentage as in 1981 (8.2%).

Muslims (in the ethnic sense) were promoted as a nation of Yugoslavia in the 1971 Census. In the pre-census period, preparation was carried out for this promotion and adequate propaganda activities were performed by political factors in the country. Protagonists of the national movement of Muslims strived to promote a separate language (Bosnian) of the Muslims and people who live in Bosnia and Herzegovina (Serbs and Croats) in the 1981 and 1991 censuses with an obvious intention to distance the mixture of three nations from the Serbian and Croat parent countries and thus show the traits of state unity. The population census was thus a significant weapon of political goals.

Political goals and efforts regarding national enumeration in censuses certainly had an effect on the citizens' relation towards censuses. On the one hand, the acceptance of cooperation in the census by the citizens and field workers greatly depended on the political and public connotations regarding national enumeration, and on the other hand, belief in the published results were conditioned by the same circumstances. The efforts of national promoters were more or less widely known and had a goal to have the largest number of citizens declare themselves as member of their nation in the census.

Aggressive propaganda and actions of national, secular and even religious institutions relativizes the results of the census, not only when ethnic features are in question. It is not easy to list all possibilities of influence on the census results. The census quality is primarily conditioned by its scope. On the one hand, in the atmosphere of the excessive census politicalization, a part of the population avoids cooperation with the census field workers and thus remains unregistered, and on the other hand statisticians point out to possible "over-scoping" with some parts of the population (for example with certain national contingents). Some field workers in mixed areas indicated to the danger of registering non-existing persons (dead persons, persons who emigrated to other countries and their descendants who maintain cousin relationships with their parent country, etc). National declaration for persons belonging to minorities in certain areas can also be an unacceptable "discovery", namely a reason enough for such a person to avoid the census.

The 1991 Census in Bosnia and Herzegovina was carried out in conditions of the most intense involvement of the three leading parties in government (Muslims, Serbs and Croats). These parties took immediate participation in controlling the census by local (municipality) committees. Statistics (republic) found itself in a subordinate role in the actual census.

As regards including persons who were not present in the country at the time the census took place, the problem was as in the earlier censuses. In 1991 the concept of the so-called "resident population" was unchanged, namely "resident population in a given area consists of all persons (individuals) who habitually live in that area regardless of where they were at time of census, in that area or temporarily absent in the country or abroad". (Statistical Yearbook/Federation of Bosnia and Herzegovina Yearbook, Sarajevo 1999.) This concept did not understand time limitations as the UN census recommendations later suggested around the year 2000 (absent up to 1 year are included in the resident population). Bosnia and Herzegovina had an intensive working emigration toward west European countries especially towards Germany in the decades before 1991. "Persons temporarily working or residing abroad" were mainly absent from their "legal residence" in the country for many years, even decades, and often their whole families. A significant number of these persons were included in the 1981 and 1991 censuses. In the 1981 Census – 182940 (Yugoslav Statistical Yearbook 1990, Belgrade) and about 234000 in the 1991 Census (Statistical Yearbook/Federation of Bosnia and Herzegovina Yearbook, Sarajevo 1994.) These people were never completely included in the censuses because contact and cooperativeness cannot always be achieved in a given short time interval.

The definition of resident population thus did not enable credible coverage of total population in censuses. With regard to population projections, the size of total population is not a good initiating point. The size of the so-called population in country is more credible for deriving these projections, comparison with other data sources or with later censuses.

Impossibility of Deriving the Size of Demographic Losses in Bosnia and Herzegovina by Balancing and Comparing, Based on Existing Data Sources and 1991 Census

Among the most important and most referred to attempts of evaluating demographic losses in the 1992-1995 war period are the following papers: Murat Praso (1996), Bošnjović Ilijas (1999) and Helge Brunborg (2001).

Helge Brunborg emphasizes that the number of war victims (deaths caused by war circumstances and missing persons) range from 20000 to 328000. Most of these estimations vary between 100000 and 300000. It is also noted that the lowest estimation of 20000 is probably the number of missing persons rather than killed. It is not however explained why it is "probably". (Derivation, use and qualifications of numerical indicators must be accompanied by certain standards, methods, logics. A credibility

qualification of some data without minimum explanation is hardly acceptable). The response of the UNHCR representative Sadako Ogata to the claim of President Izetbegović that more than 200000 people were killed in the war was stated. UNHCR namely estimated that this number is between 20000 and 30000. The international qualification of author H. Brunborg is clear. If this number would probably be the number of missing, then the number of killed must be increased manifold. In that way the probable lower limit of 100000 war victims would be justified.

The largest estimations between 328000 and 252000 killed and missing, which are, as said, the results of the analysis done by Praso and Bošnjović. These estimations were derived on the basis of current population estimations of Bosnia and Herzegovina according to ethnic and political division. These analysis, as said, are based on various sources data, including "radio, TV (not only in BH) and discussions and talks with individuals" (Bošnjović 1999) as well as the number of died in reports of the Public Health Institute during the war which include more than a half of the towns in the country.

The mere fact that the estimations range from 20000 to over 300000 speak for themselves that there are no founded statistics when war victims are in question.

Obviously, the current population estimations during and after the war could not have been based on vital statistics (civil registration). There were no data on the number of births during the war or on the number of deaths according to death causes in order to differentiate the victims as a direct consequence of war and victims as a consequence of war circumstances (existential difficulties on various bases).

The mentioned authors justifiably did not deal with the current population estimations on the basis of vital statistics. It cannot be judged on the basis of their reports in which way the estimations were derived, namely which sources and how they were used to derive these estimations, and especially not how these estimations were acquired in the actual sources. It remains only to believe the solidity of these estimations. Let's see, however, what the total victim results (died and missing) looks like in the analysis of Murat Praso.

The report of Murat Praso for BH was obtained by adding the report of the three territories: territory controlled by HVO (Croatian Defense Council) in 1995, territory controlled by VRS (Army of the Republic of Srpska) and territory controlled by ABH (Bosnia and Herzegovina Army). The report for Bosnia and Herzegovina has the following aggregates:

Bosnia and Herzegovina Area = 51129 square kilometers	
Population in 1991	4377000
Projected population 1995	4498000
Actual population 1995	2898000
Domicile population ^{*/} 1995	2298000
^{*/} Original population from 1991 who still live in 1995 on territories controlled by the three armies	

According to Murat Praso, the war losses, namely number of persons killed or disappeared amounts to 328000. Although not explained in the text how this number was obtained (perceived), the reader may ask himself where this "size" is hidden.

If the projected population of BH in 1995 amounted to 4498000 and the current population in the country to 2898000 and population which exiled out of BH during the war (1992-1995) amounted to 1259000, then the formal account for deficit of population is given as:

$$4498000 - (2898000 + 1259000) = 341000$$

This number is almost identical to the victims number (killed and missing) of 328000 which Murat Praso demonstrated. It may be assumed that the author had this calculation (procedure) in mind when calculating population loss. It is clear, however, that this calculation hides a "trap" with the use of data on total (resident) BH population according to 1991 Census which specifies 234000 respondents temporarily working or residing abroad. These persons certainly did not return to the country during the war. Moreover, it is realistic to assume that this number rapidly increased during 1991 and in the first months of 1992, because the further development of events was obvious to many.

It is also clear that the marked difference (328000, namely 341000), apart from these persons who are registered as part of resident population abroad, contains an immeasurable part of demographic loss based on reduced (probably negative) natural increase in first half of the nineties. The number of births was certainly radically reduced in the period 1992-1995, among other reasons because of the departure of a large number of fertile female population out of the country, and the number of deaths which are not

among the "killed or missing" radically increased. Natural increase for BH in 1991 was 33042, according to Federal Statistical Office. Assuming this number was maintained in the 4 year period (1992-1995) of war, then the cumulative natural increase would be 132168. Provided, for example, it is assumed that 2/3 of this increase was lost due to the war, then the "inexplicable difference" almost exhausts or leads to a few tens of thousands.

Assumptions may vary and thus replace or increase the "inexplicable difference". However, if commencing from the projections and current population of M. Praso (for 1995), from stated data on number of refugees from the country and acceptable proportion of reduced natural increase, the difference would not be greater than a few tens of thousands. Beyond doubt, the difference on that level does not allow statistical qualification of preciseness due to mistakes in scope of current and respondent population or due to hypothetical approach in projections. In other words, if the goal is to estimate a relatively small number as components of total demographic loss (in relation to total population) then the method of balancing and projections cannot give credible statistics. In the balance of professor Bošnjović, the procedure is exactly the same, with the difference that professor Bošnjović took the losses based on natural increase into consideration due to reduced birthrate and increase of "natural" mortality.

Total balance of prof. Bošnjović:	
Population March 31, 1991	4340718
Population estimation on March 31, 1998, on condition of no war	4501000
Resident population ¹ (actual population)	3140000
Population in exile out of country	958000
Killed and missing	270000
Loss in population increase	133000

The calculation of professor Bošnjović is more consistent than that of Murat Praso, because it differentiates losses in population increase from number of direct victims (killed and missing). Nevertheless, the basic problem with census data on total population in 1991, namely the size which includes population in country and abroad, was not avoided. Such an oversight for experienced demographers is banal.

¹ Author's remark: refers to de facto population.

The balanced account of professor Bošnjović indicates namely that the sum of war victims and natural increase losses is the same as the difference between projected population and sum of resident population and population in exile. Resident population must therefore be understood as "population in the country". Population in exile is qualified as population that had to leave the country because of war (Helge Brunborg, 2001). The projected population, however, contains the population which was abroad as "persons working or residing abroad" on March 31, 1991. It is certain that the estimation on March 31, 1998 included assumption on natural movement. Thus, if we apply the natural movement rate of 0.56% in 1997 (according to "Statistical Yearbook", UN 2000) to population estimated by UN in 1997 of 3784000, then the natural increase for BH would be 21190. The average natural increase in the period March 31, 1991 to March 31, 1998 if there had not been war would have been 27000.

The rough estimation calculated this way ($4340718 + 7 \cdot 27000 = 4529718$) is very close to estimation of professor Bošnjović.

The problem of determining the current population number without all-inclusive population census is unforeseeable. Such a census was not conducted in Bosnia and Herzegovina since 1991. After 1995, the matter of successfulness of such a census was obvious not only because of the lack of central statistical coordination, but because of a large number of refugee population as well as a significant number of persons "temporarily working or residing abroad" from the period before 1991. The actual census would help estimate the total demographic loss, but without orderly registration of deaths according to causes of death, the estimation of the number of direct victims due to war effect would be complicated.

If the current population data sources are in question, there are no references in the works of M. Praso and I. Bošnjović, so we cannot know who acquired the data on current population and in what way. However, there is reference on the data sources of refugee population. M. Praso specifies the number of about 1.3 million refugees out of Bosnia and Herzegovina, while H. Brunborg states: "Out of the 4.3 million pre-war population, about 1.2 million Bosnians took refugee out of the country, and about 1 million was displaced within the country". In both cases the UNHCR is stated as the data source, but the qualification of data certainty by the stated authors is quite the opposite. M. Praso states that the refugee data are not reliable, while H. Brunborg states that these data are reliable enough. The following question is imposed: do the data on refugees that UNHCR obtained originate directly from the refugees, or are they partially indirectly obtained (for example according to sources in the country)? To what extent is the mixture of the two categories of persons outside the country possible: those who fled during

the war and those who happened to be "persons temporarily working or residing" outside the country?

The problem of determining the current population in the works of M. Praso and professor Bošnjović is more conspicuous because there are sources which give significantly different sizes on total population in a part of BH (Republic of Srpska). Namely, the Statistics of The Republic of Srpska (RS) announced a census in RS in 1996. This "reduced" census was done by the standard census methodology, with its contents being reduced to basic residential and demographic characteristics. The RS Statistics Office (Banja Luka) has the results of this census. The total number of respondents in RS in 1996 was 1391593 (in 1995 according to M. Praso, total population on territory controlled by The RS Army was 904000, while according to professor Bošnjović the total number of Serbs in BH on March 31, 1998 was 986000).

Didactic and instructive work of Mr. Helge Brunborg ("Statistical and Demographic Analysis at an International Criminal Tribunal") represents an attempt to point out the possible directions of demographic and statistical analysis which would contribute to clearing up the scope of war crimes, war victims, displaced persons, "ethnic cleansing", and demographic losses. The author is engaged in a so-called population project of the International former Yugoslavia war crimes tribunal (ICTY). The goal of the project is, as said, "obtaining as much credible estimation of population changes in BH as possible during the war 1992-1995, focusing on deaths, displacements and refugees".

The author himself stresses that the difference between macro and micro data are important, considering the possible methodological approaches. The author also brings into doubt the possibility of using macro data, fabricated estimations and aggregates. He says the quality of aggregate data is often unknown. When the numbers of deaths are in question, for example, we cannot be sure if the same death was included once, twice or completely left out in some aggregate.

The author has much more confidence in micro data, namely data on individuals (individual data). When deaths, for example, are in question, it can be checked if the person was registered twice for his death or if the person we believe was killed actually existed on the given territory before the war conflict. The greatest advantage of work with individual data, as the author puts it, is in the fact that we can make our own analysis and also connect data from various sources. On the other hand, obtaining individual data is much harder and work with these data can be very complicated and extensive with regard to the required time and means. For every statistician

and demographer these considerations are completely undisputable. The problem in the case of Bosnia and Herzegovina, like in all long-term war circumstances, is the lack of orderly and unified individual data on categories such as war victims, displaced persons and refugees. With the course of time it is especially difficult to identify those who were killed or missing in war conflicts.

Special attention is worth giving to the idea of author H. Brunborg on mutual matching of individual data of two available sources of individual data; population census from 1991 and voter lists (voter registers) from 1997. This idea and work on matching characters in available sources of individual data are, certainly, the most serious attempt of obtaining certain numerical notions on redistribution of population as a consequence of war conflicts or planned ethnic cleansing. This approach is least useful when killed or missing persons are in question for obtaining credible statistics on wide territorial units. (The Srebrenica case is in that respect specific: small territory is in question – enclave, incident which happened in a short time interval and with significant engagement of international factors). Complete unambiguous matching of census and voter lists is possible under the assumption of orderly registered "Uniform Register Number of Citizen" in both cases. The Uniform Register Number of Citizen was used in 1991 Census, but its scope in that moment was still not complete with the elderly population (persons who did not have ID or did not change their ID in the last decade).

H. Brunborg explains (in the methodology part) that data matching begins with searching for records with identical names and birth dates. The probability is small that on a limited territory there are two persons with identical name (and last name) and date of birth. The problem arises, however, as a consequence of imprecisely filed or registered data. As the author states, the same names are often registered differently or lost, and date of births as well. It can be understood that this problem is more pronounced in voter's lists. Lack of quality or varied quality of voter's lists is a consequence of circumstances in which those lists were formed. The following could be mentioned: (1) list formation does not have uniform (regulated) methodology, or uniform trained executors; (2) political temperature after the war was still extreme, and influence of local political factors crucial; (3) local administration was not routinized or centralized.

Comparisons between summed data on voters on basis of 1991 Census, population estimations for 2000 (by sex and age) and registration of voters in 1998 are worth looking into.

Preliminary summed review of voter's by registration (August 25, 1998) was as follows:	
Residents (voters in place of residence)	1995311
Absent voters in country	447928
Voters from Federal Republic of Yugoslavia	77986
Voters from Croatia	77508
Voters registered by mail	151972
TOTAL	2750705

It is clear that registration is impaired mostly by the lack of potential voters who happened to be in The Federal Republic of Yugoslavia and abroad (out of republics of former Yugoslavia). The estimated electoral body in 1991 Census (for BH) according to age distribution was 3103871 (71%). Estimated electoral body in the country in 1991 Census was 2941530. This number could be compared with the number of voters in 1998 without persons registered by mail, namely size (2750705 – 151972 =) 2598733, having in mind that considerably less voters than in reality were registered for the Federal Republic of Yugoslavia. The difference of 342797, on condition of orderly registration of voters in country, should be explained by the missing part of voters who went abroad (outside the borders of former Yugoslavia) during the war (1992-1995) and partly by killed and missing during the war. If however, we estimate (by applying the same proportions) the number of voters abroad, (assuming that out of the 1.2 million refugees out of the country in 1998, only half were abroad outside the borders of former Yugoslavia), we can manage with a minimum size of 426000. The noted difference is in that way not only worked out but also surpassed. The question which is imposed by this simple comparison is the following: to what extent were the voters registration lists in the country burdened with fictive and double registrations, and to what extent were the UNHCR data on number of refugees exaggerated.

On the other hand, the number of registered voters could be compared with the estimated number of voters in 2000 on the basis of population estimations according to sex and age by author G. Penev. According to the first variant, the estimation of Goran Penev (total population in the country was 3380150 in the year 2000), and the estimation of total number of voters in the country would be 2553913. According to the second variant of the same author, the number of voters would be 2.935.932. The total number of registered voters in the country in 1998 was 2443239. If we assume comprehensiveness of voter's lists from 1998, for the voters in the country, then the conservative estimation variant of G. Penev could be estimated as

more credible. In that case however, the estimation in the UN Yearbook for the year 2000 (which refers to 1997) of 3.784 million population is not maintainable, nor the estimation of 3.8 million for 1999 of B. Kotzamanis.

Nevertheless, if the UN estimations are taken into account as being more credible, as well as those of B. Kotzamanis, and the second estimation variant of G. Penev, then the insufficient scope of voters lists is obvious for the population in the country as well. Taking into consideration the circumstances which governed in BH, this conclusion seems more probable, so the voters lists are a little more useful for identifying the killed and missing, namely their number.

If word is on determining the facts that there was massive "ethnic cleansing" during the war in BH, as stated in most works or texts dealing with estimating the demographic changes in BH during the war 1992-1995, the following clear moments could be pointed out:

- (1) The civil war in BH was a consequence of radically opposed political and state goals of three main (equal) ethnic corpuses (Muslims – Bosnians, Serbs and Croats), which as a consequence, from the very beginning, had national homogenization in all parts of the territory, massive movement (mobility) of population within the country as well as massive departure from the country (exile). Internal migrations, nor going abroad did not stop even after the end of the war in 1995 (with the signing of the Dayton Peace Agreement). Massive departure of Serbs from Sarajevo occurred after the signing of the Dayton Agreement. According to professor Bošnjović, the ethnic structure of refugee population from the country is such that Serbs and Croats are over-proportionally portrayed. The term or qualification "ethnic cleansing" is used to have a connotation of crime against humanity or of genocide. However, a differential approach is necessary in researches of these events (phenomenon of mobility or refuge) in BH as a consequence of war circumstances. The disintegration of former Yugoslavia and the war in Bosnia and Herzegovina were certainly the causes of massive population displacement in BH, but it is necessary to differentiate relocation which was forced from that which was, conditionally speaking, voluntary. If statistics were to be derived according to such defined causes, it would be evident that the number of relocations of the other kind ("voluntary") was dominant, because most people were motivated by fear in conditions of inter-ethnic divisions and high tension in those relationships. Moreover, it can be noted from the 1971, 1981 and 1991 censuses that ethnic homogenization was present in BH as a "silent" process decades before the war. A research (survey) among displaced persons and refugee citizens of BH could give a certain confirmation of the stated or

certain clarification, despite expected partiality in view of the cause of leaving pre-war place of residence.

H. Brunborg (in the stated work titled: "Statistical and Demographic Analysis at an International Criminal Tribunal") gives an anonymous example of confirmed "ethnic cleansing" by applying matching method of data from 1991 Census and 1997 Registry of voters. A drastic ethnic composition change of voters on territory X to the detriment of Muslims, and concludes "very clear picture of ethnic cleansing". Did the Muslims on that territory fear for their future, or were they forced to leave, we do not know.

As an example, we can state an event that happened in Trebinje towards the end of 1994. Trebinje is a town in Herzegovina which, before the war, had ethnically mixed population with the majority being Serbs (21387), a significant number of Muslims (5542), Croats (1226) Yugoslavs (1625) and total population at time of 1991 Census of 30879. Trebinje was, during the whole time of the war, under the control of The Army of the Republic of Srpska, and the Muslim and Croat population did not leave Trebinje. Towards the end of 1994, the Muslim population expressed their will to leave Trebinje. The population was protected but their will had to be respected, so the Muslims left Trebinje. At that time it was already clear that Bosnia and Herzegovina was on the verge of a peace agreement which will undoubtedly mean division of BH into two or three entities (division of territory according to ethnic domination of Muslims, Serbs and Croats). It was also certain that Trebinje (as a part of eastern Herzegovina) would be included in the Serbian entity (the already existing Republic of Srpska).

- (2) The existing evidence and statistics do not have anything to add to the already evident fact that the disintegration of Yugoslavia and the civil war in Bosnia and Herzegovina were caused by massive exile and displacements of the citizens of BH. An especially large part of refugees came and remained in the Federal Republic of Yugoslavia, namely Serbia. If we take the data of professor Bošnjović into consideration on the number persons in exile on March 31, 1998 and the data on the number of refugees in Serbia according to registration in 2001, then it could be estimated that at least 250000 refugees from BH were in Serbia.

What should and could be the subject of statistical research are the conditions and motives under which the population left the country or changed place of residence in the country. "Clear picture on ethnic cleansing" are not just mere figures because for those who understood the circumstances in Bosnia and Herzegovina before the war and further back

into time would understand that the actual disintegration of former Yugoslavia, even if the civil war was avoided by any chance, would bring relocation of population and wide scope ethnic homogenization. Decades before the war, in the period of the least ethnic tensions in former Yugoslavia (period of high standard and significant authority of party ideology of "brotherhood and unity"), the process of Serb and Muslim population exchange proceeded in the area of so-called western Herzegovina (with ethnic Croat domination). Rejection of minority coexistence by the majority was a well known phenomenon in this area, or is it maybe better to mark this case as an example of "ethnic cleansing" as well. Similar examples could be found on the territory of Croatia and Bosnia and Herzegovina in the time of former Yugoslavia, with which the theory on the long and harsh process of "ethnic cleansing" in former Yugoslavia on the territories of Croatia, Bosnia and Herzegovina and Kosovo and Metohia (southern province in Serbia) could be supported. It was a public secret that the majority Croat population in certain parts of Bosnia and Herzegovina and Croatia had intolerant relations towards Serbs, even Muslims. Hence, the ratio of Serbs in Croatia fell to about 4% in the 2001 Census from 12% in the 1981 Census. That intolerance often turned into wide range animosity, especially when some kind of national ideology or national movement arose among the Croats (example the so-called massive movement from 1971 in Croatia), During the Second World War large scale ethnic cleansing was carried out on the Serbs in Kosovo and Metohia by the Albanian military organization (supported by Italian occupational forces), and their return to their places of residence after the war in the new Yugoslavia was prevented. This example cannot be understood in the context of official ideology and politics of Tito's Yugoslavia which was based on the slogan "brotherhood and unity" and heritage of the anti-fascist party movement, which strived to gather all ethnic corpuses in Yugoslavia. The essence was, however, that this policy and ideology was not consistent in practice.

The example of "ethnic cleansing", which H. Brunborg stated in his paper mentioned above, regardless of statistics and demographic description, for the reader who is familiar with the character of the war and pre-war circumstances in BH, the following questions are inflicted: why is the territory anonymous (marked as X) and why is the example isolated, yet "ethnic cleansing" of Muslims and Croats is in question?

The Srebrenica case was statistically processed for the first time by Helge Brunborg and Henrik Urdal in a text presented on "Uppsala Conference on Conflict Data" (June 6, 2001, <http://www.uu.se/paperbrunborg.doc>). The text had a purpose to explain the "matching" methodology in detail of the available sources of individual data. Word is on the analysis and "matching"

in several versions of missing persons lists which were made by ICRC (International Committee for the Red Cross) and PHR (Physicians for Human Rights).

The "matching" methodology had an aim to improve the quality of these lists, namely to form a list of missing persons which would be reliable in view of the basic data of these persons. Both organizations (ICRC and PHR) gathered data such as: name, last name, name of father, sex, date and place of birth, data and place of disappearance. PHR also gathered data on ethnic affiliation. The authors presented a statistic of wrong and missing data on these lists, which was a reason for their improvement by applying the "matching" methodology. The number of missing and wrong data on these lists is significant. On the ICRC list, the most frequent incomplete data was the date of birth (65.4% complete) as well as the missing date (89.6%). Similar with the PHR lists. It is stressed that there are a large number of incorrect and missing data in these lists, especially with those matters regarding tragic events, which is understandable because the "data were gathered in chaotic and dramatic circumstances" (ICRC began registration of missing persons immediately after "the fall of the Srebrenica enclave" in the summer of 1995, while PHR began registration a year later, in July 1996).

The authors also express their judgment that the quality of one list is not better than the other, and that these lists together form a more certain confirmation and strengthening of proofs, so they are complementary and in that way provide more relevant information.

"Matching" method involved matching up key data (name, last name and date of birth) on the ICRC and PHR lists, and then comparing them with OSCE voters lists for 1997 and 1998, and when necessary with the 1991 population Census (the citizen's registry number was not included in the ICRC and PHR lists even though it was included in 1991 Census and voters registration, and often it was missing, namely lost or was wrong). The goal of the matching with voters lists was to verify the fact whether the person appeared during election period, and the comparison with the census would prove if the person really existed before the war and to complement information contained in the census. The census was of the greatest importance because it could establish whether the noted pair obtained by matching lists and voters registrations corresponds to the same person. In some cases, it was noted, a person was found in the census for a noted pair, and for other it was not. In such cases, matching was rejected if the father's name noted in the census significantly differed from the name in either the ICRC or PHR lists. If, for example, a person was found in the missing persons lists and in the census had a different registry number, the matching was also rejected. When matching missing lists with voters lists made by

OSCE (Organization for Security and Cooperation in Europe), with an aim to find persons registered as missing but were alive, it is noted that a total of nine such persons were found with regards to Srebrenica. Five of these persons were registered regardless of ICRC and PHR, so as it was noted, the possibility is less likely that they were registered as missing persons, but rather that they were falsely registered as voters at the elections.

The established statistics was the following:

There were 5712 on both lists of missing persons (ICRC and PHR). There were 1586 persons on the ICRC lists who were not found on the PHR list. There were 192 persons on the PHR list who were not found on the ICRC list. There were 7490 missing persons on both or at least one list. When persons found in voter's registry were excluded, there were 7481 persons on the missing person's lists. The estimation of total victims (killed) regarding Srebrenica, according to maximum likelihood estimator was 7543 by the author. The described matching method is certainly not controversial, nor the final estimation of the Srebrenica victims number from the aspect of applied derivation number (ICRC and PHR lists of missing persons, registry of voters and 1991 Census). The final estimation could insignificantly vary statistically, depending on the quality estimation of ICRC lists. The analysts here also doubt the credibility of missing persons list, whether made by the IRC or PHR. The problem arises when the number of missing, made on the basis of missing persons list, are interpreted as the number of killed or dead. The main argument Brunborg gives out in favor of the statement that the missing persons (with regard to Srebrenica) identified on the basis of missing persons list is the similarity of distribution by age of this category and category of persons whose corps had been exhumed, being about 1900. It is stated that the sample of 1900 exhumed is coincidental in the group of persons assumed to be killed.

The actual number of 1900 exhumed is not statistically significant in relation to the determined number of missing persons. It is not questionable whether the statement that the sample of exhumed is incidental in the in the category of missing persons with similar distribution by age, but it is justified to assume that the sample of missing persons is similar in the category of all persons who resided in Srebrenica before its fall. Brunborg estimated this number to be about 40000. If similarity of distribution by age of missing persons was shown with the distribution by age of all persons living in Srebrenica before its fall, then the argument which proves all these persons (or the majority) were killed could be discarded. It is clear that there is no adequate evidence or population census of Srebrenica immediately before its fall. A considerable number of persons probably came to Srebrenica in the previous period from the surrounding area, but

it is sensible to compare distribution by age with the 1991 Census for Srebrenica and surrounding area.

As regards registration of voters being evidence based on which the matching procedure could detect persons from the missing persons lists, it has already been pointed out to the insufficient scope of voters in the country. Insufficient consistency of total number of registered voters and estimated electoral body is in question on the basis of available population estimations by age in country (for 1998-2000 period).

It is stated (Brunborg, Urdal, 2001), incidentally, that the total number for Bosnia and Herzegovina amounts to 19403 based on 4 versions of missing persons lists made by ICRC. This number is similar to the one announced by the United Nations High Commissioner for Refugees (UNHCR), Sadako Ogata, on June 7, 1996. The High Commissioner namely claimed that the number of killed were between 20000 and 30000, and that 2 million persons left their homes. These figures also could be brought into connection with the estimation given by George Kenney ("The Bosnia Calculation: How many have died? Not nearly as many as some would have you think"; The NY Times Magazine, April 23, 1995, pp. 42-43). G. Kenney namely says: "According to my calculation, the number of victims in the Bosnian war was not 200000 but 25000 to 60000 – on all sides". It is interesting to note that the victims number of professor Bošnjović of 270000 was decreased by the number of persons from BH "temporarily working or living abroad" according to the 1991 Census of 234000 situated in the interval given by G. Kenney, namely close to the middle of that interval.

History and Motives of Extremism in Estimations of War Victims Number in Bosnia and Herzegovina

The estimation on the number of victims (killed and missing) during the war or after the Dayton Peace Agreement vary from 20000 and 328000, whereby the majority of these estimations is between 100 000 and 300 000 (Brunborg). The smallest of 20 000, it is said, is probably the number of lost persons rather than killed, while the largest of 328000 is the result of the analysis of Mr. Praso. The largest estimations are undoubtedly the ones made by local authors or institutions in Bosnia and Herzegovina (Praso, Bošnjović, Public Health Institute, Bosnia and Herzegovina Ministry of Health). Only a few estimations are given in an academic way, with a review and method and data discussion. Brunborg also notices this fact. Among these, the estimations of Praso and Bošnjović could be mentioned.

The history of the very beginning and public presentation of multiply exaggerated estimations of killed (and missing) in the Bosnian war has its beginning just as the actual war. In January 1993, UPI agency stated that there were 17000 dead on all sides of the war in Bosnia. At the same time, Haris Silajdžić, Prime Minister of the Bosnian Muslims, claimed that there were 18000 dead among the Muslims. At the Convention on Human Rights in Vienna in June 1993, Haris Silajdžić claimed that there were 200000 dead among the Muslims. The number increased by 182000 in the period of about five months. The world media accepted this data without any critical consideration. In further media reviews, this number grew to 250000, very close to the figures estimated by Praso and Bošnjović after the end of the war (1996 and 1999). There is an impression that political factors at that time in Bosnia were aware of the groundlessness of numbers which were launched to the world media, so local science "got a task" to subsequently confirm (by analyzing the existing data sources) the figures which have already become wide public conviction, and moreover, influenced the political processes with regard to the war in Bosnia and Herzegovina. The American Delegate for Bosnia and Herzegovina, Richard Holbrooke, later the main architect of the Dayton Peace Agreement, claimed the number of 350000 dead. As stated by the Centre for Peace in the Balkans, (August 17, 1999), if the number of 18000 in January of 1993 is correct, then (5 months later), the figure of 200000 represents an increase of 182000 Muslims, or 36400 monthly, namely 1214 victims a day. Silajdžić, according to the stated Centre, claimed on CNN that when Tuzla was bombed, 71 victims represented the individually largest number of killed in one day in the whole war period. If we take into consideration that the war lasted 42 months of 1260 days and that 71 was the maximum number of dead in a day, then the total amounts to 89460.

The media repeated day in day out numbers between 200000 and 300000 of killed Muslims, so they became media facts, which nobody neither proved nor cited research.

George Kenney (NY Times Magazine, April 23, 1995, pp.42-43), former official of the State Department, otherwise "well-informed on the events in Bosnia" (Centre for Peace on the Balkans), best described what actually happened in international organizations and American administration in Bosnia and Herzegovina in the context of identifying the number of victims in the war. He says that the idea of hundreds of thousands of deaths emerged later, in 1992, when "ethnic cleansing" was at peak, and the reporters doubted the State Department for hiding information on the Bosnian fields of death. This was not the case, he says, but their mistake (misconception) was that they did not know anything nor did they want to know. He remarked

that in August of 1992, before he left the position of director of the Yugoslav desk in the State Department, he had written a memo in which he suggested that teams should be sent for investigation, but the proposal was rejected. At that time the CIA gave a report in which 150000 persons were anticipated to die during the winter if the Western world does not do anything. When the report was disclosed to the public, in September of 1992, it seemed modest and uninteresting in relation to the anticipation of 400000 dead announced by the special representative of the UN High Commissioner for Refugees, Jose – Maria Mendiluce. However, it happened that the winter was quite peaceful. The war initiative faded away and there were only a few dead. Still, the discovery of "ethnic cleansing", combined with CIA and UN anticipations, created expectations, remarks G. Kenney. The concept of massive killing was supported by ferocious photographs of corps which were shown as murdered Muslims in Serbian "concentration camps". This was, as G. Kenney says, the last draw which enabled Haris Silajdžić to express great tension through the number of deaths. In December of 1992 he told reporters there were 128444 dead on the Bosnian side, including Serbs and Croats loyal to the Bosnian government. According to G. Kenney, he evidently came to this number by adding 17466 confirmed deaths with 111000 which the Bosnian Public Health Institute marked as missing. As a competent politician, Silajdžić understood the benefit if an evident slaughter was presented. To the Western world this meant political support, while to the Islam world more donations for strengthening the Muslim war machine.

In the beginning, such large numbers were not widely accepted. In June (28th), the Bosnian Minister of Information, Senada Kreso, announced 200000 dead to the reporters. G. Kenney remarks that he thought "an outburst of naive zeal" was in question. Soon the most important newspapers and services started using these figures, unsupported by sources or evidence. Nobody wanted to find out anything about the sources of these numbers. Haris Silajdžić, as Prime Minister of Bosnian Government, at that time spoke in a routine way on genocide and "Bosnian holocaust", while his auditorium raised their eyebrows and frowned. G. Kenney added: "Holocaust did not though, exist". Simple and obvious arguments yet followed, and more could be added. It is said that in order for Bosnia (which is somewhat larger than Tennessee) to bear victims of 200000 would mean that there would have to have been about 200 dead every day for a war period of 3 years. The battles rarely, if ever, reached such a level of intensity.

When the Serbs isolated the part of the territory where they were ethnically dominant in 1992, the conflicts weakened continuously reaching a virtually hopeless balance in the autumn of 1993. Armies shot over one another, not

wanting to be injured in a low-intensity war. G. Kenney openly doubts that more than a few tens of thousand people (including civil casualties) could have been killed in the conflicts. Precisely, he says that the war effects could have resulted in victims which could be measured by tens of thousands. If there were a large number of dead, then it could have been carried out only on the basis of systematic killing in concentration camps or complete extermination of communities (massive executions). Nobody, however, found evidence of systematic killing: The International Red Cross Committee, western governments or anybody else. Except for a few known cases of massacre, nobody saw any signs of destroyed settlements or massive killings. The Red Cross confirmed the number of under 20000 dead on all sides of the war. Starting from this number and by recognizing the experienced researchers in Bosnia, the Red Cross analysts assessed the total number of victims to be between 20000 and 30000, with a small chance this number is over 35000. CIA and Bureau of Intelligence and Research analysts estimated tens of thousand victims, but did not want to give more precise frameworks until the end of the war. European war intelligent officers, with long experience in Bosnia also estimated tens of thousands of victims. On the basis of these estimations and arguments on physical impossibility of large numbers, G. Kenney came to the interval of 25000 to 60000 of all victims.

It should be noted that the "myth" of hundreds of thousand victims is easy to perceive as unrealistic on the basis of another "empirical" proportion on the number of killed and wounded in war conflicts. Namely, the rough proportion of 1:5 between the number of died and wounded in war conflicts is well known. Assuming that there were 200000 dead in the Bosnian war, then the number of wounded would be at least one million. This means that Bosnia and Herzegovina had almost one fourth of its population seriously or slightly wounded in the war period. If the number of wounded in Bosnia and Herzegovina was to be researched, it would be a way of ascertaining the reality of derived estimations of the number of dead persons.

What is the special motive of the western media, especially in the USA, to make a twisted picture on non-existing genocide in Bosnia and Herzegovina? G. Kenney says that according to his impression, the chorus-like warnings on genocide were gradually taken over by those who requested unilateral lifting of the embargo by the USA for import of weapons for the Muslims. Although unilateral lifting of embargo did not happen, the activists partially succeeded. Public media surveys showed that the majority of Americans believe the Serbs conducted genocide.

In 1995 when it became evident that there were no corpses, the accusation for genocide became transparent sensationalism, says Kenney. Reporters began

discussing how objective was the Bosnian war drama, namely if there was an aspiration of favoritism towards the Muslims. Some reporters, says Kenney, expressed the feeling that "something was obviously wrong". The writer David Rieff said, mentions G. Kenney, that "Bosnia became our Spain", in such a way that political motives were followed by personal motivations of many reporters who "dreamed of becoming Hemingway" at the end of the century trying to make the war drama in Bosnia and Herzegovina larger than it ever was.

Conclusion

Authoritative institutions and organizations, whether institutions of Muslims in Bosnia and Herzegovina, international organizations or western governments are in question, all gave estimations on the number of killed and missing in the Bosnian war, the number of refugees or displaced persons, qualifications on "ethnic cleansing", estimations on demographic losses, qualifications on genocide in Bosnia and Herzegovina carried out over the Bosnian Muslims, etc.

Most of these estimations have been faced with clear arguments on their extreme character and motives situated in the times they developed. Study authority (demographic) supported this extremism of numbers, so some authors of estimations explicated certain methodological procedures as well, which are legitimate as general methodology, but the exaggeration in numbers came through their application and incorrect (or imprecise) interpretation of existing data (the 1991 population Census, above all) as well as weaknesses of the actual sources of data (census, voter's lists, vital registration, missing persons list, etc.).

The majority of allegations on the number of victims does not have a reference of source nor information on authors, institutions, methods or similar. Let us mention here two examples characteristic by high institutional "background". In the text "Bosnia and Herzegovina, Geography, from 1996 CIA World Factbook" (ABC Country Book of Bosnia and Herzegovina – geography Flag,...) which describes the basic geographic, climatic, natural and political attributes of Bosnia and Herzegovina, it is stated that the data had been updated by Muamer Bajrić on January 8, 1998. After the basic data on political and governmental structure of Bosnia and Herzegovina, it is stated that there were 150000 dead on all sides during the war (from March 1992 to December 1995) and one million refugees all over the world. In another report, supplied by the US Department of State, ("Bosnia and Herzegovina Country Report on Human Rights and Labor, January 1997) it is stated that 1996 was the year of transition, in which the international

community strived towards political reconciliation after 3 years of war, in which more than 250000 people were killed and 3 million displaced and uprooted. These figures, by themselves, reflect an intensity of war which cannot be imagined in the wildest dreams.

G. Kenney rightfully asks the question: who can give an adequate calculation? He notes reliable research can hardly be expected from the State Department, or even western governments who humiliated their own responsibility for an authoritative calculation. The United Nations are not the ones either, whose officials have a tendency to slow down every initiative by long discussions. The people on the Balkan, or in Bosnia and Herzegovina, cannot be trusted completely. The only possibility, says Kenney, are non-governmental organizations (such as the Red Cross) which can be trusted as being neutral. The false fame on the national guilt of the Serbs which has been created, above all by placing the words "genocide" in circulation through the media-political picture of the Bosnian war, must be dispelled by systematic and objective research and presenting statistics of victims and persecutions, as well as direct causes and motives of individual decisions and events which conditioned awful consequences such as the killing of people. Apart from that, the road to reconciliation is made more difficult and the danger of "the terrible past being repeated" is constantly present. The statistical method does not have to be the only one, but it should enable wide and convincing approach, incorporated with other procedures or independent of other possibilities. A future population census in Bosnia and Herzegovina could be a good opportunity to acquire additional information, through relative connections of persons killed in the war circumstances as well as of the persons who changed place of residence in the period of war. Future research should be projected and lead by highly professional and scientific authorities, independent of governments or even international institutions and organizations. The only such authority in the domain of statistics would be the International Statistical Institute.

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The Weak Points of Statistical and Demographic Analyses in Estimations of War Victims in Bosnia and Herzegovina in the Period 1992-1995

S u m m a r y

In the political and war crisis which embraced Bosnia and Herzegovina in the spring of 1992 with an end of war hostilities in the autumn of 1995 when the "Dayton Peace Agreement" emerged (November 1995), a media war occurred. From the very beginning, this war had an international character. The question on the number of war victims (killed and missing) "exploded" in June of 1993, when Haris Silajdžić stated that there had been 200000 dead among the Muslims. This figure uncritically became the basis for all later media and local "empirical truths" on the number of victims. All statistical and demographic disciplines were exploited to support, if not prove, the propaganda standpoints. Objectivity was oppressed by an ugly "face of the war". Having in mind the experience of the Second World War in Yugoslavia, the question on the number of victims does not cease to be topical for decades after the end of the war. Bosnia and Herzegovina is more than a confirmation. This question seems to intervene (and in a way "feed of") with the most difficult political and international questions and court trials. ("International Court of Justice", indictment of Bosnia and Herzegovina against The Federal Republic of Yugoslavia, namely Serbia).

The methodological analysis of the most important works which deal with the question of the number of victims in the Bosnian war (above all, those done by Bosnian institutes and authors) indicate the "mistakes" made by the character of these works (propaganda). The manipulation with statistical methods and numbers is not new. Methodological and numerical traps can slip even to the most informed.

The use of statistics and social science in court trials seems to show Janus's face of science: on one side the authentic "moral passion" of researchers finds great sense, and on the other side special interests strive to impose themselves through the (most refined) instrumentation of science and knowledge. (The example of Mr. Patrick Ball's testification in the trials in the Hague Tribunal is edifying as regards the question of the reasons for the Albanian exodus in the war crisis on Kosovo and Metohia in 1999).

This analysis points out to the crucial defects of every statistical (and demographic) procedure of deriving the number of war victims in the absence of a comparable population census after the war (which did not take place in Bosnia and Herzegovina). The qualification of the quality of the 1991 Census in Bosnia and Herzegovina is briefly given (the author was an expert and organizational leader of all operations of last censuses in former Yugoslavia, 1991).

Probably the most distinctive point, in the continuous course of deriving numbers and analysis on the number of victims in the Bosnian war so far, is the text of George Kenney published in the NY Times Magazine, April 23rd 1995.

Key words: *war victims, censuses, statistics, genocide, estimation, ethnic cleansing*

Miladin Kovačević

Slabosti statističke i demografske analize u procenama žrtava rata u Bosni i Hercegovini u periodu 1992-1995.

R e z i m e

U političkoj i ratnoj krizi koja je zahvatila Bosnu i Hercegovinu u proleće 1992. sa završetkom ratnih neprijateljstava u jesen 1995, kada je usledio "Dejtonski sporazum" (Novembar 1995), odigrala se medijska bitka. Od samog početka ta bitka je imala međunarodni karakter. Pitanje broja ratnih žrtava (ubijenih i nestalih) "eksploziralo" je u Junu 1993. kada je Haris Silajdžić izneo tvrdnju da ima 200000 mrtvih među Muslimanima. Ovaj broj je nekritički postao osnova svih kasnijih medijskih i domaćih "naučnih" "istina" o broju žrtava. Upregnute su statističke i demografske discipline da potkrepe, ako ne već i da dokažu propagandistička stanovišta. Objektivnost je zatomljena jednim i inače užasnim "licem rata". Imajući iskustvo Drugog svetskog rata na prostoru Jugoslavije, pitanje broja žrtava ne prestaje biti aktuelno decenijama nakon završetka rata. Bosna i Hercegovina je više nego potvrda. Ovo pitanje kao da se prepliće (na svojevrstan način "hrani") sa najtežim političkim i međunarodnim pitanjima i sudskim procesima. ("Međunarodni sud pravde", optužnica Bosne i Hercegovine protiv Savezne Republike Jugoslavije, odnosno Srbije).

Metodološka analiza najvažnijih radova koji se bave pitanjem broja žrtava u bosanskom ratu (pre svega onih koji su radili bošnjački instituti i autori) ukazuje na "greške" koje su pravi karakter ovih radova (propagandistički). Manipulacija statističkim metodama i brojevima nije nova. Metodološke i numeričke zamke mogu izmaći i najpućenijima.

Upotreba statistike i socijalne nauke u sudskim procesima kao da pokazuje Janusovo lice nauke: na jednoj strani istinska "moralna strast" istraživača nalazi visoki smisao, a na drugoj posebni interesi nastoje da se nametnu putem te (najrafiniranije) instrumentalizacije nauke i znanja. (Poučan je primer svedočenja Mr. Patrick Ball-a u procesima pred Haškim tribunalom o pitanju uzroka egzodusa Albanaca u ratnoj krizi na Kosovu i Metohiji 1999-te godine).

U ovoj analizi ukazuje se na krucijalni defekt svakog statističkog (i demografskog) postupka izvođenja broja žrtava rata u nedostatku repornog popisa stanovništva nakon rata (koji je u Bosni i Hercegovini izostao). Takođe je u najkraćem data

kvalifikacija kvaliteta popisa 1991. u Bosni i Hercegovini (autor je bio stručni i organizacioni voditelj svih operacija poslednjeg popisa u bivšoj Jugoslaviji 1991).

Možda je najmarkantnija tačka, u do sada neprekinutom toku iznošenja brojeva i analiza o žrtvama bosanskog rata, tekst George Keney-a objavljen u NY Times Magazine-u, 23. aprila 1995. godine.

Ključne reči: *žrtve rata, popisi, statistika, genocid, procena, etničko čišćenje*