

ETHNIC COMPOSITION, INTERNALLY DISPLACED PERSONS AND REFUGEES FROM EIGHT MUNICIPALITIES OF HERCEG-BOSNA, 1991 TO 1997-98¹

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EXPERT REPORT FOR THE CASE OF JADRANKO PRLIĆ ET AL. (IT-04-74-PT)

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¹ The results discussed in the HERCEG-BOSNA report were obtained from data sources and methods similar to those used in our earlier reports submitted in other ICTY cases. Notably, they were the same as those in our MILOŠEVIĆ report: “Ethnic composition and displaced persons and refugees in 47 municipalities of Bosnia and Herzegovina, 1991 and 1997-98”, by E. Tabeau, M. Zoltkowski, J. Bijak and A. Hetland, dated 4 April 2003, ERN: 0291-5501-0291-5738, Exhibit 548 Tab 2. As the sources and methodology applied in both reports were the same, we included (after a slight adaptation) Annexes B to D of the MILOŠEVIĆ report in the HERCEG-BOSNA report.

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1. OBJECTIVE AND SCOPE

This report (hereafter: the HERCEG-BOSNA report) is a product of the Demographic Unit (DU), Office of the Prosecutor (OTP), ICTY. We made it on request of the Prosecution team of the ICTY case of JADRANKO PRLIĆ ET AL. (IT-04-74-PT). The report contains demographic statistics regarding the ethnic composition *in* as well as minimum numbers of internally displaced persons (IDPs) and refugees (REFs) *from* eight selected municipalities in Bosnia and Herzegovina related to the case of JADRANKO PRLIĆ ET AL. (hereafter: HERCEG-BOSNA municipalities), in the years 1991 and 1997-98. In addition to these two major figures, we also present estimates of the unknown overall numbers of IDPs and refugees for HERCEG-BOSNA and summary statistics for the entire Bosnia and Herzegovina. Tables reviewing results at the municipal level are provided in Annex A to this report (A1 to A5), whereas Annex B (B1 to B6) contains the description of data sources. Annex C (C1 and C2) summarizes methods applied in this study and finally Annex D (D1 to D4) professional qualifications of the authors.

Table 1. Overview of Data Sources Used for this Report

Source	Collection Period	Responsible Institution	Source Size (Persons)	Included Population	Not Included Population	Collected Items (Variables)	Limitations
Population Census	1-15 April 1991	Statistical Office of SRBH	4.4 million	All residents in BH and citizens of BH working abroad with their family members	Individuals omitted due to errors or oversight, post-census immigrants	Full name, name of father, date and place of birth, sex, ID number (JMB), locality and municipality of residence in 1991, ethnicity, religion, etc.	Errors in variables, missing data, duplicates
Voters Register	1997-1998	OSCE	2.7 million	Individuals eligible to vote who had registered	Individuals younger than 18, those not registered, those who died during the conflict	Full name, date of birth, sex, ID number (JMB), municipality of residence in 1991 and 1997-98 etc.	Errors in variables, missing data, duplicates
Database of Displaced Persons and Refugees (DDPR)	2000	UNHCR Government of BH	583,816	Applicants for assistance (i.e. 1992-95 IDPs) and their family members still registered in 2000	Individuals who did not apply, those who returned home, those who died during the conflict	Full name, name of father, date of birth, sex, ID number (JMB), relationship to the applicant, municipality of current residence, etc.	Errors in variables, missing data, duplicates

For the purpose of this report individual records of information about the population of Bosnia and Herzegovina were analysed for two years, 1991 (the 1991 population census, see Table 1) and 1997-98 (OSCE voters register, Table 1). These two years are studied here, even though the indictment period started in November 1991 and ended in April 1994. For the period from November 1991 until April 1994 we do not possess sources that could be used for complex analyses such as those discussed in this report. Such sources do not exist.

In this report we also compared the 1997-98 voters-based statistics of IDPs (the Demographic Unit (DU) statistics) with the UNHCR and BH government figures for 2000 (DDPR, Table 1; and Annex A, Table 4). The 2000 data are official statistics of the government of Bosnia and Herzegovina and were collected and processed under UNHCR auspices in the years from 1992 until 2000. More information about this source is available from Annex B (B6).

The *main* results presented in this report are the following:

- Absolute and relative size of a given ethnic group in the entire HERCEG-BOSNA and in all single HERCEG-BOSNA municipalities: status as of 1991 and 1997-98. Exclusively individuals born before 1980. Municipal borders as of 1997-98. (Table 1, Annex A1)
- A minimum number of internally displaced persons and refugees from HERCEG-BOSNA as whole and all single HERCEG-BOSNA municipalities: status as of 1997-98, by municipality of residence in 1991. Based on the minimum numbers, fractions of IDPs and refugees among a given ethnic group and among the total number of all IDPs and refugees traced in 1997-98 are shown as well. Exclusively individuals born before 1980. Municipal borders as of 1997-98. (Table 2, Annex A2)
- An estimate of the unknown overall number of internally displaced persons and refugees from HERCEG-BOSNA as whole and all single HERCEG-BOSNA municipalities: status as of 1997-98, by municipality of residence in 1991. Exclusively individuals born before 1980. Municipal borders as of 1997-98. This analysis has indicative character. (Table 3, Annex A3)

Annex A contains complete data tables, also at a municipal level, prepared for this report. The (most) tables refer only to the municipalities belonging to HERCEG-BOSNA. We made three main data tables. Tables 1 to 3, Annexes A1 to A3, are available for every ethnic group (i.e. Muslims, Serbs, Others and Croats). In Annex A, we present however in total 5 tables. In addition to Tables 1 to 3, Annex A4 contains figures from the DDPR database, i.e. UNHCR and BH government statistics of IDPs and refugees in Bosnia in 2000. Only statistics for those at age 18+ during the 1997-98 elections (directly comparable with our statistics) are shown. Annex 5 is an overview of the results obtained for Bosnia and Herzegovina.

Details of the sources and methods applied in this report can be found in Annex B and C, respectively. In Annex D, professional qualifications of the authors are summarized.

Major deficiencies of our sources are summarized in Section 2 of this report. In Sections 3 to 6, we present our major findings for every ethnic group separately. Sections 7 and 8 contain an overview of statistics on IDPs and refugees and on changes in the ethnic composition for the entire HERCEG-BOSNA area. Finally, Section 9 is an executive summary of the main findings discussed in this report. The HERCEG-BOSNA area is introduced below.

In 1991 Bosnia and Herzegovina consisted of 109 municipalities (hereafter pre-war municipalities). The Dayton Peace Accords of 1995 divided the country into two political entities, the Republika Srpska (hereafter RS) and the Federation of Bosnia and Herzegovina (hereafter the Federation), and introduced a new classification of municipalities. Many municipalities stayed the same as they were in 1991, but many new ones were also established. The inter-entity boundary line has split several pre-war municipalities into two parts; with one part belonging to RS and one to the Federation. In the Dayton Accords, the status of a regular municipality was assigned to each of these parts. Several smaller areas that separated from the pre-war municipalities between 1992 and 1995 were also given such status. After the war, each municipality (hereafter post-Dayton municipality) was given a numeric code ranging from 1 to 185. A number of codes remained blank (36) with no particular area assigned to these codes. The actual number of post-Dayton municipalities is 149 (as of 1997-98, according to the OSCE classification scheme).

For the purposes of this study, the HERCEG-BOSNA area is defined as consisting of the municipalities listed below. Except for Mostar and Stolac, all other municipalities remained unchanged (pre- and post-war municipalities are the same). Mostar was split into 8 smaller Post-Dayton municipalities and Stolac into two.

Čapljina (FBH), OSCE code: 173

Gornji Vakuf (FBH), 110

Jablanica (FBH), 126

Ljubuški (FBH), 171

Mostar:

- Mostar Central District (FBH), 157
- Mostar Jug (FBH), 151
- Mostar Jugoistok (FBH), 152
- Mostar Jugozapad (FBH), 153
- Mostar Sjever (FBH), 154
- Mostar / Srpski Mostar (RS), 158
- Mostar Stari Grad (FBH), 155
- Mostar Zapad (FBH), 156

Prozor / Prozor-Rama (FBH), 125

Stolac:

- Stolac (FBH), 176
- Stolac / Berkovići (RS), 177

Vareš (FBH), 095

For split municipalities all relevant components are included in this study, i.e. all those post-Dayton municipalities are analysed that together constitute the area of a given pre-war municipality. The analysis is conducted, however, at the level of post-Dayton municipalities which allows for a more specific description of the demographic processes concerned.

Figure 1. Reference map of Bosnia and Herzegovina and HERCEG-BOSNA

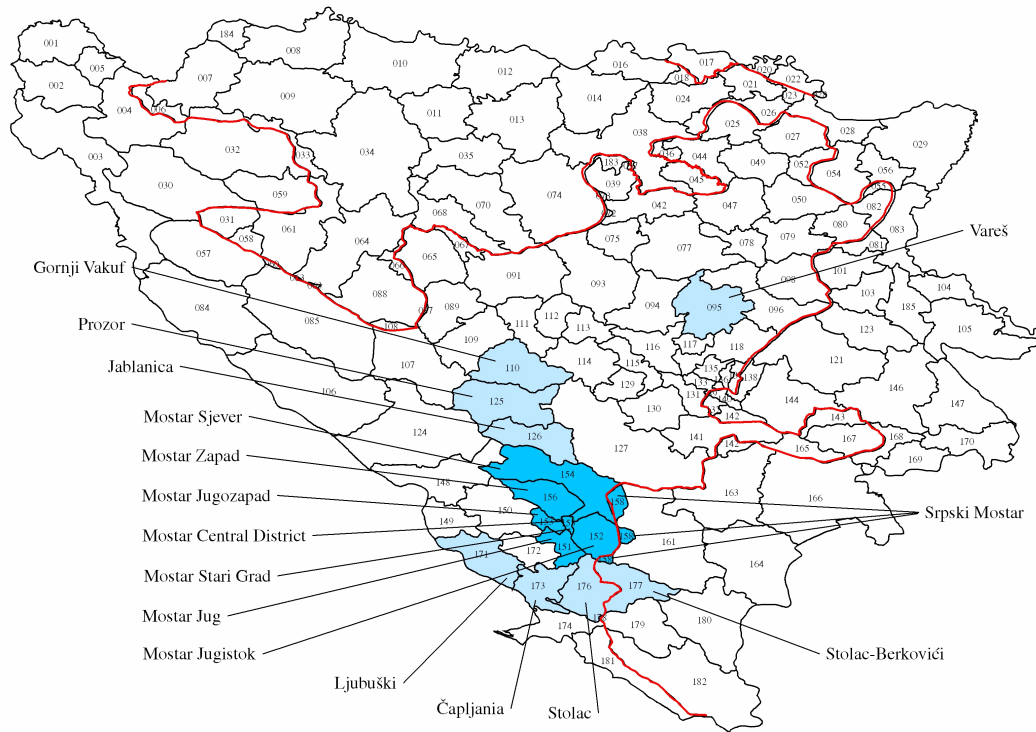


Figure 1 shows the map² of Bosnia and Herzegovina divided into post-Dayton municipalities in their 1997-98 borders. The division of the country into two political entities, RS and the Federation, is also shown on this map. The municipalities that are studied in this report are indicated with a blue colour (see below). They form the HERCEG-BOSNA region as studied here. A vast majority of HERCEG-BOSNA is located in the Federation of Bosnia and Herzegovina.

² This map is merely an illustration of where the HERCEG-BOSNA, as defined in this report, is located and what municipalities constitute it.

2. DEFICIENCIES OF SOURCES

The sources used for this report are large and generally reliable (see Annex B). Deficiencies of the sources and their impact on the results presented in this report have been identified and are briefly addressed below and more extensively in Annex B (B1 to B6).

In statistical practice, population census is the largest and most complete source of information about the population in a country. The 1991 population census covered the entire population of Bosnia and Herzegovina as of 31 March 1991. It resulted in a total number of 4.4 million individuals in Bosnia in 1991. The information about individuals was obtained in face-to-face interviews based on a census questionnaire designed in a uniform way for the whole country, i.e. former Yugoslavia. Methodological preparations, organization, carrying out of the census, as well as data quality control are discussed in an expert statement attached in Annex B3 of this report. The statement was provided by statistical authorities from Sarajevo who were directly involved in the 1991 census since its very beginning (i.e. since around 1984), had access to important documents related to the census and were therefore capable to most closely assess the reliability of the census.

Major deficiencies of the census are (scanning-related) spelling mistakes in the names and unfinished quality control of data items (due to unstable political situation in 1991 and the 1992-95 conflict). In Annex B2 we extensively explain how we dealt with these and other data problems in the census. In our opinion, data-related problems do not discredit the census as a powerful source of information about the pre-conflict population in Bosnia and Herzegovina and the census can be reliably used in producing statistics as those presented in this report.

Other problems related to the census are those resulting from inclusion in the census of the population temporarily residing abroad (some 234,213 persons out of 4,377,032, i.e. 5.4% of the census population). This population is included in official census statistics produced and published by local statistical authorities, and is therefore also included in our 1991 and 1997-98 figures. The inclusion of the population abroad could produce a bias in the 1991 ethnic composition of small areas, such as for example settlements. We investigated this bias for all municipalities in Bosnia and Herzegovina and it turned out to be fairly acceptable, with all but three municipalities retaining the same ethnic composition for both *de facto* (i.e. the actual) and *de jure population*³ (i.e. the actual and temporary abroad, see also Annex B4).

The inclusion of the population abroad could also have impact on the numbers of out-of-country voters (OCV), whom we report as refugees in 1997-98. Some 87% of OCV from Bosnia and Herzegovina left the country *after the census* (the so-called post-census emigration) and did not return home until 1997-98. The remaining 13% resided abroad in 1991 (the pre-census emigration) and remained there after the census in March 1991. If there

³ The terms *de facto population* and *de jure population* are demographic, not legal. More explanation of these terms is available from Annex B3.

were no war in Bosnia and Herzegovina the pre-census émigrés would perhaps have returned, but they registered to vote in 1997-98 still as out-of-country. We therefore believe that all out-of-country voters *may and should* be considered as refugees. The issue of the pre-census emigration is specifically discussed in Annex B4 where we show results of several analyses of the impact of pre-census emigration on our statistics on refugees in Bosnia and Herzegovina.

Note that the fractions of the post- and pre-census émigrés (87% and 13%) were obtained only for those voters who registered in countries *other* than the former Yugoslav republics. In 1997-98 five of the former republics had the status of countries: Bosnia and Herzegovina, Croatia, FRY, Macedonia and Slovenia. The Bosnian voters who registered in 1997-98 in Croatia or FRY (and to a lesser extent in Macedonia and Slovenia) resided in Bosnia in 1991, and systematically travelled for work to other Yugoslav republics (predominantly to Croatia or FRY). The fact that in 1991 they resided in Bosnia and in 1997-98 in Croatia or FRY implies that they must be considered as refugees. If the voters registered in Croatia or FRY were included in the estimation of the above mentioned fractions, then the respective estimates would be: 91.2% (instead of 87%) of the 1997-98 voters being the post-census emigration, and 8.8% (instead of 13%) of the voters being the pre-census emigration. In both situations, the bias of including the pre-census émigrés in the numbers of generally displaced persons (IDPs and refugees) is approximately at most 5% for the whole country, which is a widely accepted error level in statistic.

The 1997-98 voters register is a large sample of, practically, the 1997-98 population of eligible voters of Bosnia and Herzegovina (i.e. age 18 or more years at the elections). All voters who registered to vote in 1997 and 1998, are covered in this source. We merged the two voters registers (1997 and 1998) in one (1997-98). The overlap of these two lists is large. Only about 150,000 records are new in 1998 (1st registration in 1998). All other records reported in the 1998 register are also covered in the 1997 register. While merging the registers, we included all records from 1997 (1st registration in 1997) and additionally the new records from 1998 (150,000 records from the 1st registration in 1998). In most cases, the 1998 records appeared to cover municipalities where the registration was less complete in 1997. The total size of the merged 1997-98 voters register is 2,674,506 records and it mainly covers the year 1997.

Note that the voters register cannot be used to estimate the overall population size in 1997 or 1998, the population was certainly larger than the 2,7 million voters covered in the register. However, it can be safely used in producing statistics *characterizing* the ethnic composition in 1997-98 and internally displaced persons and refugees as of 1997-98. All absolute numbers obtained from the register are “at least” numbers, which is related to the incompleteness of this source. All relative measures (i.e. percentages) can be extrapolated over the entire population and can be seen as reliable.

Voters register has some deficiencies as those discussed for the census (e.g. spelling mistakes, incomplete or missing JMB – personal identification number etc.). The deficiencies can be corrected in the same way as done for the census (Annex B5).

The two types of individual records, i.e. records from the census and from the voters register, have been linked together through a complex matching process. In this process the vast majority of individuals included in the voters register (about 80%) have been found in the 1991 population census. Out of the total of 2,674,506 voters' records, some 2,125,999 records (i.e. exactly 79.5%) have been linked, of which 319,405 records were reported as out-of-country and 1,805,419 as in the country. The linked data formed the basis for all analyses completed for this report. Linking of the 1991 census and the 1997-98 voters register made it possible to include all census items for every voter matched. Thus, for all those 1997-98 voters who have been linked with the census, we could use records of ethnicity reported in the 1991 census, and also their municipality of residence in 1991.

All analyses are made by ethnicity, obtained from exactly the same definition for both analyzed years, for 1991 and also for 1997-98. The definition we applied is the one used in the questionnaire of the 1991 population census, where ethnicity was a self-reported response to an open-ended question. In the original census forms, the citizens of Bosnia and Herzegovina mentioned several hundreds of ethnic categories. We re-grouped these categories into four major clusters: those who reported themselves as Muslims, Croats or Serbs were regarded as members of these particular groups, all remaining categories, including Yugoslavs, were taken together as Others.

With regard to the definition of internally displaced persons, the 1991 and 1997-98 municipality of residence were compared for each person studied. If an individual resided in 1991 in a different municipality than the municipality where he/she registered to vote in 1997-98 elections, than the person was considered internally displaced. Comparisons were made for post-Dayton municipalities, which involved creating a new variable, post-Dayton municipality, for all individuals reported in the census. This task was largely successfully completed and in the end only a small number of settlements split between the political entities, RS and FBH, had to be excluded from the analysis.

It needs to be noted that *internal* migration in former socialist countries, such as Yugoslavia and, in particular, Bosnia and Herzegovina, was limited in the years until 1991. Our analysis of differences in the place of residence *before* and *after* the conflict is therefore fully justified as a method for assessment of population movements during the 1992-95 conflict. Pre-conflict internal migration in Bosnia and Herzegovina was negligible. Moreover the usual causes of internal migration (labour market, housing, education etc.) did not operate during the conflict. Poor housing was one of the reasons for low population mobility in Bosnia and Herzegovina before 1991. Also the urbanisation process was relatively slow in Bosnia when compared with dynamic Western countries. The process was controlled by the socialist party. Labour migration did not play much role as unemployment did not exist in the socialist system. Jobs

were guaranteed for everyone. Making career was related to factors largely beyond individual ambition and readiness to move for a job. These factors were related to, for example, socialist party membership or employment policies of the leading party. The working age population of the former Yugoslavia, including Bosnia, mainly men, travelled, however, to Western European countries for temporary jobs and better income, but this temporary (external, not internal) migration returned systematically back home. The impact of the population working abroad on our statistics of refugees is discussed in Annex B4.

Refugees were persons who in 1991 were reported in the population of Bosnia and Herzegovina (including those temporarily residing abroad) and who in 1997-98 registered to vote in countries different than Bosnia. There were approximately 300,000 out-of-country voters who satisfied this criterion. Some were excluded from refugees' statistics due to unsuccessful matching with the census or lacking value of the post-Dayton municipality for 1991 (split settlement problem).

Note that our definitions of internally displaced persons and refugees are statistical, not legal. As such the numbers of IDPs and refugees presented in this report should be seen as approximations of the actual true figures. Note also that obtaining the true figures is in our view an impossible task due to limited existing sources of information and fragmentary information contained in these sources.

Section 7 of this report ("Summary Statistics on IDPs and Refugees ...") contains, among other things, a comparison of our OSCE-based statistics of IDPs in 1997-98 with those produced by the UNHCR and Bosnian government for the year 2000. The UNHCR and BH government database (DDPR) can be seen as legal, for it has been developed as a registration system of all IDPs and refugees in Bosnia for the purpose of providing them with social benefits and compensations for lost property. The DDPR-based statistics describe the IDPs as of the year 2000, unlike the OSCE-based figures that relate to 1997-98. Nevertheless, we found many similarities between these two sources. Both sources are also much lower than the actual 1992-95 true figures.

3. MAJOR FINDINGS FOR MUSLIMS

3.1 PERCENTAGE OF MUSLIMS IN THE POPULATION OF HERCEG-BOSNA: STATUS IN 1991 AND 1997-98

In the eight municipalities included in the indictment the share of Muslims increased from **34.6%** in 1991 to **37.4%** in 1997-98, i.e. by **8.0** percent (Table 1M, Annex A). These figures include all eight municipalities, both those assigned to the Federation of Bosnia and Herzegovina, and those assigned to Republika Srpska after the Dayton Peace Agreement in November 1995. In the areas that in 1997-98 belonged to the Federation of Bosnia and Herzegovina, the share of Muslims increased from **34.8%** in 1991 to **37.8%** in 1997-98 (by **8.9%**). Considering only the territories which eventually constituted Republika Srpska, the share of Muslims fell from **25.9%** to **0.1%** (i.e. by **99.7** percent) over the same period. The detailed figures by municipality are provided in Table 1M in Annex A.

3.2 THE MINIMUM NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98

Table 2M, Annex A, contains figures that refer to the individuals who resided in the HERCEG-BOSNA municipalities in 1991 (and were therefore enumerated in the 1991 census) and also registered to vote in the 1997-98 elections. In Table 2M we grouped the voters by municipality of residence in 1991.⁴ Thus, Table 2M shows internally displaced persons and refugees by municipality of departure. Only HERCEG-BOSNA municipalities are included.

Of the whole post-war population originating from the eight HERCEG-BOSNA municipalities (i.e. the population residing in these municipalities in 1991), at least **61,487** persons (**43.2%** of all identified survivors) were still displaced or refugees in 1997-98. Out of this total, some **26,663** persons were the Muslims. Thus, there were **43.4%** Muslims among all refugees and persons displaced from the eight HERCEG-BOSNA municipalities.

The equivalent indicator for the HB area in the Federation of Bosnia and Herzegovina shows **43.2%** of Muslim IDPs and refugees (**26,189** out of **60,586**). From the HB territories, which in 1997-98 belonged to Republika Srpska, **52.6%** of all internally displaced persons and refugees were Muslims (**474** out of **901**).

In 1997-98, the fraction of IDPs and refugees among the population of Muslims originating from the eight HERCEG-BOSNA municipalities equalled **49** percent. This indicator for the Federation is **48.6** per cent and for RS **100.0%** (see also Figures 2 and 3 below).

⁴ In Table 1M, the voters are grouped by the municipality where they registered to vote in 1997-98. Thus, the populations of voters in Table 1M are partly different than those in Table 2M.

Figure 2. Percentage of Muslim IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Geographic Pattern

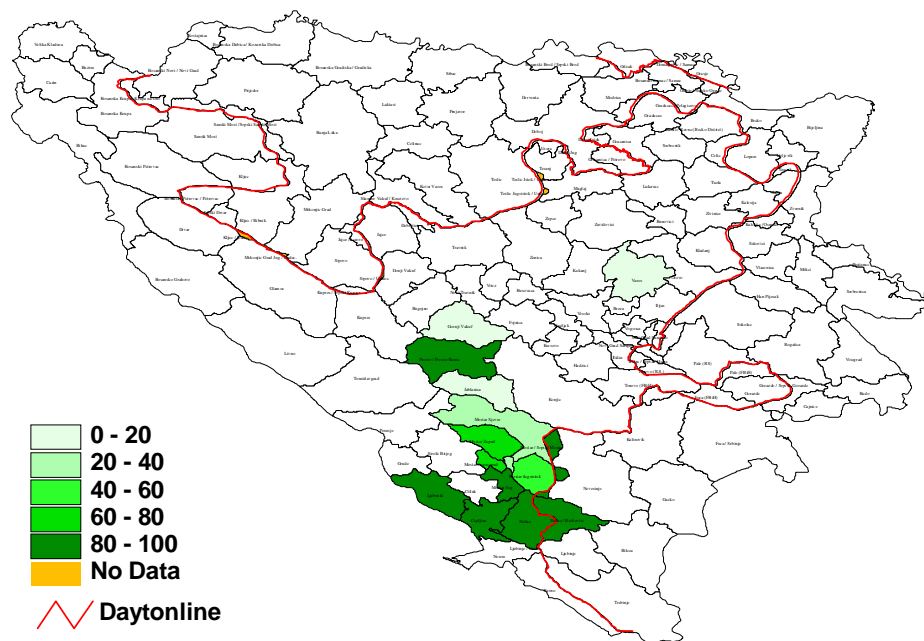
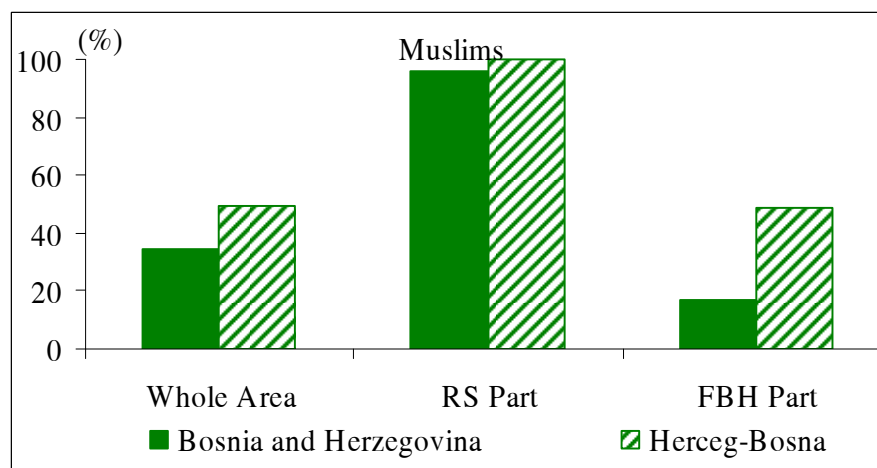


Figure 3. Percentage of Muslim IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Bosnia and Herzegovina versus HERCEG-BOSNA Area



The detailed figures by municipality are provided in Table 2M and 2BH in Annex A.

3.3 AN ESTIMATE OF THE OVERALL NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98: THE MUSLIMS

The absolute figures included in Table 2M, Annex A, are minimum numbers, based on the most conservative approach to the data. The true figures must be expected to be substantially higher. We produced an estimate of the unknown true figures, which are shown in Table 3M in Annex A. For the whole HERCEG-BOSNA area we estimated a total of **101,107** internally displaced persons and refugees, with a 95% confidence interval ranging from 100,137 to 102,078 persons. Among all IDPs and refugees, there were estimated **40,266** Muslim IDPs and refugees (95% confidence interval: from 39,797 to 40,735).

For the HB area in the Federation of Bosnia and Herzegovina, we obtained a total of **99,031** (98,092-99,970) IDPs and refugees, and a total of **39,275** (38,806-39,744) of Muslims IDPs and refugees.

For the HB area in Republika Srpska, the numbers were as follows: **2,076** (2,045-1,108) of all IDPs and refugees, and **991** (991-991) of Muslims IDPs and refugees.

4. MAJOR FINDINGS FOR SERBS

4.1 PERCENTAGE OF SERBS IN THE POPULATION OF HERCEG-BOSNA: STATUS IN 1991 AND 1997-98

In the eight municipalities included in the indictment the share of Serbs fell from **13.2%** in 1991 to **2.8%** in 1997-98, i.e. by **79.0** percent (Table 1S, Annex A). These figures include all eight municipalities, both those assigned to the Federation of Bosnia and Herzegovina, and those assigned to Republika Srpska after the Dayton Peace Agreement in November 1995. In the areas that in 1997-98 belonged to the Federation of Bosnia and Herzegovina, the share of Serbs fell from **12.6%** in 1991 to **1.6%** in 1997-98 (by **87.5%**). Considering only the territories which eventually constituted Republika Srpska, the share of Serbs increased from **49.4%** to **98.3%** (i.e. by **99.0** percent) over the same period. The detailed figures by municipality are provided in Table 1S in Annex A.

4.2 THE MINIMUM NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98

Table 2S, Annex A, contains figures that refer to the individuals who resided in the HERCEG-BOSNA municipalities in 1991 (and were enumerated in the 1991 census) and also registered to vote in the 1997-98 elections. In Table 2S we grouped the voters by municipality of residence in 1991.⁵ Thus, Table 2S shows internally displaced persons and refugees by municipality of departure. Only HERCEG-BOSNA municipalities are included.

Of the whole post-war population originating from the eight HERCEG-BOSNA municipalities (i.e. the population residing in these municipalities in 1991), at least **61,487** persons (**43.2%** of all identified survivors) were still displaced or refugees in 1997-98. Out of this total, some **14,614** persons were the Serbs. Thus, there were **23.8%** Serbs among all refugees and persons displaced from the eight HERCEG-BOSNA municipalities.

The equivalent indicator for the HB area in the Federation of Bosnia and Herzegovina shows **24.0%** of Serb IDPs and refugees (**14,536** out of **60,586**). From the HB territories, which in 1997-98 belonged to Republika Srpska, **8.7%** of all internally displaced persons and refugees were Serbs (**78** out of **901**).

In 1997-98, the fraction of IDPs and refugees among the population of Serbs originating from the eight HERCEG-BOSNA municipalities equalled **86.9** percent. This indicator for the Federation of Bosnia and Herzegovina is **91.6** per cent and for the Republika Srpska **8.2%** (see also Figures 4 and 5 below).

⁵ In Table 1S, the voters are grouped by the municipality where they registered to vote in 1997-98. Thus, the populations of voters in Table 1S are partly different than those in Table 2S.

Figure 4. Percentage of Serb IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Geographic Pattern

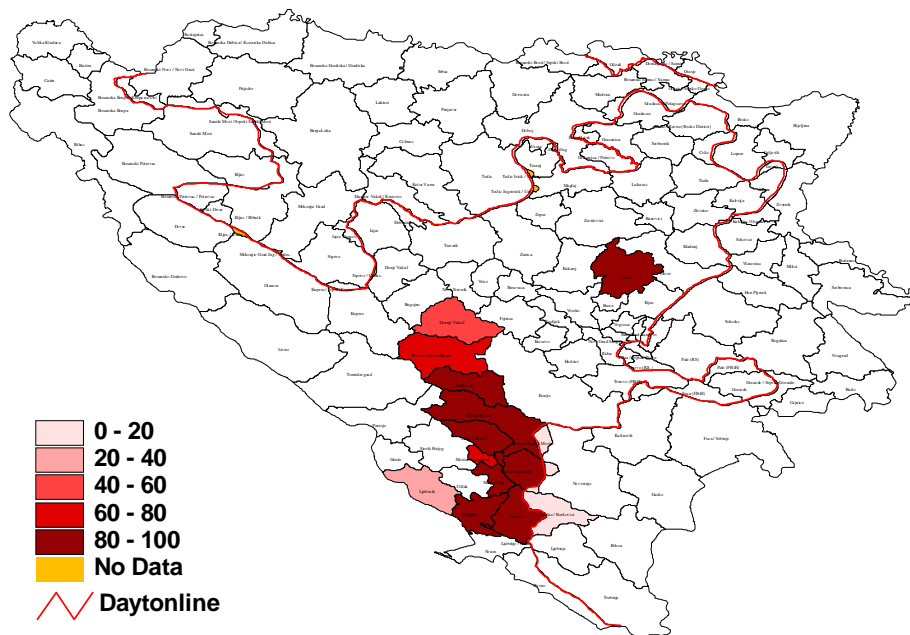
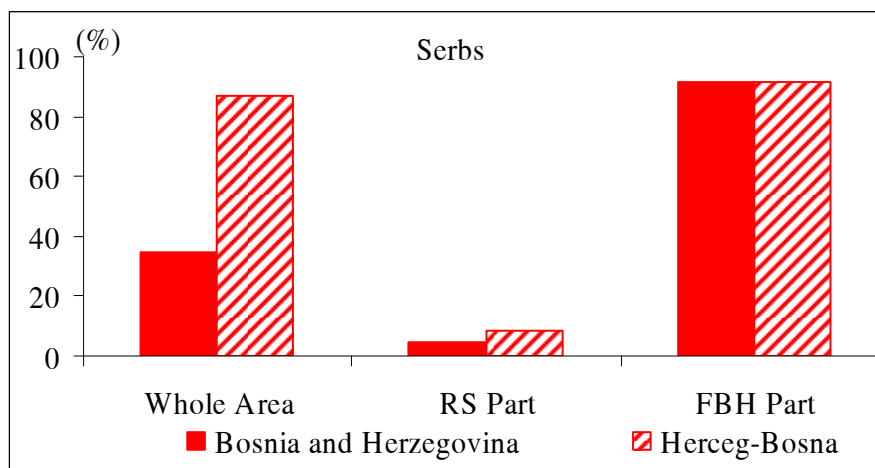


Figure 5. Percentage of Serb IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Bosnia and Herzegovina versus HERCEG-BOSNA Area



The detailed figures by municipality are provided in Table 2S and 2BH in Annex A.

4.3 AN ESTIMATE OF THE OVERALL NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98: THE SERBS

The absolute figures included in Table 2S, Annex A, are minimum numbers, based on the most conservative approach to the data. The true figures must be expected to be substantially higher. We produced an estimate of the unknown true figures, which are shown in Table 3S in Annex A. For the whole HERCEG-BOSNA area we estimated a total of **101,107** internally displaced persons and refugees, with a 95% confidence interval ranging from 100,137 to 102,078 persons. Among all IDPs and refugees, there were estimated **26,304** Serb IDPs and refugees (95% confidence interval: from 26,039 to 26,569).

For the HB area in the Federation of Bosnia and Herzegovina, we obtained a total of **99,031** (98,092-99,970) IDPs and refugees, and a total of **26,148** (25,913-26,382) of Serb IDPs and refugees.

For the HB area in Republika Srpska, the numbers were as follows: **2,076** (2,045-2,108) of all IDPs and refugees, and **156** (126-187) of Serb IDPs and refugees.

5. MAJOR FINDINGS FOR OTHERS

5.1 PERCENTAGE OF OTHERS IN THE POPULATION OF HERCEG-BOSNA: STATUS IN 1991 AND 1997-98

In the eight municipalities included in the indictment the share of Others fell from **7.8%** in 1991 to **5.7%** in 1997-98, i.e. by **27.3** percent (Table 1O, Annex A). These figures include all eight municipalities, both those assigned to the Federation of Bosnia and Herzegovina, and those assigned to Republika Srpska after the Dayton Peace Agreement in November 1995. In the areas that in 1997-98 belonged to the Federation of Bosnia and Herzegovina, the share of Others decreased from **7.9 %** in 1991 to **5.7%** in 1997-98 (**by 27.7%**). Considering only the territories which eventually constituted Republika Srpska, the share of Others increased from **0.9%** to **1.4%** (i.e. by **52.3** percent) over the same period. The detailed figures by municipality are provided in Table 1O in Annex A.

5.2 THE MINIMUM NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98

Table 2O, Annex A, contains figures that refer to the individuals who resided in the HERCEG-BOSNA municipalities in 1991 (and were enumerated in the 1991 census) and also registered to vote in the 1997-98 elections. In Table 2O we grouped the voters by municipality of residence in 1991.⁶ Thus, Table 2O shows internally displaced persons and refugees by municipality of departure. Only HERCEG-BOSNA municipalities are included.

Of the whole post-war population originating from the eight HERCEG-BOSNA municipalities (i.e. the population residing in these municipalities in 1991), at least **61,487** persons (**43.2%** of all identified survivors) were still displaced or refugees in 1997-98. Out of this total, some **4,497** persons were the Others. Thus, there were **7.3%** Others among all refugees and persons displaced from the eight HERCEG-BOSNA municipalities.

The equivalent indicator for the HB area in the Federation of Bosnia and Herzegovina shows **7.4%** of Other IDPs and refugees (**4,490** out of **60,586**). From the HB territories, which in 1997-98 belonged to Republika Srpska, **0.8%** of all internally displaced persons and refugees were Others (**7** out of **901**).

In 1997-98, the fraction of IDPs and refugees among the population of Others originating from the eight HERCEG-BOSNA municipalities equalled **51.6** percent. This indicator for the Federation of Bosnia and Herzegovina is **51.6** per cent and for the Republika Srpska **46.7%** (see also Figures 6 and 7 below).

⁶ In Table 1O, the voters are grouped by the municipality where they registered to vote in 1997-98. Thus, the populations of voters in Table 1O are partly different than those in Table 2O.

Figure 6. Percentage of Other IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Geographic Pattern

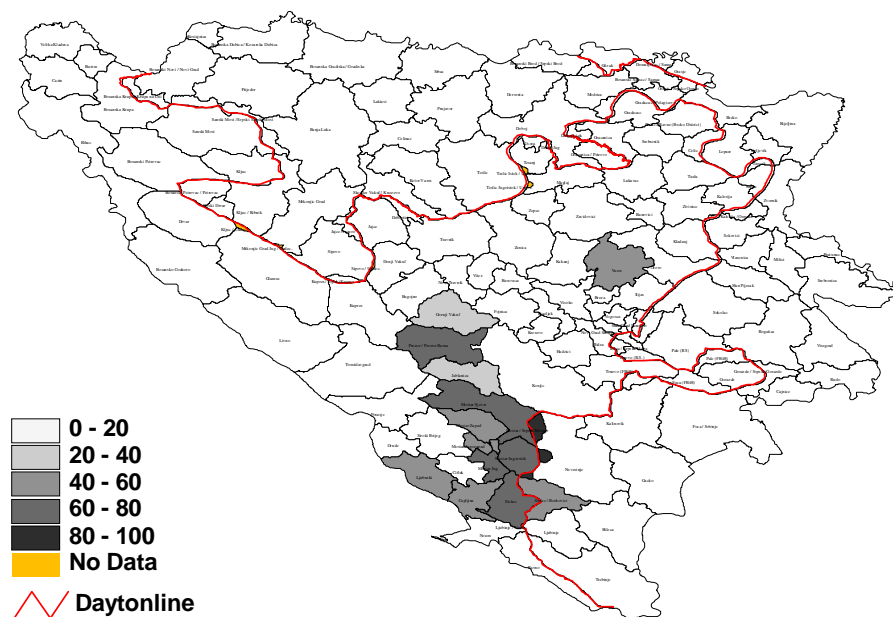
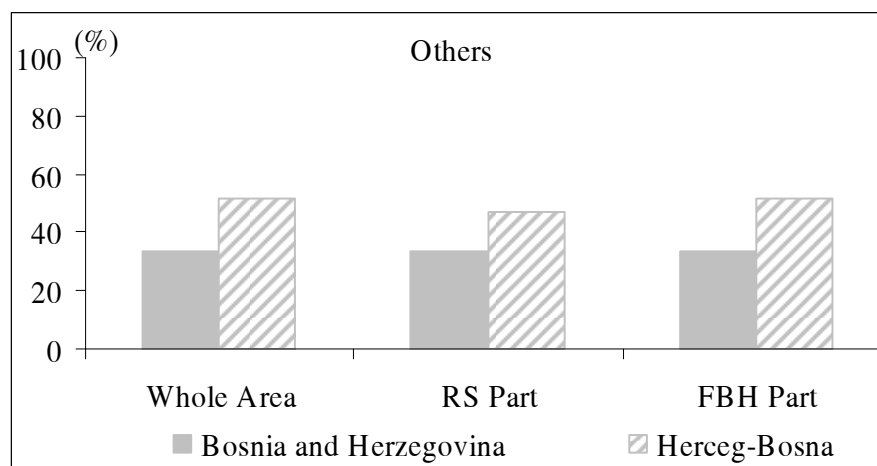


Figure 7. Percentage of Other IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Bosnia and Herzegovina versus HERCEG-BOSNA Area



The detailed figures by municipality are provided in Table 2O and 2BH in Annex A.

5.3 AN ESTIMATE OF THE OVERALL NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98: THE OTHERS

The absolute figures included in Table 2O are minimum numbers, based on the most conservative approach to the data. The true figures must be expected to be substantially higher. We produced an estimate of the unknown true figures, which are shown in Table 3O in Annex A. For the whole HERCEG-BOSNA area we estimated a total of **101,107** internally displaced persons and refugees, with a 95% confidence interval ranging from 100,137 to 102,078 persons. Among all IDPs and refugees, there were estimated **9,391** Other IDPs and refugees (95% confidence interval: from 8,940 to 9,836).

For the HB area in the Federation of Bosnia and Herzegovina, we obtained a total of **99,031** (98,092-99,970) IDPs and refugees, and a total of **9,374** (8,932-9,815) of Other IDPs and refugees.

For the HB area in Republika Srpska, the numbers were as follows: **2,076** (2,045-2,108) of all IDPs and refugees, and **17** (7-21) of Other IDPs and refugees.

6. MAJOR FINDINGS FOR CROATS

6.1 PERCENTAGE OF CROATS IN THE POPULATION OF HERCEG-BOSNA: STATUS IN 1991 AND 1997-98

In the eight municipalities included in the indictment the share of Croats increased from **44.4%** in 1991 to **54.2%** in 1997-98, i.e. by **22.0** percent (Table 1C, Annex A). These figures include all eight municipalities, both those assigned to the Federation of Bosnia and Herzegovina, and those assigned to Republika Srpska after the Dayton Peace Agreement in November 1995. In the areas that in 1997-98 belonged to the Federation of Bosnia and Herzegovina, the share of Croats increased from **44.8%** in 1991 to **54.9%** in 1997-98 (by **22.6%**). Considering only the territories which eventually constituted Republika Srpska, the share of Croats fell from **23.8%** to **0.2%** (i.e. by **99.1** percent) over the same period. The detailed figures by municipality are provided in Table 1C in Annex A.

6.2 THE MINIMUM NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98

Table 2C, Annex A, contains figures that refer to the individuals who resided in the HERCEG-BOSNA municipalities in 1991 (and were enumerated in the 1991 census) and also registered to vote in the 1997-98 elections. In Table 2C we grouped the voters by municipality of residence in 1991.⁷ Thus, Table 2C shows internally displaced persons and refugees by municipality of departure. Only HERCEG-BOSNA municipalities are included.

Of the whole post-war population originating from the eight HERCEG-BOSNA municipalities (i.e. the population residing in these municipalities in 1991), at least **61,487** persons (**43.2%** of all identified survivors) were still displaced or refugees in 1997-98. Out of this total, some **15,713** persons were the Croats. Thus, there were **25.6%** Croats among all refugees and persons displaced from the eight HERCEG-BOSNA municipalities.

The equivalent indicator for the HB area in the Federation of Bosnia and Herzegovina shows **25.4%** of Croat IDPs and refugees (**15,371** out of **60,586**). From the HB territories, which in 1997-98 belonged to Republika Srpska, **38.03%** of all internally displaced persons and refugees were Croats (**342** out of **901**).

In 1997-98, the fraction of IDPs and refugees among the population of Croats originating from the eight HERCEG-BOSNA municipalities equalled **25.2** percent. This indicator for the Federation is **24.8** per cent and for RS **100.0%** (see also Figures 8 and 9 below).

⁷ In Table 1C, the voters are grouped by the municipality where they registered to vote in 1997-98. Thus, the populations of voters in Table 1C are different than those in Table 2C.

Figure 8. Percentage of Croat IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Geographic Pattern

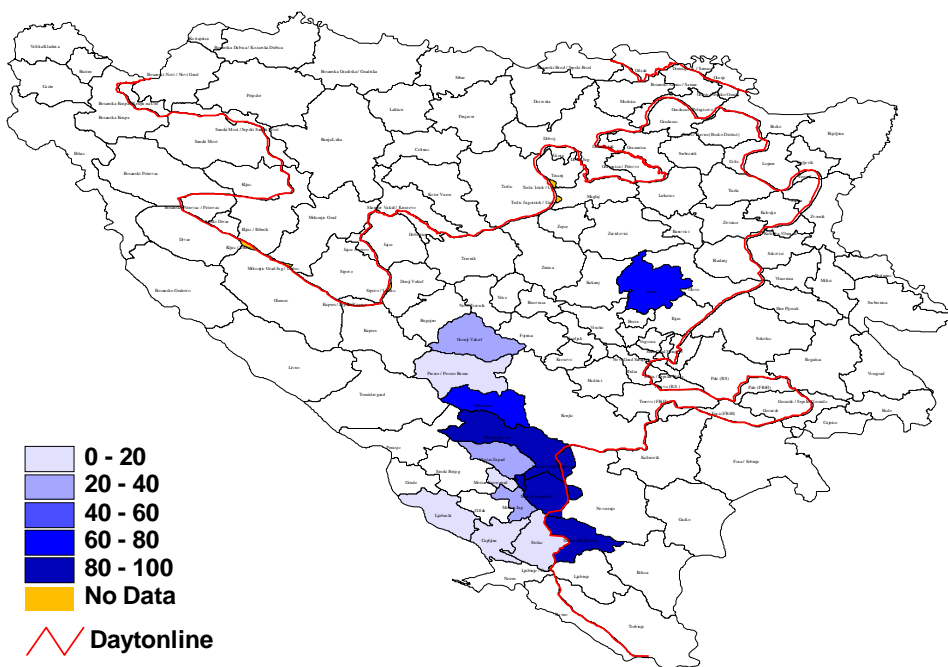
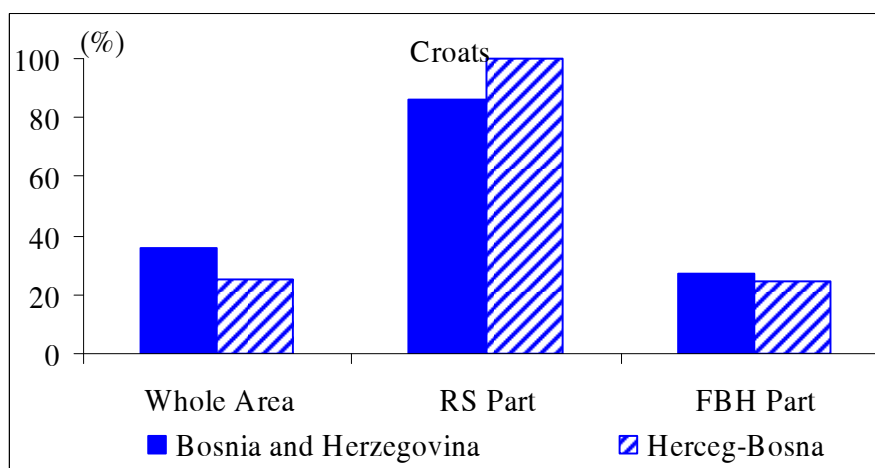


Figure 9. Percentage of Croat IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98: Bosnia and Herzegovina versus HERCEG-BOSNA Area



The detailed figures by municipality are provided in Table 2C and 2BH in Annex A.

6.3 AN ESTIMATE OF THE OVERALL NUMBER OF INTERNALLY DISPLACED PERSONS AND REFUGEES FROM HERCEG-BOSNA: STATUS IN 1997-98: THE CROATS

The absolute figures included in Table 2C, Annex A, are minimum numbers, based on the most conservative approach to the data. The true figures must be expected to be substantially higher. We produced an estimate of the unknown true figures, which are shown in Table 3C in Annex A. For the whole HERCEG-BOSNA area we estimated a total of **101,107** internally displaced persons and refugees, with a 95% confidence interval ranging from 100,137 to 102,078 persons. Among all IDPs and refugees, there were estimated **25,147** Croat IDPs and refugees (95% confidence interval: from 24,638 to 25,656).

For the HB area in the Federation of Bosnia and Herzegovina, we obtained a total of **99,031** (98,092-99,970) IDPs and refugees, and a total of **24,235** (23,726-24,744) of Croat IDPs and refugees.

For the HB area in Republika Srpska, the numbers were as follows: **2,076** (2,045-2,108) of all IDPs and refugees, and **912** (912-912) of Croats IDPs and refugees.

7. SUMMARY OF STATISTICS ON IDPS AND REFUGEES, STATUS AS OF 1997-98

In this section we summarise the findings related to IDPs and refugees shown in Sections 2 to 6 of this report. Below an overview is included of the major figures discussed in this report (Table 2). The overview is a guide for reading through the many statistics discussed in this report.

Table 2. Overview of the Population Size and Numbers of IDPs and Refugees from the HERCEG-BOSNA Area, 1991 and 1997-98, for Those Born before 1980

ETHNICITY	Population 1991 "IN"	Population 1997 "FROM"	Population 1997 "IN"	MINIMUM NUMBER "AT LEAST" IDPs + Refugees among POP97 "FROM"	ESTIMATED NUMBER "COMPLETE" IDPs + Refugees among POP97 "FROM"	MINIMUM NUMBER "AT LEAST" IDPs among POP97 "FROM" (DU OTP)	MINIMUM NUMBER "AT LEAST" IDPs among POP 2000 "FROM" (UNHCR & BH Govern)
Non-Croats	128,742	79,928	54,425	45,774	75,961	30,119	24,357
Muslims	80,151	54,395	44,397	26,663	40,266	17,183	11,943
Serbs	30,495	16,814	3,281	14,614	26,304	10,492	12,207
Others	18,096	8,719	6,747	4,497	9,391	2,444	207
Croats	102,868	62,276	64,367	15,713	25,147	10,410	7,730
All Ethnicities	231,610	142,204	118,792	61,487	101,107	40,529	32,087

In this report we discussed two types of figures on the population size and two figures on IDPs and refugees. All statistics in this report relate to those born before 1980 that at the time of 1997 elections were eligible to vote.

The reference population of our study was the 1991 census population of the HERCEG-BOSNA area. The size of this population for Non-Croats was 128,742 individuals (Table 2 above), who all were registered during the census in the eight municipalities - constituent parts of the HERCEG-BOSNA area. Hereafter we call this population POP91 "IN". In this report we also studied the POP97 "IN" population, which comprised all those individuals who registered to vote in the eight municipalities of the HERCEG-BOSNA area. There were 54,425 Non-Croats who belonged to this population in 1997-98 (Table 2). The POP97 "IN" population included partly those that used to live in this area in 1991 and also newcomers, who moved into this territory during and after the conflict. Changes in the ethnic composition of every municipality were assessed in this report on the basis of a comparison of the two "IN" populations (1991 and 1997-98). The changes obviously resulted from both the outflow of the original 1991 inhabitants of the HERCEG-BOSNA area and the inflow of newcomers into this territory. A next factor determining the changes were deaths.

In the analysis of population movements between 1991 and 1997-98, the POP97 "IN" population was not used, however. The original 1991 population traced in the 1997-98 voters register and living at any location in or outside Bosnia was essential. This population is called "FROM" in Table 2 (hereafter: POP97 "FROM"). We identified 79,928 Non-Croats as of

1997-98 (Voters Register) who were also registered in the 1991 census as living in the HERCEG-BOSNA area. However, it is clear from Table 2 that not all Non-Croats reported in the 1991 census have been traced. Some 79,928 Non-Croats out of totally 128,742 Non-Croats reported in 1991 were identified (62%). This sample, although incomplete, is certainly large enough to draw conclusions about minimum numbers of IDPs and refugees, and also to make estimates of the unknown more complete numbers of IDPs and refugees originating from this territory.

The minimum number of IDPs and refugees originating from the 1991 census population of the HERCEG-BOSNA area was for Non-Croats 45,774 (out of 128,742 in 1991) and for all ethnic groups together 61,487 (out of 231,610 in 1991). The minimum numbers are certainly extremely low. The reasons for this include:

- the analysed 1991 population did not include all those born after 1980 up to the census in March 1991, (exactly 49,756 persons, i.e. 17.7% of the 1991 population, were excluded),⁸
- the analysed voters population did not include persons whose records were not matched with the census, (about 36,669 persons were excluded)⁹
- the analysed population of voters did not include those that did not register to vote, their exact number is unknown, we estimate they could comprise about 12% of the 1997-98 population of eligible voters. The 12% of unregistered voters would amount to about 24,392 persons from the HERCEG-BOSNA area.¹⁰

⁸ The 49,756 persons were obtained as a difference between the POP91 "IN" (231,610 comprising only those born before 1980) and the overall 1991 census population of the HERCEG-BOSNA area (281,366; see below).

MUNICIPALITY	YEAR	TOTAL	CROATS	MUSLIMS	SERBS	YUGO-SLAVS	OTHERS & UNKNOWN
BOSNIA AND HERZEGOVINA	1991	4,377,033	760,852	1,902,956	1,366,104	242,682	104,439
ČAPLJINA	1991	27,882	14,969	7,672	3,753	1,047	441
GORNJI VAKUF	1991	25,181	10,706	14,063	110	158	144
JABLANICA	1991	12,691	2,291	9,099	504	581	216
LJUBUŠKI	1991	28,340	26,127	1,592	65	227	329
MOSTAR	1991	126,628	43,037	43,856	23,846	12,768	3,121
PROZOR	1991	19,760	12,259	7,225	45	100	131
STOLAC	1991	18,681	6,188	8,101	3,917	307	168
VAREŠ	1991	22,203	9,016	6,714	3,644	2,071	758
HERCEG-BOSNA	1991	281,366	124,593	98,322	35,884	17,259	5,308

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Republika Hrvatska. Državni Zavod za Statistiku. Zagreb, Travanj, 1995

⁹ The number of 36,669 is an estimate based on the matching rate of the 1997-98 voters register with the 1991 census (79.5% voters records were matched) and the size of POP97 "FROM" (142,204), which comprises matched records only. If 142,204 is corrected for unmatched records (142,204 is divided by 0.795), the result of this simple calculation (178,873 individuals) are all (matched and unmatched) registered voters of POP97 "FROM". The 36,669 is the difference between 178,873 and 142,204.

¹⁰ The 12% of unregistered voters is *our educated guess*, it does not come from the OSCE. Despite of the fact that in the 1997 elections the OSCE attempted to achieve a full registration of all eligible voters, not all of them did register (OSCE, 1997). The assumed 12% of unregistered voters would

In order to produce more complete numbers that give a better impression of the scale of population migration, we made an estimate of IDPs and refugees (see Annex C2 for the method), based on the fraction of IDPs and refugees in every ethnic group as observed by 1997-98 (Annex A, Tables 2M, 2S, 2O, and 2C) and applied this fraction to the 1991 population born before 1980 (Annex A, Tables 1M, 1S, 1O, and 1C). The resulting numbers, and their associated confidence intervals, are included in Annex A, Tables 3M, 3S, 3O, and 3C. For Non-Croats this estimate equals 75,961 individuals (Table 2 above, versus the minimum of 45,774 IDPs and refugees given next to it in the same table).

All in all, the estimated number of 75,961 IDPs and refugees is a considerable quantity in relation to the 1991 population of 231,610 of those born before 1980, especially that this estimate is still incomplete and should be further increased to include all those IDPs and refugees who were born after 1980 up to March 1991.

Table 3a. The 1997 Voters Originating from HERCEG-BOSNA Area By Ethnicity and Place of Registration to Vote in 1997-98 Absolute Numbers

Ethnicity	Non-DPs	IDPs	Refugees	Total
Serbs	2,200	10,492	4,122	16,814
Muslims	27,732	17,183	9,480	54,395
Croats	46,563	10,410	5,303	62,276
Others	4,222	2,444	2,053	8,719
Total	80,717	40,529	20,958	142,204

Table 3b. The 1997 Voters Originating from HERCEG-BOSNA Area By Ethnicity and Place of Registration to Vote in 1997-98, Percentages

Ethnicity	Non-DPs	IDPs	Refugees	Total
Serbs	13.1	62.4	24.5	100.0
Muslims	51.0	31.6	17.4	100.0
Croats	74.8	16.7	8.5	100.0
Others	48.4	28.0	23.5	100.0
Total	56.8	28.5	14.7	100.0

imply that the complete population of eligible voters would be on estimated 2.91 million ($2.56 / 0.88$) and the complete 1997 population in BH would be 3.42 million ($2.91 / 0.85$). The 1997 BH population size has been and remains unknown, but the 3.42 million figure is largely consistent with the projections published by the UN in the World Population Prospects (UN, 2002), which are the best known population projections in the world. For 1995, the 2002 UN Population Prospects reported an estimated 3,42 millions citizens in Bosnia and Herzegovina.

The formula for obtaining the 24,392 unregistered voters: $178,873/0.88$ (all voters)-178,873 (registered voters).

Table 3 (a, b) shows the distribution of the 1997 population of voters (i.e. minimum numbers), who used to live in the HERCEG-BOSNA area also in 1991, by their place of registration to vote in 1997-98. The table makes a distinction between domestic population (Non-DPs), internally displaced persons (IDPs) and refugees (Ref). According to Table 3b, except of the Serbs the most voters originating from the HERCEG-BOSNA area were non-displaced persons and registered in the domestic municipality in 1997 (56.8% of the total; i.e. a minimum of 80,717 out of 231,610). The majority of Non-DPs were ethnic Croats (a minimum of 46,563 out of 80,717).

Some 28.5% of the 1997-98 voters were internally displaced and resided in municipalities other than domestic in 1997-98 (a minimum of 40,529; mostly Muslims). In addition to that, 14.7% of the 1997-98 voters originating from the HERCEG-BOSNA area resided abroad in 1997 (a minimum of 20,958; mostly Muslims).

Table 3c. Refugees Originating from HERCEG-BOSNA Area By Country of Registration and Ethnicity, Status as of 1997

Ethnicity	Croatia		FRY		Other Countries		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Serbs	26	0.6	3,892	94.4	204	4.9	4,122	100.0
Muslims	128	1.4	31	0.3	9,321	98.3	9,480	100.0
Croats	1,835	34.6	106	2.0	3,362	63.4	5,303	100.0
Others	118	5.7	537	26.2	1,398	68.1	2,053	100.0
Total	2,107	na	4,566	na	14,285	na	20,958	na

Source: The 1991 Population Census for Bosnia and Herzegovina and the OSCE Voters Register 1997/98. Computation by the Demographic Unit, OTP.

Table 3c further confirms that the largest group of refugees from the HERCEG-BOSNA area was of Muslims (a minimum of 9,480 persons) and that 98.3% of this group stayed in 1997-98 in countries outside the region of the former Yugoslavia (a minimum of 9,321 out of 9,480). A majority of Croat and Other refugees registered outside the former Yugoslavia region and a majority of Serbian refugees in the Federal Republic of Yugoslavia (Serbia and Montenegro).

8. SUMMARY OF CHANGES IN THE ETHNIC COMPOSITION OF THE ENTIRE POPULATION AND OF IDPS AND REFUGEES FROM THE HERCEG-BOSNA AREA, 1991 vs. 1997-98

Table 4 (a,b) and Figure 10 below summarise the 1992-97 changes in the ethnic composition of the HERCEG-BOSNA area. The results were obtained using records of those born before 1980. The actual population, i.e. all those who resided in the HERCEG-BOSNA Area in 1991 (or 1997-98), was used. The 1991 population was complete and the 1997-98 population was represented by a large sample (Voters Register).

Table 4. Ethnic Composition in RS and FBH Parts of HERCEG-BOSNA Area, 1991 versus 1997, Actual Population, Born Before 1980

(a) The HERCEG-BOSNA Area as a Whole

Ethnicity	POP 1991 IN	POP 1997 IN	Percentage Change
Muslims	80,151	44,397	-
Serbs	30,495	3,281	-
Others	18,096	6,747	-
Croats	102,868	64,367	-
All Ethnicities	231,610	118,792	-
Muslims	34.6	37.4	+8.0
Serbs	13.2	2.8	-79.0
Others	7.8	5.7	-27.3
Croats	44.4	54.2	+22.0
All Ethnicities	100.0	100.0	-

(b) The HERCEG-BOSNA Area By Political Entity

	RS Part of Herceg-Bosna					FBH Part of Herceg-Bosna				
	All	Serbs	Muslims	Croats	Others	All	Serbs	Muslims	Croats	Others
Numbers										
1991	3,831	1,892	991	912	36	227,779	28,603	79,160	101,956	18,060
1997	1,467	1,442	1	3	21	117,325	1,839	44,396	64,364	6,726
Per cent										
1991	100.0	49.4	25.9	23.8	0.9	100.0	12.6	34.8	44.8	7.9
1997	100.0	98.3	0.1	0.2	1.4	100.0	1.6	37.8	54.9	5.7
1991-1997 Change	na ^{*)}	+99.0	-99.7	-99.1	+52.3	na ^{*)}	-87.5	+8.9	+22.6	-27.7

^{*)} na - not applicable

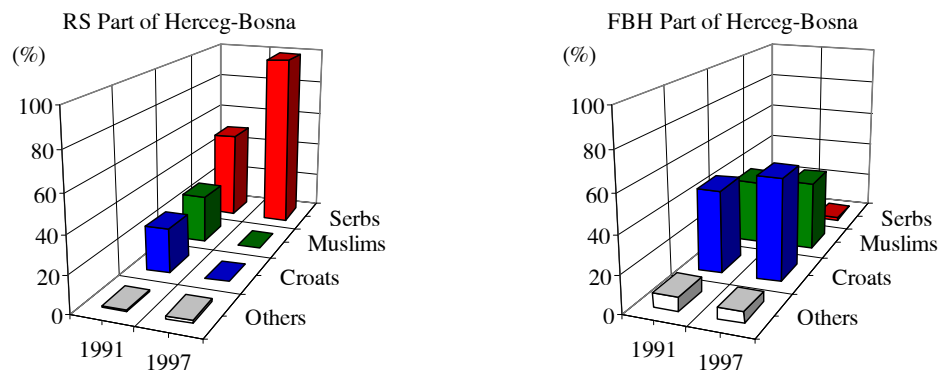
In the period from 1991 to 1997-98 the share of Croats increased by 22%, and that of Muslims by 8 per cent (Table 4a). Serbs and Other ethnic groups largely moved out from the HERCEG-BOSNA area and their fractions declined by 79 and 27.3 per cent, respectively. The

HERCEG-BOSNA area as a whole was dominated by Croats in 1997-98 (54.2%) and the second largest ethnic group was of Muslims (37.4%). There were very few Serbs and Others left (2.8 and 5.7 per cent).

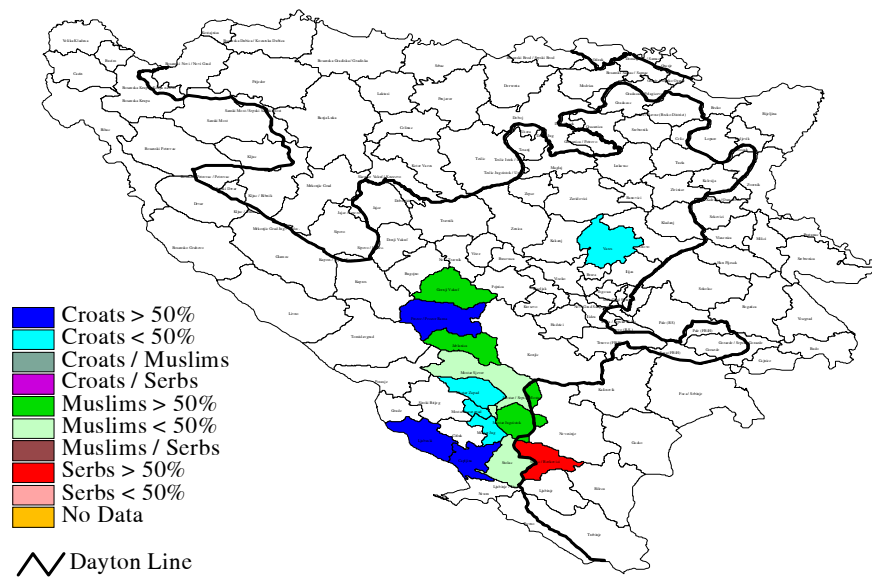
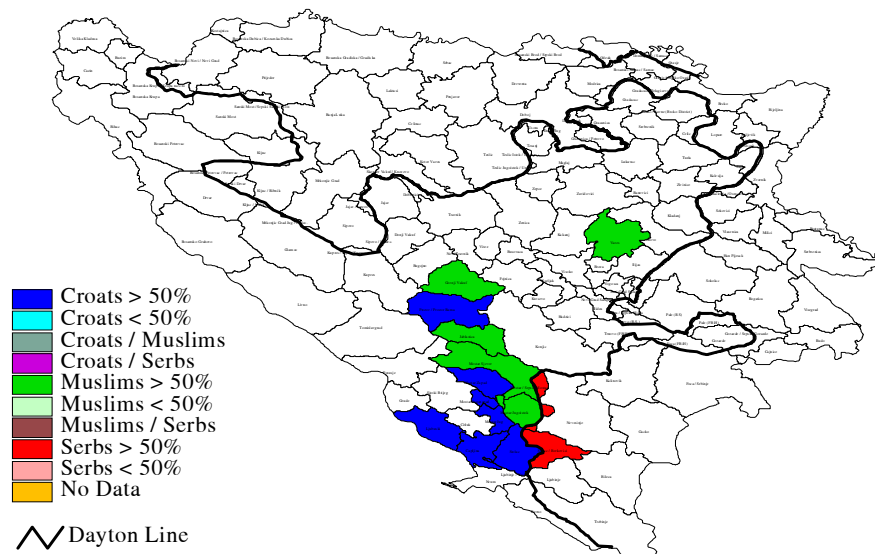
An almost identical patterns of changes is seen in the FBH part of HERCEG-BOSNA area (Table 4b), whereas in the RS part of the area almost exclusively Serbs lived by 1997-98 (98.3%) as opposed to the mixed ethnic composition in 1991.

Further Figure 10 illustrates these changes graphically. It is striking that no considerable changes are seen in the (percentage) ethnic composition in the Federal part of HERCEG-BOSNA, which as we know covers the vast majority of the HERCEG-BOSNA territory analysed in this report. The FBH part of HERCEG-BOSNA used to be dominated by two ethnic groups Croats (the largest of all groups) and Muslims in 1991 and remained to be so in 1997-98. The fraction of each of these groups slightly increased after the conflict, at the expense of all those that left this area. However, below we show a more specific geographic picture of 1991 to 1997-98 changes in the ethnic composition in the municipalities of HERCEG-BOSNA. The ethnic changes in the municipalities prove that the internal migration of the HB population within the area was considerable, even though this cannot be seen at the level of the entire HERCEG-BOSNA.

Figure 10. Ethnic Composition in RS and FBH Parts of HERCEG-BOSNA Area, 1991 vs. 1997, Actual Population, Born Before 1980



The changes in the HB municipalities are shown in Figures 11 to 13. The reversal of proportions in the RS and FBH parts of the HERCEG-BOSNA area in 1991 and 1997-98 is clearly seen for all three ethnic groups, Croats, Muslims and Serbs. This kind of rapid changes cannot be linked to demographic or socio-economic factors of population development and must be attributed to factors related to the 1992-95 conflict.

Figure 11. Ethnic Majority in the HERCEG-BOSNA municipalities, 1991**Figure 12.** Ethnic Majority in the HERCEG-BOSNA municipalities, 1997-98

In 1991, in the Federal part of HERCEG-BOSNA area three municipalities had an absolute majority of Croats (dark blue colour in Figure 11: Ljubuški and Čaplina at the border with Croatia and Prozor in central HB) and another three municipalities of Muslims (dark green in Figure 11: Gornji Vakuf, Jablanica and Mostar Jugoistok). The remaining parts of HERCEG-BOSNA, in particular the rest of the pre-war municipality of Mostar had a mixed ethnic composition, some areas with a relative majority of Croats (light blue in Figure 11: Mostar Zapad, Mostar Jugoizapad, Mostar Jug, and Vareš; Vareš is a single separate municipality on the North-East from all other HB municipalities) and some other with a relative majority of Muslims (light green in Figure 11: Mostar Sjever, Mostar Stari Grad and Stolac).

In 1997-98, all municipalities in the Federal part of HERCEG-BOSNA had either a Croat or Muslim ***absolute*** majority (Figure 12). The municipalities that in 1991 used to have the Croat (absolute or relative) majority became all Croat, except for Vareš (the Croat relative majority in 1991 changed to the Muslim absolute majority in 1997-98) and Stolac (change from the Muslim relative majority in 1991 to the Croat absolute majority in 1997-98).

The municipalities that in 1991 used to have the Muslim (absolute or relative) majority became all Muslim, except for Vareš and Stolac. It seems that after the end of the HERCEG-BOSNA conflict a perfect status quo was achieved between the Croats and Muslims regarding the control over the HB territories by these two major ethnic groups.

Note that the municipalities in RS part of HERCEG-BOSNA included only two *opštine*: a relatively large Stolac-Berkovići (absolute majority of Serbs in 1991 and 1997-98) and a very small Srpski Mostar (consisting of three separate territories adjusting to Eastern Mostar; absolute majority of Muslims in 1991 and of Serbs in 1997-98; Figure 12). Once again, the inter-entity boundary line divided the population of the HERCEG-BOSNA along the ethnic lines.

Figure 13. Ethnic Majority of IDPs and Refugees Living Outside Their 1991 Place of Residence as of 1997-98, HERCEG-BOSNA Area

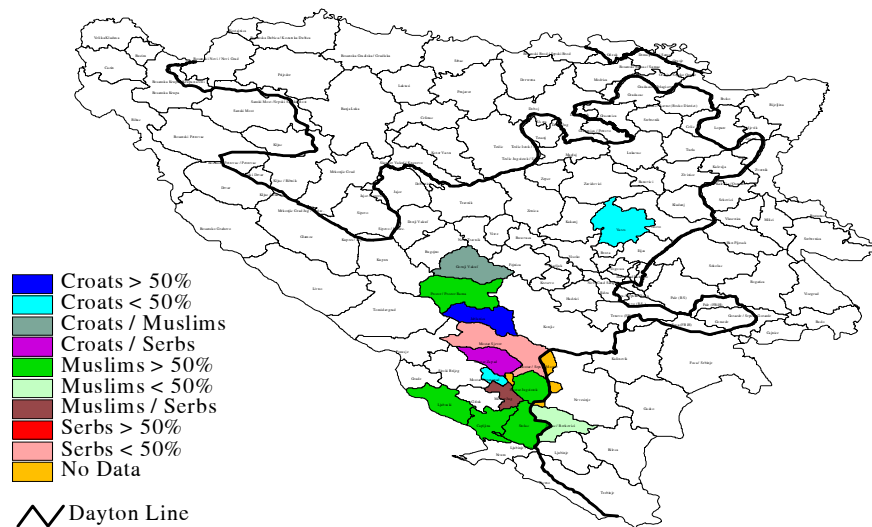


Figure 13 above indicates the ethnic majority of IDPs and refugees who, while originating from the HERCEG-BOSNA area, still lived in 1997 outside their 1991 place of residence. The Muslims were moving out from Ljubuški, Stolac, and Prozor and Croats from Gornji Vakuf, Jablanica and Vareš. The migration patterns within the pre-war municipality of Mostar is more complex and suggest movements of all three ethnic groups, not only Muslims and Croats but also Serbs.

9. CONCLUSIONS

The objective of this report was to present reliable statistics on internally displaced persons and refugees relevant to the indictment period and indictment area of the HERCEG-BOSNA - Bosnia and Herzegovina. The indictment period is from November 1991 to April 1994. The indictment area comprises eight (out of 109) pre-war municipalities in Bosnia and Herzegovina. In 1991 the eight municipalities covered totally 281,366 persons of whom 231,610 individuals were born before 1980. The post-war fate of this reference population was studied in this report.

Data sources required for analyses as those presented in this report are extremely scarce, especially for the conflict period. The 1992-95 conflict in Bosnia is an example of a humanitarian emergency, in which a large civilian population was affected by war and cruel attempts to restructure the ethnic composition of the population, leading to large-scale population displacements, deterioration of living conditions, severe health problems, and increased mortality. In humanitarian emergency situations, regular statistical sources are unavailable and a variety of substitute sources are used instead (National Research Council (2001)). Administrative records, community estimations, international aid records, household surveys, mapping and photography, and camp registrations are few examples of the sources suggested for use in humanitarian emergencies (National Research Council (2002), see also guidelines of: Médecins Saint Frontières (1997), United Nations High Commissioner for Refugees (1994), and Sphere Project (2000)).

For this report we identified and acquired several large information sources, which not only fully satisfy the demands of population assessment in humanitarian emergencies, but also meet general requirements of sources used under peace. The sources studied in this report were the following:

- the population census conducted in Bosnia in 1991,
- the 1997-98 voters register established and maintained by the Organisation for Security and Co-operation in Europe (OSCE),
- the registration of internally displaced persons and refugees in Bosnia set up by UNHCR and kept going by the BH government, status as of 2000.

Individual records were collected and analysed in our study, not only summary statistics. We only studied the population at age 18 or more years (as of 1997-98), for no individual data were available on those at age from birth to 17 years for the post-conflict period.

The results discussed in this report point out to the following general conclusions:

- Changes in the ethnic composition, especially when studied at the level of a municipality, as summarised in Section 8, suggest that significant population movements took place

during the 1991-94 conflict in the HERCEG-BOSNA area. Before the conflict started in 1991, several municipalities had a relative majority ethnic composition. In the FBH part of HB area which covers the most of HB territory discussed in this report, exactly 7 municipalities out of all 13 Post-Dayton municipalities in this area had a relative majority of one ethnic group; the remaining 6 had an absolute majority. In 1997-98 all 13 municipalities had an absolute majority ethnic composition, some of Croats (7), and some of Muslims (6). Two municipalities changed the ethnic profile entirely, one from Croat to Muslim (Vareš) and one from Muslim to Croat (Stolac).

- Changes in the ethnic composition resulted from massive population movements and thousands of internally displaced persons and refugees from this territory (Section 7). As of 1997-98, there were still in total (on estimated) 101,107 IDPs and refugees who did not live at their 1991 residence (Section 7, Table 2). Whereas this number is an estimate of the unknown overall total, the minimum number of IDPs and refugees shown in this report is 61,487 such persons (Section 7, Table 2).
- Generally, the minimum numbers given in this report (61,487 persons mentioned above) are far too low. The reasons for this are the following (Section 7):
 - the analysed 1991 population did not include all those born after 1980 up to the census in March 1991, (exactly 49,756 persons, i.e. 17.7% of the 1991 population, were excluded),
 - the analysed voters population did not include persons whose records were not matched with the census, (about 36,669 persons were excluded)
 - the analysed population of voters did not include those that did not register to vote, their exact number is unknown, we estimate they could comprise about 12% of the 1997-98 population of eligible voters. The 12% of unregistered voters would amount to about 24,392 persons from the HERCEG-BOSNA area.
- The estimated more complete numbers of IDPs and refugees (the total of 101,107 persons) are a better measure of the unknown true numbers on IDPs and refugees from the HERCEG-BOSNA area than the minimum numbers.
- The estimated total of 101,107 individuals should be seen as related to the respective 1991 population eligible to vote in 1997-98 registered in the census as living in the HERCEG-BOSNA area, i.e. 231,610 individuals (Table 1, any ethnicity, Annex 1 and Table 2 Section 7). Obviously, the fraction of IDPs and refugees in this population was high.
- The above population (231,610) only comprised persons who became eligible to vote in the 1997-98 elections. The actual 1991 population was larger due to the children born in and after 1980 up to March 1991 and equalled 281,366 persons. Moreover, the 1997-98 voters register was incomplete (lacking the unregistered and unmatched voters) which might have had impact on the estimated fraction of IDPs and refugees used in this report.

For this reason the actual number of IDPs and refugees should be expected to be even higher than the estimated total of 101,107 individuals.

- A majority of the displaced and refugees were Muslims (a minimum of 26,663 to an estimated 40,266), then subsequently: Croats (15,713 to 25,147), Serbs (14,614 to 26,304) and Others (4,497 to 9,391). Generally, a minimum of 45,774 to an estimated 75,961 of the displaced were Non-Croats, making them the largest group among all those who left their pre-war homes (Sections 2 to 6; Annex A, Tables 2 and 3; also the summary Table 2 in Section 7).
- At least 43.2% of Non-Croats who in 1991 lived in the HERCEG-BOSNA area were still displaced in 1997-98 (Section 2 to 6; Annex A, Tables 2. The specific distribution for every ethnic group was as follows:
 - Serbs: 86.9%
 - Muslims: 49.0%
 - Croats: 25.2%
 - Others: 51.6%
- The Non-Croats, (a majority of whom were Muslims), who were affected by the conflict in the highest degree, used to live in 1991 on the territories located in the FBH part of the HERCEG-BOSNA area (Section 8). A considerable fraction of the Non-Croats (15,655) did not only move out of the HERCEG-BOSNA area, but they also moved out from Bosnia and Herzegovina and became refugees abroad (Tables 3 and 4, Section 7).

All in all, the above-mentioned findings must be seen as serious consequences of violent forces whose effects were incomparable with those of usual demographic or socio-economic factors.

Sources:

Database containing records from The 1991 Population Census for Bosnia and Herzegovina, Federal Institute for Statistics (FIS), Sarajevo

Database containing records from The 1997 and 1998 Voters Registers, Organisation for Security and Co-operation in Europe (OSCE)

Database containing records of Internally Displaced Persons and Refugees in Bosnia and Herzegovina (DDPR), (2000), State Ministry for Human Rights and Refugees, Sarajevo, and UNHCR, Regional Office for Bosnia and Herzegovina, Sarajevo

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ANNEX A. REVIEW OF THE RESULTS AT THE MUNICIPAL LEVEL

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ANNEX A1

**Table 1S. Percent of Serbs in the Population of Herceg-Bosna, Status as of 1991 and 1997
Individuals Born before 1980, Municipal Borders as in 1997**

Municipality	1991 Population			1997 Sample Population			1991-97 Change in % of Serbs (Percent)
	All Ethnicities	Serbs	% Serbs	All Ethnicities	Serbs	% Serbs	
Herceg-Bosna	231,610	30,495	13.2	118,792	3,281	2.8	-79.0
of which:							
- Republika Srpska (RS)	3,831	1,892	49.4	1,467	1,442	98.3	+99.0
- The Federation of BH (FBH)	227,779	28,603	12.6	117,325	1,839	1.6	-87.5
1. Čapljina (FBH)	23,185	3,231	13.9	12,318	227	1.8	-86.8
2. Gornji Vakuf (FBH)	19,947	102	0.5	11,373	32	0.3	-45.0
3. Jablanica (FBH)	10,133	419	4.1	6,964	52	0.7	-81.9
4. Ljubuški (FBH)	23,895	62	0.3	10,073	23	0.2	-12.0
5. Mostar:							
- Mostar Central District (FBH)	3,110	548	17.6	622	29	4.7	-73.5
- Mostar Jug (FBH)	6,764	1,678	24.8	2,424	11	0.5	-98.2
- Mostar Jugoistok (FBH)	8,459	780	9.2	4,464	3	0.1	-99.3
- Mostar Jugozapad (FBH)	36,489	4,795	13.1	19,516	713	3.7	-72.2
- Mostar Sjever (FBH)	12,095	4,154	34.3	5,423	3	0.1	-99.8
- Mostar / Srpski Mostar (RS)	498	93	18.7	118	116	98.3	+426.4
- Mostar Stari Grad (FBH)	18,758	4,135	22.0	14,990	130	0.9	-96.1
- Mostar Zapad (FBH)	18,607	3,838	20.6	11,003	517	4.7	-77.2
6. Prozor / Prozor-Rama (FBH)	15,594	39	0.3	6,425	9	0.1	-44.0
7. Stolac:							
- Stolac (FBH)	12,313	1,653	13.4	5,192	35	0.7	-95.0
- Stolac / Berkovići (RS)	3,333	1,799	54.0	1,349	1,326	98.3	+82.1
8. Vareš (FBH)	18,430	3,169	17.2	6,538	55	0.8	-95.1

ANNEX A1

Table 1M. Percent of Muslims in the Population of Herceg-Bosna, Status as of 1991 and 1997
Individuals Born before 1980, Municipal Borders as in 1997

Municipality	1991 Population			1997 Sample Population			1991-97 Change in % of Muslims (Percent)
	All Ethnicities	Muslims	% Muslims	All Ethnicities	Muslims	% Muslims	
Herceg-Bosna	231,610	80,151	34.6	118,792	44,397	37.4	+8.0
of which:							
- Republika Srpska (RS)	3,831	991	25.9	1,467	1	0.1	-99.7
- The Federation of BH (FBH)	227,779	79,160	34.8	117,325	44,396	37.8	+8.9
1. Čapljina (FBH)	23,185	6,252	27.0	12,318	182	1.5	-94.5
2. Gornji Vakuf (FBH)	19,947	11,052	55.4	11,373	6,999	61.5	+11.1
3. Jablanica (FBH)	10,133	7,205	71.1	6,964	6,270	90.0	+26.6
4. Ljubuški (FBH)	23,895	1,345	5.6	10,073	148	1.5	-73.9
5. Mostar:							
- Mostar Central District (FBH)	3,110	1,082	34.8	622	426	68.5	+96.9
- Mostar Jug (FBH)	6,764	1,524	22.5	2,424	37	1.5	-93.2
- Mostar Jugoistok (FBH)	8,459	6,525	77.1	4,464	4,383	98.2	+27.3
- Mostar Jugozapad (FBH)	36,489	8,763	24.0	19,516	1,566	8.0	-66.6
- Mostar Sjever (FBH)	12,095	5,145	42.5	5,423	5,319	98.1	+130.6
- Mostar / Srpski Mostar (RS)	498	277	55.6	118	0	0.0	-100.0
- Mostar Stari Grad (FBH)	18,758	9,039	48.2	14,990	13,646	91.0	+88.9
- Mostar Zapad (FBH)	18,607	4,155	22.3	11,003	863	7.8	-64.9
6. Prozor / Prozor-Rama (FBH)	15,594	5,675	36.4	6,425	401	6.2	-82.9
7. Stolac:							
- Stolac (FBH)	12,313	5,905	48.0	5,192	18	0.3	-99.3
- Stolac / Berkovići (RS)	3,333	714	21.4	1,349	1	0.1	-99.7
8. Vareš (FBH)	18,430	5,493	29.8	6,538	4,138	63.3	+112.4

ANNEX A1

**Table 1C. Percent of Croats in the Population of Herceg-Bosna, Status as of 1991 and 1997
Individuals Born before 1980, Municipal Borders as in 1997**

Municipality	1991 Population			1997 Sample Population			1991-97 Change in % of Croats (Percent)
	All Ethnicities	Croats	% Croats	All Ethnicities	Croats	% Croats	
Herceg-Bosna	231,610	102,868	44.4	118,792	64,367	54.2	+22.0
of which:							
- Republika Srpska (RS)	3,831	912	23.8	1,467	3	0.2	-99.1
- The Federation of BH (FBH)	227,779	101,956	44.8	117,325	64,364	54.9	+22.6
1. Čapljina (FBH)	23,185	12,467	53.8	12,318	11,372	92.3	+71.7
2. Gornji Vakuf (FBH)	19,947	8,529	42.8	11,373	4,209	37.0	-13.4
3. Jablanica (FBH)	10,133	1,881	18.6	6,964	348	5.0	-73.1
4. Ljubuški (FBH)	23,895	22,026	92.2	10,073	9,786	97.2	+5.4
5. Mostar:							
- Mostar Central District (FBH)	3,110	743	23.9	622	36	5.8	-75.8
- Mostar Jug (FBH)	6,764	3,313	49.0	2,424	2,330	96.1	+96.2
- Mostar Jugoistok (FBH)	8,459	946	11.2	4,464	3	0.1	-99.4
- Mostar Jugozapad (FBH)	36,489	17,484	47.9	19,516	15,271	78.2	+63.3
- Mostar Sjever (FBH)	12,095	2,408	19.9	5,423	8	0.1	-99.3
- Mostar / Srpski Mostar (RS)	498	125	25.1	118	1	0.8	-96.6
- Mostar Stari Grad (FBH)	18,758	2,881	15.4	14,990	84	0.6	-96.4
- Mostar Zapad (FBH)	18,607	7,737	41.6	11,003	8,277	75.2	+80.9
6. Prozor / Prozor-Rama (FBH)	15,594	9,700	62.2	6,425	5,976	93.0	+49.5
7. Stolac:							
- Stolac (FBH)	12,313	4,363	35.4	5,192	4,959	95.5	+169.5
- Stolac / Berkovići (RS)	3,333	787	23.6	1,349	2	0.1	-99.4
8. Vareš (FBH)	18,430	7,478	40.6	6,538	1,705	26.1	-35.7

ANNEX A1

**Table 10. Percent of Others in the Population of Herceg-Bosna, Status as of 1991 and 1997
Individuals Born before 1980, Municipal Borders as in 1997**

Municipality	1991 Population			1997 Sample Population			1991-97 Change in % of Others (Percent)
	All Ethnicities	Others	% Others	All Ethnicities	Others	% Others	
Herceg-Bosna	231,610	18,096	7.8	118,792	6,747	5.7	-27.3
of which:							
- Republika Srpska (RS)	3,831	36	0.9	1,467	21	1.4	+52.3
- The Federation of BH (FBH)	227,779	18,060	7.9	117,325	6,726	5.7	-27.7
1. Čapljina (FBH)	23,185	1,235	5.3	12,318	537	4.4	-18.2
2. Gornji Vakuf (FBH)	19,947	264	1.3	11,373	133	1.2	-11.6
3. Jablanica (FBH)	10,133	628	6.2	6,964	294	4.2	-31.9
4. Ljubuški (FBH)	23,895	462	1.9	10,073	116	1.2	-40.4
5. Mostar:							
- Mostar Central District (FBH)	3,110	737	23.7	622	131	21.1	-11.1
- Mostar Jug (FBH)	6,764	249	3.7	2,424	46	1.9	-48.4
- Mostar Jugoistok (FBH)	8,459	208	2.5	4,464	75	1.7	-31.7
- Mostar Jugozapad (FBH)	36,489	5,447	14.9	19,516	1,966	10.1	-32.5
- Mostar Sjever (FBH)	12,095	388	3.2	5,423	93	1.7	-46.5
- Mostar / Srpski Mostar (RS)	498	3	0.6	118	1	0.8	+40.7
- Mostar Stari Grad (FBH)	18,758	2,703	14.4	14,990	1,130	7.5	-47.7
- Mostar Zapad (FBH)	18,607	2,877	15.5	11,003	1,346	12.2	-20.9
6. Prozor / Prozor-Rama (FBH)	15,594	180	1.2	6,425	39	0.6	-47.4
7. Stolac:							
- Stolac (FBH)	12,313	392	3.2	5,192	180	3.5	+8.9
- Stolac / Berkovići (RS)	3,333	33	1.0	1,349	20	1.5	+49.7
8. Vareš (FBH)	18,430	2,290	12.4	6,538	640	9.8	-21.2

ANNEX A1

Table 1. Percent of Given Ethnic Groups in the Population of Herceg-Bosna, Status as of 1991 and 1997
Individuals Born before 1980, Municipal Borders as in 1997

Municipality	1991 Population			1997 Sample Population			1991-97 Change (%) in % This Ethnicity
	All Ethnicities	Given Ethnicity	% This Ethnicity	All Ethnicities	Given Ethnicity	% This Ethnicity	
		Serbs			Serbs		
Herceg-Bosna	231,610	30,495	13.2	118,792	3,281	2.8	-79.0
of which:							
- Republika Srpska (RS)	3,831	1,892	49.4	1,467	1,442	98.3	+99.0
- The Federation of BH (FBH)	227,779	28,603	12.6	117,325	1,839	1.6	-87.5
		Muslims			Muslims		
Herceg-Bosna	231,610	80,151	34.6	118,792	44,397	37.4	+8.0
of which:							
- Republika Srpska (RS)	3,831	991	25.9	1,467	1	0.1	-99.7
- The Federation of BH (FBH)	227,779	79,160	34.8	117,325	44,396	37.8	+8.9
		Croats			Croats		
Herceg-Bosna	231,610	102,868	44.4	118,792	64,367	54.2	+22.0
of which:							
- Republika Srpska (RS)	3,831	912	23.8	1,467	3	0.2	-99.1
- The Federation of BH (FBH)	227,779	101,956	44.8	117,325	64,364	54.9	+22.6
		Others			Others		
Herceg-Bosna	231,610	18,096	7.8	118,792	6,747	5.7	-27.3
of which:							
- Republika Srpska (RS)	3,831	36	0.9	1,467	21	1.4	+52.3
- The Federation of BH (FBH)	227,779	18,060	7.9	117,325	6,726	5.7	-27.7

ANNEX A2

Table 2S. A Minimum Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Serbs
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997

Municipality of Residence in 1991	Total Population Identified in 1997			Serb Population Identified in 1997			Percentage of Serbs Among IDPs and Refugees
	All	IDPs and Refugees	Percentage	All	IDPs and Refugees	Percentage	
Herceg-Bosna	142,204	61,487	43.2	16,814	14,614	86.9	23.8
of which:							
- Republika Srpska (RS)	1,779	901	50.6	948	78	8.2	8.7
- The Federation of BH (FBH)	140,425	60,586	43.1	15,866	14,536	91.6	24.0
1. Čapljina (FBH)	14,247	6,192	43.5	1,783	1,598	89.6	25.8
2. Gornji Vakuf (FBH)	14,228	3,282	23.1	69	41	59.4	1.2
3. Jablanica (FBH)	7,428	1,637	22.0	254	204	80.3	12.5
4. Ljubuški (FBH)	10,503	1,277	12.2	15	4	26.7	0.3
5. Mostar:							
- Mostar Central District (FBH)	1,507	1,071	71.1	206	185	89.8	17.3
- Mostar Jug (FBH)	4,308	2,429	56.4	981	973	99.2	40.1
- Mostar Jugoistok (FBH)	4,879	2,903	59.5	433	432	99.8	14.9
- Mostar Jugozapad (FBH)	23,648	10,230	43.3	2,639	2,101	79.6	20.5
- Mostar Sjever (FBH)	7,335	4,655	63.5	2,327	2,327	100.0	50.0
- Mostar / Srpski Mostar (RS)	199	172	86.4	30	3	10.0	1.7
- Mostar Stari Grad (FBH)	10,788	5,552	51.5	2,153	2,059	95.6	37.1
- Mostar Zapad (FBH)	11,381	6,017	52.9	2,045	1,735	84.8	28.8
6. Prozor / Prozor-Rama (FBH)	10,113	4,296	42.5	20	14	70.0	0.3
7. Stolac:							
- Stolac (FBH)	8,141	5,307	65.2	911	887	97.4	16.7
- Stolac / Berkovići (RS)	1,580	729	46.1	918	75	8.2	10.3
8. Vareš (FBH)	11,919	5,738	48.1	2,030	1,976	97.3	34.4

ANNEX A2

Table 2M. A Minimum Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Muslims
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997

Municipality of Residence in 1991	Total Population Identified in 1997			Muslim Population Identified in 1997			Percentage of Muslims Among IDPs and Refugees
	All	IDPs and Refugees	Percentage	All	IDPs and Refugees	Percentage	
Herceg-Bosna	142,204	61,487	43.2	54,395	26,663	49.0	43.4
of which:							
- Republika Srpska (RS)	1,779	901	50.6	474	474	100.0	52.6
- The Federation of BH (FBH)	140,425	60,586	43.1	53,921	26,189	48.6	43.2
1. Čapljina (FBH)	14,247	6,192	43.5	4,191	4,024	96.0	65.0
2. Gornji Vakuf (FBH)	14,228	3,282	23.1	8,337	1,604	19.2	48.9
3. Jablanica (FBH)	7,428	1,637	22.0	5,535	391	7.1	23.9
4. Ljubuški (FBH)	10,503	1,277	12.2	825	686	83.2	53.7
5. Mostar:							
- Mostar Central District (FBH)	1,507	1,071	71.1	581	285	49.1	26.6
- Mostar Jug (FBH)	4,308	2,429	56.4	944	917	97.1	37.8
- Mostar Jugoistok (FBH)	4,879	2,903	59.5	3,731	1,786	47.9	61.5
- Mostar Jugozapad (FBH)	23,648	10,230	43.3	5,839	4,501	77.1	44.0
- Mostar Sjever (FBH)	7,335	4,655	63.5	3,321	681	20.5	14.6
- Mostar / Srpski Mostar (RS)	199	172	86.4	113	113	100.0	65.7
- Mostar Stari Grad (FBH)	10,788	5,552	51.5	5,724	1,230	21.5	22.2
- Mostar Zapad (FBH)	11,381	6,017	52.9	2,703	2,131	78.8	35.4
6. Prozor / Prozor-Rama (FBH)	10,113	4,296	42.5	4,001	3,612	90.3	84.1
7. Stolac:							
- Stolac (FBH)	8,141	5,307	65.2	4,096	4,079	99.6	76.9
- Stolac / Berkovići (RS)	1,580	729	46.1	361	361	100.0	49.5
8. Vareš (FBH)	11,919	5,738	48.1	4,093	262	6.4	4.6

ANNEX A2

Table 2C. A Minimum Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Croats
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997

Municipality of Residence in 1991	Total Population Identified in 1997			Croat Population Identified in 1997			Percentage of Croats Among IDPs and Refugees
	All	IDPs and Refugees	Percentage	All	IDPs and Refugees	Percentage	
Herceg-Bosna	142,204	61,487	43.2	62,276	15,713	25.2	25.6
of which:							
- Republika Srpska (RS)	1,779	901	50.6	342	342	100.0	38.0
- The Federation of BH (FBH)	140,425	60,586	43.1	61,934	15,371	24.8	25.4
1. Čapljina (FBH)	14,247	6,192	43.5	7,689	290	3.8	4.7
2. Gornji Vakuf (FBH)	14,228	3,282	23.1	5,683	1,607	28.3	49.0
3. Jablanica (FBH)	7,428	1,637	22.0	1,307	966	73.9	59.0
4. Ljubuški (FBH)	10,503	1,277	12.2	9,527	532	5.6	41.7
5. Mostar:							
- Mostar Central District (FBH)	1,507	1,071	71.1	429	403	93.9	37.6
- Mostar Jug (FBH)	4,308	2,429	56.4	2,289	470	20.5	19.3
- Mostar Jugoistok (FBH)	4,879	2,903	59.5	623	622	99.8	21.4
- Mostar Jugozapad (FBH)	23,648	10,230	43.3	12,451	2,251	18.1	22.0
- Mostar Sjever (FBH)	7,335	4,655	63.5	1,535	1,528	99.5	32.8
- Mostar / Srpski Mostar (RS)	199	172	86.4	55	55	100.0	32.0
- Mostar Stari Grad (FBH)	10,788	5,552	51.5	1,714	1,643	95.9	29.6
- Mostar Zapad (FBH)	11,381	6,017	52.9	5,242	1,428	27.2	23.7
6. Prozor / Prozor-Rama (FBH)	10,113	4,296	42.5	6,023	627	10.4	14.6
7. Stolac:							
- Stolac (FBH)	8,141	5,307	65.2	2,937	196	6.7	3.7
- Stolac / Berkovići (RS)	1,580	729	46.1	287	287	100.0	39.4
8. Vareš (FBH)	11,919	5,738	48.1	4,485	2,808	62.6	48.9

ANNEX A2

Table 20. A Minimum Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Others
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997

Municipality of Residence in 1991	Total Population Identified in 1997			Other Population Identified in 1997			Percentage of Others Among IDPs and Refugees
	All	IDPs and Refugees	Percentage	All	IDPs and Refugees	Percentage	
Herceg-Bosna	142,204	61,487	43.2	8,719	4,497	51.6	7.3
of which:							
- Republika Srpska (RS)	1,779	901	50.6	15	7	46.7	0.8
- The Federation of BH (FBH)	140,425	60,586	43.1	8,704	4,490	51.6	7.4
1. Čapljina (FBH)	14,247	6,192	43.5	584	280	47.9	4.5
2. Gornji Vakuf (FBH)	14,228	3,282	23.1	139	30	21.6	0.9
3. Jablanica (FBH)	7,428	1,637	22.0	332	76	22.9	4.6
4. Ljubuški (FBH)	10,503	1,277	12.2	136	55	40.4	4.3
5. Mostar:							
- Mostar Central District (FBH)	1,507	1,071	71.1	291	198	68.0	18.5
- Mostar Jug (FBH)	4,308	2,429	56.4	94	69	73.4	2.8
- Mostar Jugoistok (FBH)	4,879	2,903	59.5	92	63	68.5	2.2
- Mostar Jugozapad (FBH)	23,648	10,230	43.3	2,719	1,377	50.6	13.5
- Mostar Sjever (FBH)	7,335	4,655	63.5	152	119	78.3	2.6
- Mostar / Srpski Mostar (RS)	199	172	86.4	1	1	100.0	0.6
- Mostar Stari Grad (FBH)	10,788	5,552	51.5	1,197	620	51.8	11.2
- Mostar Zapad (FBH)	11,381	6,017	52.9	1,391	723	52.0	12.0
6. Prozor / Prozor-Rama (FBH)	10,113	4,296	42.5	69	43	62.3	1.0
7. Stolac:							
- Stolac (FBH)	8,141	5,307	65.2	197	145	73.6	2.7
- Stolac / Berkovići (RS)	1,580	729	46.1	14	6	42.9	0.8
8. Vareš (FBH)	11,919	5,738	48.1	1,311	692	52.8	12.1

ANNEX A2

**Table 2. A Minimum Number of Internally Displaced Persons and Refugees of a Given Ethnicity from Herceg-Bosna, Status as of 1997
Individuals Born before 1980, Municipal Borders as in 1997**

Municipality of Residence in 1991	Total Population Identified in 1997			Given Ethnicity Population Identified in 1997			Percentage of This Ethnicity Among DPs and Refugees
	All	DPs and Refugees	Percentage	All	DPs and Refugees	Percentage	
	All Ethnic Groups				Serbs		
Herceg-Bosna	142,204	61,487	43.2	16,814	14,614	86.9	23.8
of which:							
- Republika Srpska (RS)	1,779	901	50.6	948	78	8.2	8.7
- The Federation of BH (FBH)	140,425	60,586	43.1	15,866	14,536	91.6	24.0
	All Ethnic Groups				Muslims		
Herceg-Bosna	142,204	61,487	43.2	54,395	26,663	49.0	43.4
of which:							
- Republika Srpska (RS)	1,779	901	50.6	474	474	100.0	52.6
- The Federation of BH (FBH)	140,425	60,586	43.1	53,921	26,189	48.6	43.2
	All Ethnic Groups				Croats		
Herceg-Bosna	142,204	61,487	43.2	62,276	15,713	25.2	25.6
of which:							
- Republika Srpska (RS)	1,779	901	50.6	342	342	100.0	38.0
- The Federation of BH (FBH)	140,425	60,586	43.1	61,934	15,371	24.8	25.4
	All Ethnic Groups				Others		
Herceg-Bosna	142,204	61,487	43.2	8,719	4,497	51.6	7.3
of which:							
- Republika Srpska (RS)	1,779	901	50.6	15	7	46.7	0.8
- The Federation of BH (FBH)	140,425	60,586	43.1	8,704	4,490	51.6	7.4

ANNEX A3

**Table 3S. An Estimate of the Overall Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Serbs
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997**

Municipality of Residence in 1991	Estimated Number of all DPs			Estimated Number of Serbs DPs		
	Estimate	95% Confidence Interval		Estimate	95% Confidence Interval	
Herceg-Bosna	101,107	100,137	102,078	26,304	26,039	26,569
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	156	126	187
- The Federation of BH (FBiH)	99,031	98,092	99,970	26,148	25,913	26,382
1. Čapljina (FBiH)	9,961	9,899	10,023	2,896	2,865	2,926
2. Gornji Vakuf (FBiH)	4,656	4,580	4,731	61	54	67
3. Jablanica (FBiH)	2,379	2,338	2,421	337	324	349
4. Ljubuški (FBiH)	2,552	2,465	2,638	17	4	29
5. Mostar:						
- Mostar Central District (FBiH)	2,222	2,175	2,270	492	474	510
- Mostar Jug (FBiH)	4,008	3,971	4,045	1,664	1,658	1,670
- Mostar Jugoistok (FBiH)	4,989	4,918	5,059	778	776	781
- Mostar Jugozapad (FBiH)	16,492	16,371	16,613	3,817	3,768	3,867
- Mostar Sjever (FBiH)	7,910	7,863	7,957	4,154	4,154	4,154
- Mostar / Srpski Mostar (RS)	414	406	423	9	1	18
- Mostar Stari grad (FBiH)	10,059	9,972	10,146	3,954	3,930	3,979
- Mostar Zapad (FBiH)	10,135	10,041	10,229	3,256	3,215	3,297
6. Prozor / Prozor-Rama (FBiH)	6,272	6,216	6,329	27	22	33
7. Stolac:						
- Stolac (FBiH)	8,070	8,038	8,101	1,609	1,598	1,621
- Stolac / BerkovićI (RS)	1,662	1,639	1,685	147	125	169
8. Vareš (FBiH)	9,327	9,245	9,409	3,085	3,071	3,098

ANNEX A3

Table 3M. An Estimate of the Overall Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Muslims
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997

Municipality of Residence in 1991	Estimated Number of all DPs			Estimated Number of Muslims DPs		
	Estimate	95% Confidence Interval		Estimate	95% Confidence Interval	
Herceg-Bosna	101,107	100,137	102,078	40,266	39,797	40,735
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	991	991	991
- The Federation of BH (FBH)	99,031	98,092	99,970	39,275	38,806	39,744
1. Čapljina (FBiH)	9,961	9,899	10,023	6,003	5,982	6,024
2. Gornji Vakuf (FBiH)	4,656	4,580	4,731	2,126	2,080	2,173
3. Jablanica (FBiH)	2,379	2,338	2,421	509	486	532
4. Ljubuški (FBiH)	2,552	2,465	2,638	1,118	1,097	1,140
5. Mostar:						
- Mostar Central District (FBiH)	2,222	2,175	2,270	531	501	561
- Mostar Jug (FBiH)	4,008	3,971	4,045	1,480	1,470	1,490
- Mostar Jugoistok (FBiH)	4,989	4,918	5,059	3,123	3,055	3,192
- Mostar Jugozapad (FBiH)	16,492	16,371	16,613	6,755	6,700	6,810
- Mostar Sjever (FBiH)	7,910	7,863	7,957	1,055	1,013	1,097
- Mostar / Srpski Mostar (RS)	414	406	423	277	277	277
- Mostar Stari grad (FBiH)	10,059	9,972	10,146	1,942	1,884	2,001
- Mostar Zapad (FBiH)	10,135	10,041	10,229	3,276	3,238	3,314
6. Prozor / Prozor-Rama (FBiH)	6,272	6,216	6,329	5,123	5,095	5,152
7. Stolac:						
- Stolac (FBiH)	8,070	8,038	8,101	5,880	5,874	5,887
- Stolac / BerkovićI (RS)	1,662	1,639	1,685	714	714	714
8. Vareš (FBiH)	9,327	9,245	9,409	352	331	372

ANNEX A3

**Table 3C. An Estimate of the Overall Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Croats
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997**

Municipality of Residence in 1991	Estimated Number of all DPs			Estimated Number of Croats DPs		
	Estimate	95% Confidence Interval		Estimate	95% Confidence Interval	
Herceg-Bosna	101,107	100,137	102,078	25,147	24,638	25,656
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	912	912	912
- The Federation of BH (FBH)	99,031	98,092	99,970	24,235	23,726	24,744
1. Čapljina (FBiH)	9,961	9,899	10,023	470	437	503
2. Gornji Vakuf (FBiH)	4,656	4,580	4,731	2,412	2,354	2,469
3. Jablanica (FBiH)	2,379	2,338	2,421	1,390	1,365	1,415
4. Ljubuški (FBiH)	2,552	2,465	2,638	1,230	1,153	1,306
5. Mostar:						
- Mostar Central District (FBiH)	2,222	2,175	2,270	698	687	709
- Mostar Jug (FBiH)	4,008	3,971	4,045	680	650	711
- Mostar Jugoistok (FBiH)	4,989	4,918	5,059	944	943	946
- Mostar Jugoizapad (FBiH)	16,492	16,371	16,613	3,161	3,097	3,224
- Mostar Sjever (FBiH)	7,910	7,863	7,957	2,397	2,392	2,402
- Mostar / Srpski Mostar (RS)	414	406	423	125	125	125
- Mostar Stari grad (FBiH)	10,059	9,972	10,146	2,762	2,744	2,779
- Mostar Zapad (FBiH)	10,135	10,041	10,229	2,108	2,055	2,161
6. Prozor / Prozor-Rama (FBiH)	6,272	6,216	6,329	1,010	964	1,056
7. Stolac:						
- Stolac (FBiH)	8,070	8,038	8,101	291	269	314
- Stolac / Berković (RS)	1,662	1,639	1,685	787	787	787
8. Vareš (FBiH)	9,327	9,245	9,409	4,682	4,615	4,749

ANNEX A3

**Table 30. An Estimate of the Overall Number of Internally Displaced Persons and Refugees from Herceg-Bosna: The Others
Status as of 1997, Individuals Born before 1980, Municipal Borders as in 1997**

Municipality of Residence in 1991	Estimated Number of all DPs			Estimated Number of Others DPs		
	Estimate	95% Confidence Interval		Estimate	95% Confidence Interval	
Herceg-Bosna	101,107	100,137	102,078	9,391	8,940	9,836
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	17	7	21
- The Federation of BH (FBH)	99,031	98,092	99,970	9,374	8,932	9,815
1. Čapljina (FBiH)	9,961	9,899	10,023	592	556	628
2. Gornji Vakuf (FBiH)	4,656	4,580	4,731	57	45	69
3. Jablanica (FBiH)	2,379	2,338	2,421	144	124	163
4. Ljubuški (FBiH)	2,552	2,465	2,638	187	155	219
5. Mostar:						
- Mostar Central District (FBiH)	2,222	2,175	2,270	501	471	532
- Mostar Jug (FBiH)	4,008	3,971	4,045	183	165	200
- Mostar Jugoistok (FBiH)	4,989	4,918	5,059	142	128	157
- Mostar Jugozapad (FBiH)	16,492	16,371	16,613	2,759	2,686	2,831
- Mostar Sjever (FBiH)	7,910	7,863	7,957	304	284	324
- Mostar / Srpski Mostar (RS)	414	406	423	3	na	na
- Mostar Stari grad (FBiH)	10,059	9,972	10,146	1,400	1,343	1,457
- Mostar Zapad (FBiH)	10,135	10,041	10,229	1,495	1,441	1,550
6. Prozor / Prozor-Rama (FBiH)	6,272	6,216	6,329	112	96	128
7. Stolac:						
- Stolac (FBiH)	8,070	8,038	8,101	289	271	306
- Stolac / BerkovićI (RS)	1,662	1,639	1,685	14	7	21
8. Vareš (FBiH)	9,327	9,245	9,409	1,209	1,168	1,249

ANNEX A3

**Table 3. An Estimate of the Overall Number of Internally Displaced Persons and Refugees of a Given Ethnicity from Herceg-Bosna, Status as of 1997
Individuals Born before 1980, Municipal Borders as in 1997**

Municipality of Residence in 1991	Estimated Number of all DPs and Refugees			Estimated Number of DPs and Refugees		
	Estimate	95% Confidence Interval (from-to)		Estimate	95% Confidence Interval (from-to)	
	All Ethnic Groups				Serbs	
Herceg-Bosna	101,107	100,137	102,078	26,304	26,039	26,569
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	156	126	187
- The Federation of BH (FBH)	99,031	98,092	99,970	26,148	25,913	26,382
	All Ethnic Groups				Muslims	
Herceg-Bosna	101,107	100,137	102,078	40,266	39,797	40,735
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	991	991	991
- The Federation of BH (FBH)	99,031	98,092	99,970	39,275	38,806	39,744
	All Ethnic Groups				Croats	
Herceg-Bosna	101,107	100,137	102,078	25,147	24,638	25,656
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	912	912	912
- The Federation of BH (FBH)	99,031	98,092	99,970	24,235	23,726	24,744
	All Ethnic Groups				Others	
Herceg-Bosna	101,107	100,137	102,078	9,391	8,940	9,836
of which:						
- Republika Srpska (RS)	2,076	2,045	2,108	17	7	21
- The Federation of BH (FBH)	99,031	98,092	99,970	9,374	8,932	9,815

ANNEX A4

Table 1BH. Percent of Given Ethnic Groups in the Population of Bosnia and Herzegovina, Status as of 1991 and 1997
Individuals Born before 1980, Municipal Borders as in 1997

Municipality	1991 Population			1997 Sample Population			1991-97 Change (%) in % This Ethnicity
	All Ethnicities	Given Ethnicity	% This Ethnicity	All Ethnicities	Given Ethnicity	% This Ethnicity	
		Serbs			Serbs		
Bosnia and Herzegovina	3,565,703	1,147,904	32.2	1,804,142	637,321	35.3	+9.7
of which:							
- Republika Srpska (RS)	1,339,341	735,021	54.9	670,125	615,758	91.9	+67.4
- The Federation of BH (FBH)	2,226,362	412,883	18.5	1,134,017	21,563	1.9	-89.7
		Muslims			Muslims		
Bosnia and Herzegovina	3,565,703	1,505,893	42.2	1,804,142	820,844	45.5	+7.7
of which:							
- Republika Srpska (RS)	1,339,341	376,880	28.1	670,125	8,552	1.3	-95.5
- The Federation of BH (FBH)	2,226,362	1,129,013	50.7	1,134,017	812,292	71.6	+41.3
		Croats			Croats		
Bosnia and Herzegovina	3,565,703	630,895	17.7	1,804,142	241,008	13.4	-24.5
of which:							
- Republika Srpska (RS)	1,339,341	128,490	9.6	670,125	7,871	1.2	-87.8
- The Federation of BH (FBH)	2,226,362	502,405	22.6	1,134,017	233,137	20.6	-8.9
		Others			Others		
Bosnia and Herzegovina	3,565,703	281,011	7.9	1,804,142	104,969	5.8	-26.2
of which:							
- Republika Srpska (RS)	1,339,341	98,950	7.4	670,125	37,944	5.7	-23.4
- The Federation of BH (FBH)	2,226,362	182,061	8.2	1,134,017	67,025	5.9	-27.7

ANNEX A4

Table 2BH. A Minimum Number of Internally Displaced Persons and Refugees of a Given Ethnicity from Bosnia and Herzegovina, Status as of 1997
Individuals Born before 1980, Municipal Borders as in 1997

Municipality of Residence in 1991	Total Population Identified in 1997			Given Ethnicity Population Identified in 1997			Percentage of This Ethnicity Among DPs and Refugees
	All	DPs and Refugees	Percentage	All	DPs and Refugees	Percentage	
	All Ethnic Groups				Serbs		
Bosnia and Herzegovina	2,065,472	715,534	34.6	667,271	231,851	34.7	32.4
of which:							
- Republika Srpska (RS)	735,835	276,864	37.6	435,468	19,686	4.5	7.1
- The Federation of BH (FBH)	1,329,637	438,670	33.0	231,803	212,165	91.5	48.4
	All Ethnic Groups				Muslims		
Bosnia and Herzegovina	2,065,472	715,534	34.6	959,036	329,154	34.3	46.0
of which:							
- Republika Srpska (RS)	735,835	276,864	37.6	211,266	203,210	96.2	73.4
- The Federation of BH (FBH)	1,329,637	438,670	33.0	747,770	125,944	16.8	28.7
	All Ethnic Groups				Croats		
Bosnia and Herzegovina	2,065,472	715,534	34.6	312,416	112,046	35.9	15.7
of which:							
- Republika Srpska (RS)	735,835	276,864	37.6	45,869	39,495	86.1	14.3
- The Federation of BH (FBH)	1,329,637	438,670	33.0	266,547	72,551	27.2	16.5
	All Ethnic Groups				Others		
Bosnia and Herzegovina	2,065,472	715,534	34.6	126,749	42,483	33.5	5.9
of which:							
- Republika Srpska (RS)	735,835	276,864	37.6	43,232	14,473	33.5	5.2
- The Federation of BH (FBH)	1,329,637	438,670	33.0	83,517	28,010	33.5	6.4

ANNEX A4

**Table 3BH. An Estimate of the Overall Number of Internally Displaced Persons and Refugees of a Given Ethnicity from Bosnia and Herzegovina, Status as of 1997
Individuals Born before 1980, Municipal Borders as in 1997**

Municipality of Residence in 1991	Estimated Number of all DPs and Refugees			Estimated Number of DPs and Refugees		
	Estimate	95% Confidence Interval (from-to)		Estimate	95% Confidence Interval (from-to)	
	All Ethnic Groups				Serbs	
Bosnia and Herzegovina	1,306,377	1,294,825	1,317,929	410,253	406,182	414,323
of which:						
- Republika Srpska (RS)	538,146	534,111	542,182	34,475	32,318	36,632
- The Federation of BH (FBH)	768,230	760,714	775,747	375,778	373,864	377,691
	All Ethnic Groups				Muslims	
Bosnia and Herzegovina	1,306,377	1,294,825	1,317,929	554,485	549,421	559,540
of which:						
- Republika Srpska (RS)	538,146	534,111	542,182	360,774	359,790	361,756
- The Federation of BH (FBH)	768,230	760,714	775,747	193,710	189,631	197,784
	All Ethnic Groups				Croats	
Bosnia and Herzegovina	1,306,377	1,294,825	1,317,929	245,978	240,319	251,636
of which:						
- Republika Srpska (RS)	538,146	534,111	542,182	109,229	107,455	111,004
- The Federation of BH (FBH)	768,230	760,714	775,747	136,748	132,865	140,632
	All Ethnic Groups				Others	
Bosnia and Herzegovina	1,306,377	1,294,825	1,317,929	95,662	90,607	100,684
of which:						
- Republika Srpska (RS)	538,146	534,111	542,182	33,668	31,786	35,544
- The Federation of BH (FBH)	768,230	760,714	775,747	61,994	58,822	65,140

ANNEX A5

Table 5S. Geographic Distribution of Serb Internally Displaced Persons Born before 1980 from Herceg-Bosna as Reported by OSCE and UNHCR and BH Government Sources, Municipal Borders as in 1997

Municipality of Residence in 1991	OSCE - 1997		UNHCR and BH Government - 2000	
	No of IDPs	% of IDPs	No of IDPs	% of IDPs
Herceg-Bosna	10,492	5.8	12,207	6.2
of which:				
- Republika Srpska (RS)	70	0.0	8	0.0
- The Federation of BH (FBH)	10,422	5.8	12,199	6.2
1. Čapljina (FBH)	1,015	0.6	1,237	0.6
2. Gornji Vakuf (FBH)	24	0.0	40	0.0
3. Jablanica (FBH)	143	0.1	170	0.1
4. Ljubuški (FBH)	0	0.0	5	0.0
5. Mostar:				
- Mostar Central District (FBH)	122	0.1	0	0.0
- Mostar Jug (FBH)	746	0.4	758	0.4
- Mostar Jugoistok (FBH)	350	0.2	384	0.2
- Mostar Jugozapad (FBH)	1,219	0.7	456	0.2
- Mostar Sjever (FBH)	1,786	1.0	2,170	1.1
- Mostar / Srpski Mostar (RS)	2	0.0	0	0.0
- Mostar Stari Grad (FBH)	1,520	0.8	1,624	0.8
- Mostar Zapad (FBH)	961	0.5	2,288	1.2
6. Prozor / Prozor-Rama (FBH)	10	0.0	7	0.0
7. Stolac:				
- Stolac (FBH)	740	0.4	887	0.4
- Stolac / Berkovići (RS)	68	0.0	8	0.0
8. Vareš (FBH)	1,786	1.0	2,173	1.1

ANNEX A5

Table 5M. Geographic Distribution of Muslim Internally Displaced Persons Born before 1980 from Herceg-Bosna as Reported by OSCE and UNHCR and BH Government Sources, Municipal Borders as in 1997

Municipality of Residence in 1991	OSCE - 1997		UNHCR and BH Government - 2000	
	No of IDPs	% of IDPs	No of IDPs	% of IDPs
Herceg-Bosna	17,183	10.1	11,943	7.2
of which:				
- Republika Srpska (RS)	415	0.2	178	0.1
- The Federation of BH (FBH)	16,768	9.9	11,765	7.1
1. Čapljina (FBH)	3,032	1.8	2,007	1.2
2. Gornji Vakuf (FBH)	541	0.3	460	0.3
3. Jablanica (FBH)	131	0.1	435	0.3
4. Ljubuški (FBH)	147	0.1	159	0.1
5. Mostar:				
- Mostar Central District (FBH)	148	0.1	0	0.0
- Mostar Jug (FBH)	738	0.4	274	0.2
- Mostar Jugoistok (FBH)	1,442	0.9	792	0.5
- Mostar Jugozapad (FBH)	2,567	1.5	1,837	1.1
- Mostar Sjever (FBH)	296	0.2	72	0.0
- Mostar / Srpski Mostar (RS)	103	0.1	17	0.0
- Mostar Stari Grad (FBH)	274	0.2	340	0.2
- Mostar Zapad (FBH)	1,283	0.8	1,052	0.6
6. Prozor / Prozor-Rama (FBH)	2,673	1.6	1,667	1.0
7. Stolac:				
- Stolac (FBH)	3,311	2.0	1,915	1.2
- Stolac / Berkovići (RS)	312	0.2	161	0.1
8. Vareš (FBH)	185	0.1	755	0.5

ANNEX A5

Table 5C. Geographic Distribution of Croat Internally Displaced Persons Born before 1980 from Herceg-Bosna as Reported by OSCE and UNHCR and BH Government Sources, Municipal Borders as in 1997

Municipality of Residence in 1991	OSCE - 1997		UNHCR and BH Government - 2000	
	No of IDPs	% of IDPs	No of IDPs	% of IDPs
Herceg-Bosna	10,410	28.4	7,730	27.4
of which:				
- Republika Srpska (RS)	314	0.9	53	0.2
- The Federation of BH (FBH)	10,096	27.5	7,677	27.2
1. Čapljina (FBH)	141	0.4	17	0.1
2. Gornji Vakuf (FBH)	265	0.7	923	3.3
3. Jablanica (FBH)	870	2.4	417	1.5
4. Ljubuški (FBH)	161	0.4	0	0.0
5. Mostar:				
- Mostar Central District (FBH)	369	1.0	0	0.0
- Mostar Jug (FBH)	336	0.9	63	0.2
- Mostar Jugoistok (FBH)	594	1.6	605	2.1
- Mostar Jugozapad (FBH)	1,555	4.2	351	1.2
- Mostar Sjever (FBH)	1,410	3.8	1,272	4.5
- Mostar / Srpski Mostar (RS)	48	0.1	0	0.0
- Mostar Stari Grad (FBH)	1,504	4.1	1,429	5.1
- Mostar Zapad (FBH)	1,076	2.9	338	1.2
6. Prozor / Prozor-Rama (FBH)	110	0.3	232	0.8
7. Stolac:				
- Stolac (FBH)	118	0.3	256	0.9
- Stolac / Berkovići (RS)	266	0.7	53	0.2
8. Vareš (FBH)	1,587	4.3	1,774	6.3

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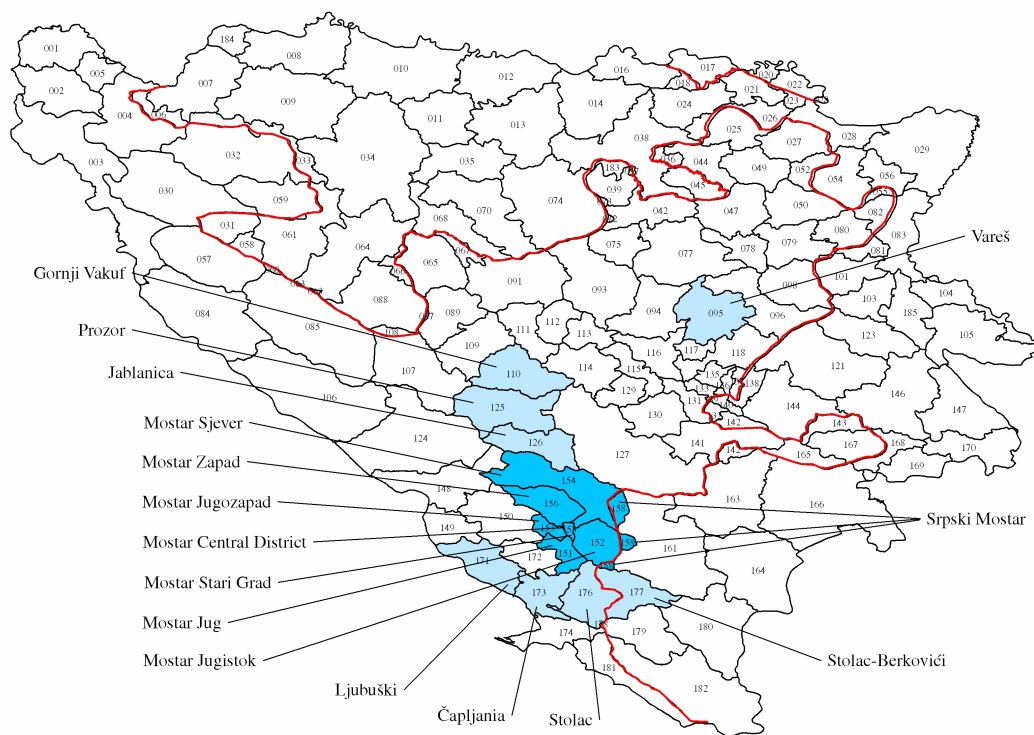
Table 50. Geographic Distribution of Other Internally Displaced Persons Born before 1980 from Herceg-Bosna as Reported by OSCE and UNHCR and BH Government Sources, Municipal Borders as in 1997

Municipality of Residence in 1991	OSCE - 1997		UNHCR and BH Government - 2000	
	No of IDPs	% of IDPs	No of IDPs	% of IDPs
Herceg-Bosna	2,444	12.8	207	13.2
of which:				
- Republika Srpska (RS)	3	0.0	0	0.0
- The Federation of BH (FBH)	2,441	12.8	207	13.2
1. Čapljina (FBH)	130	0.7	15	1.0
2. Gornji Vakuf (FBH)	11	0.1	13	0.8
3. Jablanica (FBH)	43	0.2	11	0.7
4. Ljubuški (FBH)	11	0.1	2	0.1
5. Mostar:				
- Mostar Central District (FBH)	122	0.6	0	0.0
- Mostar Jug (FBH)	38	0.2	4	0.3
- Mostar Jugoistok (FBH)	42	0.2	15	1.0
- Mostar Jugozapad (FBH)	679	3.6	16	1.0
- Mostar Sjever (FBH)	78	0.4	10	0.6
- Mostar / Srpski Mostar (RS)	1	0.0	0	0.0
- Mostar Stari Grad (FBH)	351	1.8	36	2.3
- Mostar Zapad (FBH)	338	1.8	17	1.1
6. Prozor / Prozor-Rama (FBH)	19	0.1	40	2.6
7. Stolac:				
- Stolac (FBH)	97	0.5	7	0.4
- Stolac / Berkovići (RS)	2	0.0	0	0.0
8. Vareš (FBH)	482	2.5	21	1.3

ANNEX A5

**Table 5. Geographic Distribution of Displaced Persons (DPs) from Herceg-Bosna
as Reported by OSCE and BH Governmental Sources, Status as of 1997 and 2000, Municipal Borders as in 1997**

Municipality of Residence in	OSCE Statistics - 1997		BH Governmental Statistics - 2000	
	No of DPs	% of DPs	No of DPs	% of DPs
		Serbs		Serbs
Herceg-Bosna	10,492	5.8	12,207	6.2
of which:				
- Republika Srpska (RS)	70	0.0	8	0.0
- The Federation of BH (FBH)	10,422	5.8	12,199	6.2
		Muslims		Muslims
Herceg-Bosna	17,183	10.1	11,943	7.2
of which:				
- Republika Srpska (RS)	415	0.2	178	0.1
- The Federation of BH (FBH)	16,768	9.9	11,765	7.1
		Croats		Croats
Herceg-Bosna	10,410	28.4	7,730	27.4
of which:				
- Republika Srpska (RS)	314	0.9	53	0.2
- The Federation of BH (FBH)	10,096	27.5	7,677	27.2
		Others		Others
Herceg-Bosna	2,444	12.8	207	13.2
of which:				
- Republika Srpska (RS)	3	0.0	0	0.0
- The Federation of BH (FBH)	2,441	12.8	207	13.2

ANNEX B1**ANNEX B. OVERVIEW OF SOURCES****ANNEX B1. HERCEG-BOSNA AREA: REFERENCE MAP AND OSCE MUNICIPAL CODES****Figure 1(B1).** Reference Map of Bosnia and Herzegovina and HERCEG-BOSNA

The HERCEG-BOSNA area definition:

Čapljina (FBH), 173

Gornji Vakuf (FBH), 110

Jablanica (FBH), 126

Ljubuški (FBH), 171

Mostar:

- Mostar Central District (FBH), 157
- Mostar Jug (FBH), 151
- Mostar Jugoistok (FBH), 152
- Mostar Jugozapad (FBH), 153
- Mostar Sjever (FBH), 154
- Mostar / Srpski Mostar (RS), 158
- Mostar Stari Grad (FBH), 155
- Mostar Zapad (FBH), 156

Prozor / Prozor-Rama (FBH), 125

Stolac:

- Stolac (FBH), 176
- Stolac / Berkovići (RS), 177

Vareš (FBH), 095

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Scheme 1(B1). Names and OSCE codes of All Post-Dayton Municipalities in Bosnia and Herzegovina

Code	Name	Entity	Code	Name	Entity
1	Velika Kladuša	FBiH	66	Jajce / Jezero	RS
2	Cazin	FBiH	67	Dobretići	FBiH
3	Bihać	FBiH	68	Skender Vakuf / Kneževo	RS
4	Bosanska Krupa	FBiH	70	Kotor Varoš	RS
5	Bužim	FBiH	74	Teslić	RS
6	Bosanska Krupa / Krupa na Uni	RS	75	Žepče	FBiH
7	Bosanski Novi / Novi Grad	RS	77	Zavidovići	FBiH
8	Bosanska Dubica / Kozarska Dubica	RS	78	Banovići	FBiH
9	Prijedor	RS	79	Živinice	FBiH
10	Bosanska Gradiška / Gradiška	RS	80	Kalesija	FBiH
11	Laktaši	RS	81	Kalesija / Osmaci	RS
12	Srbac	RS	82	Sapna	FBiH
13	Prnjavor	RS	83	Zvornik	RS
14	Derventa	RS	84	Bosansko Grahovo / Grahovo	FBiH
16	Bosanski Brod / Srpski Brod	RS	85	Glamoč	FBiH
17	Odžak	FBiH	88	Šipovo	RS
18	Odžak / Vukosavlje	RS	89	Donji Vakuf	FBiH
20	Domaljevac - Šamac	FBiH	91	Travnik	FBiH
21	Bosanski Šamac / Šamac	RS	93	Zenica	FBiH
22	Orašje	FBiH	94	Kakanj	FBiH
23	Orašje / Srpsko Orašje	RS	95	Vareš	FBiH
24	Modriča	RS	96	Olovo	FBiH
25	Gradačac	FBiH	98	Kladanj	FBiH
26	Gradačac / Pelagićevo	RS	101	Šekovići	RS
27	Rahić / Ravne (Brčko Federation)	FBiH	103	Vlasenica	RS
28	Brčko	RS	104	Bratunac	RS
29	Bijeljina	RS	105	Srebrenica	RS
30	Bosanski Petrovac	FBiH	106	Livno	FBiH
31	Bosanski Petrovac / Petrovac	RS	107	Kupres	FBiH
32	Sanski Most	FBiH	108	Kupres / Srpski Kupres	RS
33	Sanski Most / Srpski Sanski Most	RS	109	Bugojno	FBiH
34	Banja Luka	RS	110	Gornji Vakuf	FBiH
35	Čelinac	RS	111	Novi Travnik	FBiH
36	Doboj - Istok	FBiH	112	Vitez	FBiH
37	Doboj - Jug	FBiH	113	Busovača	FBiH
38	Doboj	RS	114	Fojnica	FBiH
39	Tešanj	FBiH	115	Kiseljak	FBiH
42	Maglaj	FBiH	116	Visoko	FBiH
44	Gračanica	FBiH	117	Breza	FBiH
45	Gračanica / Petrovo	RS	118	Ilijaš	FBiH
47	Lukavac	FBiH	121	Sokolac	RS
49	Srebrenik	FBiH	123	Han Pijesak	RS
50	Tuzla	FBiH	124	Tomislavgrad	FBiH
52	Čelić	FBiH	125	Prozor / Prozor-Rama	FBiH
54	Lopare	RS	126	Jablanica	FBiH
55	Teočak	FBiH	127	Konjic	FBiH
56	Ugljevik	RS	129	Kreševo	FBiH
57	Drvar	FBiH	130	Hadžići	FBiH
58	Drvar / Srpski Drvar	RS	131	Ilidža	FBiH
59	Ključ	FBiH	132	Ilidža / Srpska Ilidža	RS
61	Ključ / Ribnik	RS	133	Novi Grad Sarajevo	FBiH
64	Mrkonjić Grad	RS	135	Vogošća	FBiH
65	Jajce	FBiH	136	Centar Sarajevo	FBiH

Scheme 1(B1) – continued

Code	Name	Entity
137	Stari Grad Sarajevo	FBiH
138	Stari Grad Sarajevo / Srpski Stari Grad	RS
139	Novo Sarajevo	FBiH
140	Novo Sarajevo / Srpsko Novo Sarajevo	RS
141	Trnovo (FBiH)	FBiH
142	Trnovo (RS)	RS
143	Pale (FBiH)	FBiH
144	Pale (RS)	RS
146	Rogatica	RS
147	Višegrad	RS
148	Posušje	FBiH
149	Grude	FBiH
150	Široki Brijeg	FBiH
151	Mostar Jug	FBiH
152	Mostar Jugoistok	FBiH
153	Mostar Jugozapad	FBiH
154	Mostar Sjever	FBiH
155	Mostar Stari grad	FBiH
156	Mostar Zapad	FBiH
157	Mostar Central District	FBiH
158	Mostar / Srpski Mostar	RS
161	Nevesinje	RS
163	Kalinovik	RS
164	Gacko	RS
165	Foča	FBiH
166	Foča / Srbinje	RS
167	Goražde	FBiH
168	Goražde / Srpsko Goražde	RS
169	Čajniče	RS
170	Rudo	RS
171	Ljubuški	FBiH
172	Čitluk	FBiH
173	Čapljina	FBiH
174	Neum	FBiH
176	Stolac	FBiH
177	Stolac / Berković	RS
179	Ljubinje	RS
180	Bileća	RS
181	Ravno	FBiH
182	Trebinje	RS
183	Usora	FBiH
184	Kostajnica	RS
185	Milići	RS

ANNEX B2. THE 1991 POPULATION CENSUS FOR BOSNIA AND HERZEGOVINA

Our source of information on the pre-war population of the HERCEG-BOSNA area is the 1991 population census for Bosnia and Herzegovina. The census was taken from 1 to 30 April 1991 (with 31 March as the official census date), just before the outbreak of hostilities in the country, and covered the entire population of the country.

The census files contain one record for each enumerated person. These records include information on a large number of variables, such as the municipality and settlement of residence, name and surname, father's name, household sequential number, personal ID number, date and year of birth, sex, occupation, ethnicity, mother tongue, religion, educational attainment, and number of children born (for women only).

The overall data quality is good, except for frequent errors in the persons' names. These errors are mostly consequences of poor optical scanning of the original forms (for example misreading V for U, as in MVSIC) and no subsequent checking and editing. To correct the scanning errors we employed several strategies. First, computer software was developed and applied to detect combinations of letters that are impossible in the B/C/S language. The software used the B/C/S syntax in order to access the viability of combinations. The impossible combinations were corrected by eliminating the miss-shaped characters and inserting their most likely equivalents. Secondly, we developed correction tables to eliminate scanning mistakes from the names. The tables contained the actual names and their correct versions which both were used in a computer programme to produce suggestions regarding the corrections needed. Then, these suggestions were controlled manually to discard any wrong corrections produced by the software. The accepted corrections were then applied to the data. Native speakers of the B/C/S language who in addition were familiar with naming traditions in Bosnia and Herzegovina undertook all these tasks. Furthermore, we also developed and applied computer software that utilised household information to correct surnames within households. The software checked the correctness and consistency of family names within the same households. Household members, whose family name was different from the (correct) name of others in this particular household, received the correct name. For instance, if MUSIĆ was the correct surname in a household, the person enumerated as part of this household under the name MVSIC would become MUSIĆ.

A second data quality problem is that for a number of records the unique 13-digit personal ID number (*matični broj*, MB), introduced in the former Yugoslavia in 1981, is only partly available. The MB consists of date of birth (DOB, 7 digits), region of birth (2 digits), a sex-specific sequential number (3 digits), and a check digit (1 digit). For our needs the date of birth is essential, other components of the MB being of less value. The date of birth is missing only for a few per cent of the 1991 population.

The census includes a variable that relates to the ethnicity of the enumerated individuals. This allows us to study the population in the context of the same ethnicity declaration in both years

studied, in 1991 and also in 1997, for all those individuals whose records have been linked in the two data collections (in the 1991 census and 1997 voters register). The question on ethnicity in the census questionnaire was open-ended meaning that individuals could declare themselves as belonging to any ethnicity. The majority of the 1991 census population declared themselves as belonging to one of the three major ethnic groups in Bosnia and Herzegovina: Serbs, Muslims, or Croats. Other ethnic declarations in the 1991 census included Yugoslavs (relatively frequently), combinations of ethnicities, such as “Serb-Croat” or “Muslim-Serb” (infrequently), and other national (e.g. Vlach or Gypsies) or foreign (e.g. Hungarians) ethnicities (less frequently). Those who called themselves Yugoslavs, or by names combining two ethnicities, were often children from mixed marriages. The Yugoslavs did not feel they belonged to any particular ethnic group and frequently disliked ethnic categorisation.

All analyses presented in this report have been made for the four ethnic groups distinguished on the basis of ethnicity declarations from the 1991 census: Serbs, Muslims, Croats, and Others. The last group, Others, is a residual category and covers persons declaring themselves as Yugoslavs, combinations of ethnic groups, and other national or foreign ethnic groups.

The pre-war Bosnia and Herzegovina was divided into municipalities, *opština*, that were further broken down into sub-units called “settlements”. The number of pre-war municipalities was 109 whereas the number of settlements was 5829. The Dayton Accords divided some pre-war municipalities between the Federation and Republika Srpska resulting in a new division of the country into now 185 post-Dayton municipalities. The 1991 census information on the settlement of each person’s residence allowed us to look at the post-Dayton municipalities, and in particular separately at each part of the divided pre-war municipalities, in order to view population changes between 1991 and 1997.

The conversion scheme for the aggregation of settlements into post-Dayton municipalities was obtained from the OSCE Election Registration Office in Sarajevo and was used to group settlements into municipalities. A number of settlements were split between municipalities in the Federation and Republika Srpska. For the split settlements, we at first were unable to determine their post-Dayton municipality of residence and a uniform (or fifty-fifty) distribution of the split-settlement-population was applied. This solution was not satisfactory for five largest settlements: Mostar (133647), Sarajevo-Ilidža (192023), Bosanski Šamac (105945), Odžak (135348), and Trnovo (145700). Therefore, we additionally requested specific maps of census enumeration areas located within these settlements from the Statistical Office of the Federation of Bosnia and Herzegovina. The maps and the population size (by ethnicity) in the relevant enumeration areas were sent to us on 11 November 2002. Using this information we were able to precisely define statistically the area of all split settlements in question. The HERCEG-BOSNA area was generally not affected by this problem, except for Mostar, whose population had to be split using the maps of enumeration areas in this territory. The splitting (conducted in November 2002) was successful and afterwards also Mostar is not affected by this problem.

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As mentioned above the settlement of residence was reported in the 1991 census, but was unavailable for about 2% of the census respondents due to the reasons explained below.

We acquired *two* sets of census files, each set contained 109 files (one file for one pre-war municipality). The first set included a limited number of basic variables (15), but *no socio-economic items*, such as ethnicity and educational attainment. The second set contained all information collected on the census questionnaire (46 variables) except of two essential items, the place (i.e. settlement) and address of residence in 1991. Later enquiries revealed that the second set of files was virtually the same as the original census files. The first set of files was a copy of the census files prepared for OSCE in connection with the first post-war elections in 1996. For this purpose the place (i.e. settlements) of residence was included, derived from the code for enumeration area.

We had to merge the two census versions to include all variables in one set. During the merging we discovered that changes were made between the two versions, including deleting and adding records for some persons. In the latter case, the most recent version of the changed records was accepted. In addition, some cleaning of the data was done, in particular moving people who were recorded as being only temporarily present in a household. Finally, obvious duplicate records were removed. These procedures reduced the total number of records from 4,377,032 (second data set) to 4,298,896 (first data set). The second set contained 46 variables, the first set only 15. The 2% respondents with no settlement of residence were mainly the persons who were included in one set only and not in the other set and for whom individual links could not be established between the two sets of census files.

ANNEX B3. THE 1991 POPULATION CENSUS FOR BOSNIA AND HERZEGOVINA: METHODOLOGICAL PREPARATIONS, ORGANISATION AND CONDUCT¹¹

ORGANISATION OF THE CENSUS

- Articles 13 and 14 of the Law on the Registration of the Population, Households, Dwellings and Agricultural Farms in 1991 (SFRY Official Gazette no. 3/90) designated the organisations and official organs which were to organise and conduct the 1991 population census in the former Yugoslavia. (Federal statistics organisations, federal administration organs, and federal organisations and organs in charge of the census in the republics and autonomous provinces).
- Article 2 of the Law on Organising and Conducting the Registration of the Population, Households, Dwellings and Agricultural Farms in 1991 and Census Financing (Socialist Republic of Bosnia and Herzegovina (SRBiH) Official Gazette no. 22/90) designated the organs which were to organise and conduct the census in Bosnia and Herzegovina in 1991. (Republican Statistical Office, municipal commissions and republican and municipal administration organs).
- Articles 4, 5, 6 and 7 of the Federal Law on the Registration of the Population in 1991 regulated which data was to be acquired during the census. Any republic of the former Yugoslavia was allowed to collect information in addition to the standard census questionnaire, if it was of particular interest to the republic. The Republics' Census Laws could regulate that. Bosnia and Herzegovina did not add supplementary questions to the census questionnaire.
- The Assembly of the Socialist Federal Republic of Yugoslavia (SFRY) adopted the Law on the Registration of the Population, Households, Dwellings and Agricultural Farms in 1991 at the session of the Federal Chamber on 17 January, 1990. The Assembly of the Socialist Republic of Bosnia and Herzegovina (SRBiH) adopted the Law on Organising and Conducting the Registration of the Population, Households, Dwellings and Agricultural Farms in 1991, and decided on the means for financing the census at the session of the Chamber of Associated Labour on 30 July, 1990, and at the session of the Chamber of Municipalities at 30 July, 1990.
- Article 20 of the Federal Census Law and Article 19 of the Republic Law instructed the organisation in charge of statistics in the census to present a report to the Assembly upon

¹¹ This section was written by **Nora Selimović**, Expert Advisor on Aggregation and Analysis of Data and Development of the Methodology in the Field of Demography in the Bosnia and Herzegovina Agency for Statistics in Sarajevo. A summary of her professional qualifications is included at the end of Annex B3.

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completion of activities and census related tasks, as well as on the expenditure of financial means. This was to be done annually, by the end of March, for the previous year. Such reports were presented regularly.

- The Republican Statistical Office (RZS) conducted methodological and organisational preparations for conducting the 1991 census in Bosnia and Herzegovina. For that purpose, a Census Bureau was established in the Republican Statistical Office, consisting of 15 members - experts in census-related fields. The Bureau co-ordinated all census related activities. Several groups existed within the Census Bureau, each was responsible for conducting particular tasks as specified below:

Group 1 was responsible for plans of census enumeration areas for settlements (and parts of them), local communities, and municipalities, preparation of the lists P-8, P-9, and P-10, preliminary results for all territorial units starting from the census enumeration area up to the level of the republic.

Group 2 was responsible for printing all necessary material /such as questionnaires/ and its distribution to the municipal census commissions, and for storing the acquired census material.

Group 3 was responsible for census propaganda and contacts with municipal census commissions during the preparation of the census.

Group 4 was responsible for early registration of auxiliary forms, registration of individuals working for Yugoslav companies abroad, registration of individuals in penal-corrective facilities and of employees of the Secretariat of Internal Affairs.

Group 5 was responsible for financing the census, starting from preliminary cost calculations to cost realisation – preliminary calculations in municipalities, preparation of instructions, expense control, funding supply.

Group 6 was responsible for the preparation of manual and electronic processing of the census, recruitment and work premises.

Group 7 was responsible for the program for controlling the completeness of the acquired material, logical control and obtaining results.

Group 8 was responsible for selection of republican instructors, group leaders for the manual preparation of the data, automatic coding and processing of the data.

Group 9 was responsible for methodological aspects of the census: preparing and applying methodological guidelines (including additional instructions), guidelines for training of

the interviewers (also called enumerators), requests for automatic data processing, selecting samples for response completeness and exactness control.

Municipal census commissions were the immediate organisers of the census in the municipalities, while the enumerators were the immediate executors of the census in the field. During the 1991 census, over 21,000 personnel were directly involved, out of which 17,467 were enumerators, 2,423 municipal instructors, 1,500 members of municipal census commissions, 124 republican instructors and a number of other associates. The republican instructors were employed by the RZS and were selected by the Census Bureau, while the municipal census commissions selected municipal instructors and enumerators for their municipalities. Details of selection procedures are explained on page 5 of “The Instruction for the Municipal Census Commissions”.

In the 1991 census in BiH there were 109 municipalities and 17,467 census enumeration areas. In each municipality a municipal census commission was formed, which was composed of a president and 8 to 14 members, depending on the size of a given municipality. There was at least one republican instructor in each municipality, while in larger municipalities there were two instructors (Tuzla, Zenica, Banja Luka, Mostar, Sarajevo Centar, Novi Grad, Novo Sarajevo, Ilidža...).

All personnel involved in the census (members of municipal census commissions, republican instructors and enumerators) were obliged to undergo special training. Training sessions were organised at several levels (for republican instructors, members of municipal census commissions and municipal instructors and finally for enumerators). The Census Bureau members conducted the training for republican instructors. Republican instructors held training sessions for the members of municipal census commissions and for municipal instructors, and then municipal instructors trained enumerators. All census personnel received written instructions for their work. Republican instructors received “The Methodology for Preparing, Organising and Conducting the Census”. Enumerators received “The Instruction for the Enumerator” and a sketch (plan) of the census enumeration area where they had to conduct the interviews. Municipal census commissions received “The Methodology and Additional Instruction for the Work of the Municipal Census Commissions”.

DATA COLLECTION METHODS

The basic data collection method in the 1991 census was the so-called face-to-face interview method, i.e. a method where the enumerator asked questions and then he/she wrote down the answers in the census questionnaire. Enumerators received training on the methodology of the census and explanations of certain questions, as well as on the system of reporting responses. Census questionnaires were prepared for optical reading (i.e. scanning) and therefore enumerators were obliged to take special care when writing down the responses.

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The auxiliary form P-1/IN, designed for the BiH citizens temporarily working abroad and for their families, were completed by the citizens themselves (using the method of self-registration), while the enumerator was responsible for copying those forms into the forms foreseen for optical reading.

The guidelines given to the municipal census commissions regarding their tasks in relation to the self-completed forms conducted prior to the census were to be found in “The Instruction for the Work of the Municipal Census Commission” on page 11.

Page 30 of “The Methodology for Preparing and Conducting the Census” explains, in detail, why it was necessary to complete the self-registered forms prior to the proper census. Special instructions was prepared for completion of these forms. During the census, some items had to be defined more clearly, therefore additional instructions (five) were given in written form (those instructions were also presented in the attachment to the Methodology).

DATA SOURCES IN THE CENSUS

The responses recorded in the census questionnaires were mainly based on the statements made by the persons providing the enumerator with the data. It was not necessary to present documents to the enumerator for verification of responses. However, enumerators had the possibility to take data from documents, especially with regard to personal identification numbers, which could be obtained from the identity card, passport, birth certificate or from other personal documents.

For employed persons, the source of data regarding the personal identification number, level of education, occupation, work position, qualifications, as well as data about a given company, the code of the sub-group of activity and the identification number of the company, were taken from the company records maintained by that company for its employees. The companies were obliged to provide these items to each employee on the PL census auxiliary form before the census. During the interview the employees passed on the PL forms to the enumerator.

REGISTRATION OF PERSONS TEMPORARILY WORKING ABROAD

The aim of the census was to gather data on all Yugoslav citizens, both those staying in the country at the time of the census and those staying (working or otherwise) abroad at that time. Information on persons staying abroad was provided by the adult members of the family/household. If the entire household was abroad, then persons staying in the apartment at the time of the census, relatives or neighbours provided basic data about the absentees.

The Federal Statistical Office in co-operation with the Federal Secretariat for Foreign Affairs organised the registration of individuals abroad through diplomatic-consular representatives,

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and through clubs and associations of Yugoslav citizens abroad in order to include as many such individuals as possible.

For that purpose, 500,000 auxiliary forms (P-1/IN) were printed and distributed to these bodies. The completed P-1/IN forms were sent by the citizens themselves to the municipal census commissions, to the municipality of their permanent place of residence in Yugoslavia. That was done by March 20, 1991.

Because of the importance of the registration of individuals working abroad, the BiH Republican Statistical Office printed additional 100,000 auxiliary forms and distributed them to the municipal census commissions in all 109 municipalities in BiH. The additional forms were completed during visits of these individuals at their permanent residence in the period before the census. Precise guidelines on how to deal with these auxiliary forms were given on pages 11 and 12 of "The Instructions for the Work of the Municipal Census Commissions".

The population staying abroad was included in the census results and the exact number of these individuals is known at any given time. Therefore, the population concept applied in the census is "**concept de jure**".

INTERVIEWING

The enumerators and all other personnel engaged in the census acted following the guidelines described in "The Methodology for Preparing, Organising and Conducting the Census" and in "The Instruction for the Enumerator".

Before interviewing, the enumerator (supervised by a member of the municipal census commission or a municipal instructor) was obliged to physically check the boundaries of his/her census enumeration area using a map and a description of boundaries.

One or more census enumeration areas make up a statistical area. Statistical areas are permanent statistical territorial units that cover the entire territory of the former Yugoslavia, including Bosnia and Herzegovina. The creation of a network of statistical areas in 1959 had two basic aims: first to ensure that the entire territory is covered in censuses (and other large surveys) and second, if needed, to enable the re-calculation of data from one to another political territorial division. Through statistical areas the settlements, municipalities and other socio-political communities are defined. Documentation was created for every statistical area when it was determined, and it contained a map and a description of the boundaries of the area. A revision of this documentation is conducted before every census (or other large surveys) in order to determine all changes that possibly occurred in the areas during the intercensal period. After becoming acquainted with the boundaries of the enumeration area, the enumerator was obliged to prepare, together with the instructors, a plan of movement through the area, in order to avoid skipping units registered in the enumeration area.

The census was conducted in the period from 1 to 15 April, 1991, according to the situation at midnight of 31 March (the so-called “critical moment” of the census).

The enumerator, after completing the interviewing, was obliged to complete the census control form (Kontrolnik) by including preliminary results for a given enumeration area, and together with the census material (questionnaires), hand them over to the municipal instructor.

The municipal instructors examined the census material with each enumerator individually during the interviewing and also during the receipt of the census forms, by paying special attention to the completeness of the interviewing (by covering the entire census area), the completeness of answers to all questions and the exactness of preliminary results for the census area. When necessary, they returned the material to the enumerators for additional information and corrections. After receiving the material from all enumerators, the municipal instructors passed them on to the municipal census commission, which, upon receipt of the material from all instructors, was obliged to prepare preliminary results of the census in the census areas for the settlements and the municipality.

Thanks to the good organisation and great engagement of the municipal census commissions, the census was conducted in most municipalities without major problems, some minor difficulties that appeared were solved in good time. Therefore, we could conclude that the activities and tasks of the census were conducted in accordance with the Law on Organising the Census and methodological instructions. Good contact maintained between the Republican Statistical Office and the municipal census commissions certainly contributed to that (success) and this was achieved primarily through the republican instructors, and then by organising round the clock duty shifts in the Republican Office, whose employees maintained daily contacts with all municipal census commissions. In that manner all the problems were solved effectively, both of the methodological and the organisational nature.

THE PILOT CENSUS

A pilot census was carried-out in the BiH between April 1 and 10, 1988, in 10 selected census areas in eight municipalities (Banja Luka, Bijeljina, Kiseljak, Mostar, Ilidža and Zenica). The enumerators conducted the census, while observers, municipal and republican instructors supervised their work. Three employees of the Federal Statistical Office participated in the pilot as observers. The Census Bureau members inspected all regions where the pilot census was carried-out, both during training and the census itself.

The experience gained during the pilot census served for preparing and improving the questionnaires and methodological instructions for the 1991 census.

PROCESSING AND PUBLISHING OF THE PRIMARY RESULTS OF THE CENSUS

The deadline for the municipal census commissions to prepare the preliminary results in settlements was 21 April, which then had to be handed over to the Republican Statistical Office by 22 April. The deadlines were generally adhered to. Several large municipalities were late in providing their materials, this however did not significantly influence the deadlines set up by the Republican Statistical Office. The material from the municipality of Kupres was not received in time, and therefore could not be included in the preliminary results.

The Republican Statistical Office After commenced control of the preliminary results as soon as they arrived from the municipalities. Thanks to the fast procedure, the cleaned preliminary results, prepared for municipalities and settlements, were published in special publications on 15 May, 1991. Data on the total number of inhabitants, households, dwellings and agricultural farms, the number of persons working abroad, as well as data on the livestock in municipalities and settlements were presented in these publications. The ethnic composition of the population in municipalities was also included. All publications were issued without the figures for the municipality of Kupres, which were additionally published at 10 September, 1991, after the quality-control was conducted.

In the municipality of Kupres census related activities were not completed within the legal deadline, above all due to the insufficient work of the municipal census commission, inconsistent usage of the methodology and, in particular, Article 2 of the Federal Census Law, which regulates which persons were to be included in the census.

The employees of the Republican Statistical Office visited the Municipality of Kupres on several occasions and attempted to solve the problems, so that the census could be completed within the legal deadline and preliminary results processed. Since the problems could not be solved because of disagreements in the municipal census commission, the Republican Statistical Office informed the Government of the Socialist Republic of Bosnia and Herzegovina about the problems that appeared during the census in this municipality. The representatives of the Republican Statistical Office took over the census material from the municipality of Kupres and placed it in special rooms where the work on the quality control of the census material could continue.

During the examination of the census material, important aberrations from the Methodology and the Census Law were revealed, in particular, a number of persons were registered as permanent citizens of the municipality of Kupres contrary to the methodology and the law. For the purpose of determining as objectively as possible the data on the population in this municipality, the Republican Statistical Office proposed to the municipal census commission to conduct a control census, which was not accepted.

After that, the Republican Statistical Office commenced enquiring into the places of residence and citizenships for a certain number of individuals. A detailed examination of registration and de-registration of place of residence, citizenship and personal identification numbers of citizens (JMBG), obtained from the SRBiH Ministry of Internal Affairs, revealed that a number of persons who had been registered as residing in the municipality of Kupres had previously deregistered from this municipality. Also a number of persons had not registered their place of residence in this municipality, a number of persons had registered twice, some in two different settlements in the municipality of Kupres, or both in the municipality of Kupres and in the municipality of Bugojno. Some persons with changed surname had registered twice, one time under their old surname (maiden name) and second time under their new surname. Finally, a number of persons had been stripped off their SFRY, that is SRBiH, citizenship.

Keeping the above-mentioned considerations in mind, the census forms for 1,071 persons were excluded from the census material from the municipality of Kupres. It's worth mentioning that special attention was paid to the number of incorrect information items, therefore the decision to exclude a person from the census was only made when a number of information items regarding that person were incorrect.

The number of inhabitants in the municipality of Kupres was determined after the above-mentioned persons were excluded from the census material. Then the population size closely corresponded to the size expected by the Republican Statistical Office, based on demographic analyses (expert studies), and taking into consideration data on the natural and migratory movement of the population in this municipality.

QUALITY CONTROL OF THE DATA COLLECTED IN THE CENSUS

Pursuant to Article 1, Paragraph 3, of the Census Law ("SFRY Official Gazette", no. 3/90) between April 16 and 23, a statistical quality control of the completeness and exactness of the census data was conducted by randomly selecting 80 census areas in 49 municipalities (in 1991 there were 109 municipalities in BiH and 17,467 census areas). This type of control is the usual manner of determining data quality, it is based on scientific methods, as used in statistics all over the world. The control included re-collection of data from a number of registered units in chosen areas and re-completion of census questionnaires for randomly chosen households in those areas.

This was done based on special instructions for conducting data quality control. After the statistical control was finished, the newly collected data and the data collected during the proper census were matched and compared. It was then determined that there were no major aberrations between the two data sets.

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At the 17th session of the SR Bosnia and Herzegovina Government, held on 25 March, 1991, at proposal by the Commission for Internal Politics, Judicature and Administration, a decision was made that in the period between 14 and 20 April, 1991, the Republican Statistical Office should organise additional control of the data for all persons in respect to the following items: name and surname, father's name, the personal identification number, date of birth, place of residence, sex, nationality, mother tongue and religious affiliation.

Following this decision, the Republican Statistical Office prepared a bill on "Amendment to the Law on Organisation and Conduct of the Census", and printed special guidelines for the Control Census and distributed it to all municipalities. The Assembly of SR Bosnia and Herzegovina at the session of the Chamber of Citizens and the Chamber of Municipalities held on 22 April, 1991, regarding the proposal of the Government of SR Bosnia and Herzegovina on the Control Census, passed the following conclusion:

The bill on "Amendment to the Law on Organising and Conducting the Registration of the Population, Households, Dwellings and Agricultural Farms in 1991 and the Means for Financing the Census" ***should not be included in the agenda*** and the Republican Statistical Office should conduct the control census only in those regions, or municipalities, where omissions were found".

In accordance with the above-mentioned conclusion by the Assembly of the SRBiH, the Republican Statistical Office received nine requests for a control census. Four requests were received from municipal census commissions for the municipalities of Gruda, Prozor, Novi Grad and Srebrenica, five requests were submitted by political parties. For the municipalities of Nevesinje, Šipovo and Čajniče, the Party for Democratic Action sent the request for the control census, while for the municipalities of Novo Sarajevo and Prijedor the request was sent by the Serbian Democratic Party.

An expert commission was formed within the Republican Statistical Office composed of representatives of three nationalities, with the task of conducting the analysis of the preliminary results and based on that, to decide whether a control census should be conducted in these municipalities. After the examination of the census material and an expert demographic analysis, the commission decided, (and the Expert Group in the Republican Statistical Office accepted the proposal), that the results in the above-mentioned municipalities were in accordance with the natural and migratory movements of the population and that iteration of the census was unnecessary. The municipal census commissions were informed about this decision and given a detailed explanation.

PREPARATION OF THE CENSUS MATERIAL FOR PROCESSING

After the census material was gathered at the Republican Statistical Office, the preparation of this material for computer processing was organised, which included transfer of the data from

questionnaires to electronic media. The data entry was conducted by scanning. Before the material was passed on to be entered, a manual preparation of the questionnaires took place. The manual preparation was conducted on the basis of the Special Instructions for the Manual Preparation of the Census Material.

The preparation of the material and its entry through optical reading was completed by 12 December, 1991, which was in accordance with the planned timetable. In the Republican Statistical Office during the period from May to December, around 150 associates worked on the preparation and computerisation of the census material.

In order to prepare the census material for processing as effectively and qualitatively as possible, special software for coding items from census questionnaires was applied for the first time in this census. This phase was completed by the end of January 1992. Besides the employees of the Statistical Office, 40 associates were also engaged in these tasks.

CONTROL OF THE PROJECT AND LOGICAL CONTROL

After completion of data entry and automatic coding of items, control and corrections of the census material were conducted in two phases – control of the completeness and logical control. The control of the completeness was finished by the end of February 1992, and the Statistical Office published the final results of the census on the number of registered units in municipalities and inhabited areas as well as data on the national structure of the population, then on religious affiliation and mother tongue, as well as data on the number of persons working abroad and on the number of their family members (Statistical Bulletin no. 233, 234, 236 /probably 235/ and 236).

After the control of completeness, the logical control commenced. Logical control is a procedure for examining mutual logical (dis)harmony of responses to questions from the census forms. Corrections are included in this. In fact, this is only the final step in a number of logical controls of responses. It was foreseen that after this phase figures describing other structures of the population would be published, such as educational characteristics, social-economic position etc., as well as data on households, dwellings and agricultural farms.

With the aggression on Bosnia and Herzegovina in 1992, the processing of the census data ceased, therefore, the Statistical Office was unable to produce and publish all tables that had to be prepared according to the program of data processing. After the end of the military conflict, the Statistical Office managed to publish some more data in connection with the population and households (Statistical Bulletin no. 257, 271 and 272). The data on dwellings and agricultural farms were not published because this material never passed the phase of logical control.

CONCEPT DE JURE

During the 1991 census as well as during all post war censuses (1948, 1953, 1961, 1971, 1981), the population was registered according to the concept of a permanent population. The permanent population consists of persons who reside at a given location permanently, i.e. they have their permanent place of residence there, without taking into consideration whether at the time of the census (on the day March 31, 1991, at 24 hrs) they were at that location or were absent for any reason.

Persons temporarily working abroad, either for foreign employers or self-employed, as well as their family members who remain with them abroad, are registered as permanent citizens of the appropriate settlement in the country where their permanent place of residence is located.

The official data published on the population has passed all control phases, including the control for duplicates that was conducted on the level of each municipality.

Sarajevo, August 23, 2002

This section was written (originally in B/C/S) by **Nora Selimović**, Expert Advisor for Aggregation and Analysis of Data and the Development of the Methodology in the Field of Demography in the Bosnia and Herzegovina Agency for Statistics in Sarajevo.

Nora Selimović (NS) was born on 31 August, 1956, in Zenica. She graduated from the Faculty of Economics at the Sarajevo University on 30 June, 1979, and started working on 15 August, 1979, in the company ZPP (joint production and turnover) in Zenica. Since 12 December, 1980, she was employed at the Republican Statistical Office in Sarajevo in the Department of Population Statistics. In 1984, NS became Chief of the Department of Population Statistics. Since 1985, she worked on methodological preparations for the population census in 1991, as a member of the work group for the 1991 census methodology in the Federal Statistical Office in Belgrade and a member of the Census Bureau in the Republican Statistical Office in Sarajevo. She was involved in all census-related activities starting from methodological and organisational preparations up to producing census results. In October 1998, after the creation of the State Agency for Statistics in Bosnia and Herzegovina she commenced working in this institution. She is still employed there at present.

ANNEX B4. THE 1991 POPULATION CENSUS FOR BOSNIA AND HERZEGOVINA: POPULATION ABROAD

Summarised below are the results of the analysis of impact of pre-war emigration from Bosnia and Herzegovina on the *de facto* ethnic composition within the country in 1991 and on the estimated minimum number of refugees by 1998. The term 'pre-war emigration' is hereafter used for describing individuals, who temporarily resided abroad (in countries other than Yugoslavia) already by the time of 1991 population census. A person is considered a pre-war *émigré*, if her/his census record shows the value of the 'DUI' variable (length of the work/stay abroad, *dužina rada/boravka u inostranstvu*) other than '00'. This condition is fully consistent with another one, namely that the 'SDRZ' variable (country of work/stay abroad, *strana država rada/boravka*) is other than '000' – these two constraints may be used alternatively when extracting the data. Data used in this study were selected to ensure consistency with published sources covering the issue,¹² i.e. the duplicates additionally found by the Demographic Unit (approximately 8,500 in total for the whole census) were not excluded from the analysis. All analyses presented in this study are made for pre-war municipalities, due to split-settlement-conversion failures in some post-war (i.e. post-Dayton) municipalities, especially in Bosanski Šamac, Mostar, Odžak, Sarajevo-Ilidža, and Sarajevo-Trnovo. The analyses involving displaced persons and refugees were all conducted using only matched records (the 1997-98 voters register matched with the 1991 census).

The average share of persons staying abroad for the whole Bosnia and Herzegovina totalled ca. 5.4% (234,213 out of 4,377,032), however there were considerable differences between particular municipalities. And thus, the lowest shares of *émigrés* among the whole census population were observed for Kalinovik (0.3%) and Srebrenica (0.4%), while the highest – for Tomislavgrad (26.4%), Odžak (23.1%) and Livno (20.4%). The exact figures for all pre-war municipalities and ethnic groups are listed in Table 3(B4) at the end of this memo. Figures obtained from the PopDB are fully accordant with the 1994 publication of the R BiH State Office for Statistics.¹³

¹² Consistency issues are related to elimination of duplicates, which was only partly achieved by the statistical authorities in Bosnia. Duplicate control should be conducted by comparing records within municipalities and between municipalities. The "within municipality" control was completed by the Bosnian municipal census commissions in 1991 for all municipalities, and all found duplicates were deleted. The official census files do not contain duplicates within municipalities. The "between municipality" control had not been conducted by statistical authorities due to the outbreak of the 1992-95 conflict. Therefore, the Demographic Unit carried out a number of additional duplicate checks. Some 17,101 suspected records were identified on the basis of comparing first name, father's name, surname, and date of birth. Of these, some 8,506 records were flagged as duplicates. These records are normally excluded from studying the census data. Note that statistical authorities in Bosnia produced their official statistics without checking duplicates at the inter-municipal level. Therefore, small differences are usually seen in the figures produced locally in Bosnia and those produced at OTP.

¹³ Državni zavod za statistiku Republike Bosne i Hercegovine, *Gradani R BiH na privremenom radu – boravku u inostranstvu, rezultati za republiku po opštinama*, Statistički Bilten (Statistical Bulletin) No. 235, Sarajevo, June 1994.

ANNEX B4

Impact on the Ethnic Composition

The impact of excluding persons working or staying abroad by 1991 from the whole pre-war census population on the ethnic composition of particular municipalities in general appeared to be limited. There were only three exceptional cases of pre-war municipalities, where the ethnic majority in 1991 appeared to be different for *de facto* and *de jure* population, i.e. when the population residing abroad was excluded (*de facto*) or respectively included (*de jure*) in the census population. In four other municipalities, the dominant group remained the same, but the type of majority changed, either from absolute (more than 50% of the dominant group) to relative (less than 50%), or from relative to absolute. All above-mentioned municipalities are listed below:

Table 1(B4). Municipalities where Ethnic Composition for *De Facto* and *De Jure* Population Differed Most Considerably

Municipality (code + name)	Ethnic Majority in 1991 <i>De Facto</i> Population	Ethnic Majority in 1991 <i>De Jure</i> Population
10138 Bosanski Šamac	Serb (relative majority)	Croats (relative majority)
10219 Busovača	Muslims (relative majority)	Croats (relative majority)
10774 Novi Travnik	Muslims (relative majority)	Croats (relative majority)
10324 Fojnica	Muslims (absolute majority)	Muslims (relative majority)
10472 Kiseljak	Croats (relative majority)	Croats (absolute majority)
10502 Ključ	Serbs (absolute majority)	Serbs (relative majority)
10707 Odžak	Croats (relative majority)	Croats (absolute majority)

The complete list of pre-war municipalities showing their ethnic composition for both *de facto* and *de jure* population (respectively, excluding and including the émigrés) is shown in Table 4(B4). In that table, the above-mentioned seven municipalities are highlighted grey.

Impact on the Out-Of-Country Voters 1998

Because of the existence of the population temporarily residing abroad in 1991, there might be a suspicion that the estimates of refugees produced by the Demographic Unit are inflated by including in DU statistics those voters who resided abroad already at the time of the 1991 census. This population group can be seen as pre-war emigration from Bosnia and Herzegovina, and thus, unrelated to the 1992-95 conflict. This issue is however questionable because, irrespective of when those persons left Bosnia, they had not returned until 1998, perhaps because of the conflict.

In order to investigate the impact of pre-war emigration from Bosnia and Herzegovina on the estimated minimum numbers of refugees by 1998, we examined the 1991 place of residence of the out-of-country (OCV) voters reported in the 1998 voters register. In other words, we checked how many of the 1998 OCV voters left the country before the 1991 census (pre-census emigration) and how many of them left after the census (post-census emigration). The pre-census emigration can be seen as war-unrelated and the post-census can be considered as war-related.

Before completing the proper analysis, we investigated voters' place of registration in the 1998 elections: whether it took place in Bosnia and Herzegovina, in Croatia, in the FRY or in other countries. To ensure a better credibility of results, 55,341 individuals registered in Croatia and 54,624 registered in the FRY are excluded from the analysis. The reason for these exclusions was that these particular out-of-country voters were in fact in Bosnia and Herzegovina in 1991, even though they could be temporarily working or staying in present-day Croatia or FRY.¹⁴ In the 1991 census they were reported as actually residing in Bosnia and Herzegovina, not abroad. In 1998 they registered to vote abroad, and thus according to our definition of refugees they have been post-census emigration to Croatia or Yugoslavia. Only the voters from countries other than the former Yugoslav republics are considered in tracing population movements, and only this category is hereafter referred to as 'Out-of-Country' voters.

The analysis showed, that for the whole country some 181,273 persons out of the overall number of 209,440 Out-of-Country voters (i.e. **86.6%**) were those who were post-census refugees (left the country after the 1991 census), while they actually resided in Bosnia and Herzegovina in 1991. In other words, only 28,167 of the 1998 Out-of-Country voters (i.e. **13.4%**) were those, who already stayed or worked abroad in 1991. This group can be seen as

¹⁴ These voters who registered in Croatia or FRY should be considered as belonging to *de facto* population in 1991. A query on the VSP variable from the census (frequency of returns home while working or studying elsewhere in the former Yugoslavia: daily, weekly, less frequently, or unknown) has shown the following:

- Of those OCV voters from BH reported in 1998 in present-day Croatia (55,341 in total) only 3,117 voters systematically travelled in 1991 to other Yugoslav republics (2,650 to SR of Croatia). Of the 3,117 travellers, approximately 1,532 visited their homes less frequently than daily or weekly (excluding 115 invalid records). The vast majority of the 55,341 voters can be thus considered as *de facto* population (as they returned home daily or weekly).
- Of those OCV voters from BH reported in 1998 in present-day FRY (54,624 in total) only 1,265 voters systematically travelled in 1991 to other Yugoslav republics (308 to Serbia, 205 to Vojvodina, 175 to Croatia). Of the 1,265 travellers, approximately 784 visited their homes less frequently than daily or weekly (excluding 74 invalid records). The vast majority of the 54,624 voters can be therefore considered *de facto* population (as they returned home daily or weekly).

Summing up, by excluding the voters registered in 1998 in Croatia and FRY from the analysis discussed in this chapter, we substantially underestimated the fraction of post-census émigrés among all refugees, and automatically overestimated the fraction of pre-census emigration.

pre-census emigration. This leads to the conclusion, that on the country level the size of a bias related to including pre-war *émigrés* in the total number of refugees is not substantial.

For the particular ethnic groups it can be seen, that 63.8% of the Out-of-Country voters of a Serb ethnicity and 68.5% of the Croats are the post-census refugees, while the figures for Muslims and Others are substantially higher, totalling 90.8 and 90.7%, respectively. Therefore, for the largest group of post-census (or war-time) refugees, i.e. the Muslims (74,3% of the total number of Out-of-Country voters), our figures seem to be least overestimated.

Regardless of the above-mentioned conclusions, significant differences could be observed at the municipal level. Five lowest fractions of post-census refugees (below 50%) were obtained for the municipalities of: Grude (18.0%), Posušje (22.0%), Lištica/Široki Brijeg (26.3%), Bosansko Grahovo (27.3%) and Čitluk (35.2%). The exact figures for all pre-war municipalities and ethnic groups are listed in Table 5(B4).

Note that the total minimum number of refugees and displaced persons reported in this study for the whole Bosnia and Herzegovina is 674,350 individuals. If some 28,167 pre-census *émigrés* are included in this total, then about 4.2 % of the total is questioned, which is less than the usually accepted error of 5 per cent. If the total of 28,167 persons is distributed proportionally to the fractions of ethnic groups among refugees, we obtain the following approximated numbers of pre-census refugees for each ethnic group:¹⁵

Serbs:	4,625	(2.1 % of all DPs and refugees)
Muslims:	14,563	(4.6 %)
Croats:	6,944	(6.6 %)
Others:	2,035	(5.3 %)

All in all, the impact of including the pre-census emigration in the minimum numbers of DPs and refugees is within the acceptable error. It is however not necessarily correct to assume that all these *émigrés* should be excluded from statistics of refugees.

A second issues investigated in this study attempts to answer what portion of the pre-census emigration returned to Bosnia and Herzegovina, but not to their pre-war residence, and therefore they are included in our statistics of displaced persons. One could argue that these

¹⁵ The table attached in this footnote explains the calculations for the whole Bosnia:

Ethnicity	DPs and Refugees	Of which Refugees	Ethnicity of Refugees (%)	Bias Abs. Size	Bias Per cent
Serbs	217,283	48,350	0.164	4,625	0.021
Muslims	314,382	152,224	0.517	14,563	0.046
Croats	104,579	72,591	0.247	6,944	0.066
Others	38,106	21,267	0.072	2,035	0.053
Total	674,350	294,432	1.000	28,167	na

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particular returnees would inflate the DPs numbers estimated by the Demographic Unit (they were absent in BH during the 1991 census but present in BH - as DPs - in 1997/98).

The issue is related to the 1991 *émigrés*, who returned to Bosnia and Herzegovina and were found in the 1997/98 electoral lists as registered within the country, i.e. in one (not necessarily the same as pre-war) of the 149 new municipalities. Out of the total number of 20,248 such records that were identified (i.e. the census records matched with the voter records having valid *REGMUN* codes), only some 1,742 (8.6%) appeared to be internally displaced, i.e. registered in post-war municipality which was different than the area, where they were enumerated during the 1991 census. Another 17,476 (86.2%) persons were registered in the same area as they were enumerated in 1991, while for the remaining 1,066 (5.3%) there is no information about their pre-war residence in terms of post-war municipalities, as they originate from the split settlements. The ethnic breakdown of these figures is given below:

Table 2(B4). Pre-Census Émigré Returns to Bosnia and Herzegovina by Ethnicity and Displacement Status in 1998

Émigré returns to BH	ALL	Serbs	Muslims	Croats	Others
TOTAL, <i>of which</i> :	20,284	7,936	5,113	6,468	767
- not displaced	17,476 (86.2%)	6,655 (83.9%)	4,383 (85.7%)	5,829 (90.1%)	609 (79.4%)
- displaced	1,742 (8.6%)	729 (9.2%)	554 (10.8%)	365 (5.6%)	94 (12.3%)
- unknown	1,066 (5.3%)	552 (7.0%)	176 (3.4%)	274 (4.2%)	64 (8.3%)

The main conclusion is, that as the vast majority of returns of pre-war émigrés to Bosnia and Herzegovina are not displaced persons, therefore the numbers of persons internally displaced presented in our demographic reports, i.e. without considering the pre-war residence abroad, are not substantially biased at all, especially at the country level. This conclusion remains valid for all ethnic groups (Serbs, Muslims, Croats and Others). Moreover, the numbers of these particular returnees are generally small and this is another reason that their impact cannot be considerable.

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Table 3(B4). Population Temporarily Residing Abroad during the 1991 Census and Its Fraction in the Total Census Population, By Ethnicity and Municipality

Opstina	Opstina Name	Pop. IN	Pop. OUT	% OUT	% Serbs OUT	% Muslims OUT	% Croats OUT	% Others OUT
10014	BANOVIĆI	26268	322	1.2%	1.8%	0.6%	2.2%	4.6%
10022	BANJA LUKA	186709	8983	4.6%	5.3%	1.7%	4.7%	4.6%
10049	BIHAC	66308	4424	6.3%	1.7%	7.1%	7.5%	8.3%
10057	BIJE LJINA	89789	7199	7.4%	7.8%	3.6%	10.2%	17.7%
10065	BILEĆA	13140	144	1.1%	1.2%	1.0%	0.0%	0.1%
10073	BOSANSKA DUBICA	28566	3040	9.6%	7.9%	7.0%	6.6%	28.1%
10081	BOSANSKA GRADISKA	55887	4087	6.8%	6.3%	5.3%	10.3%	13.0%
10090	BOSANSKA KRUPA	54869	3451	5.9%	4.1%	6.3%	12.9%	12.7%
10103	BOSANSKI BROT	32088	2050	6.0%	5.1%	4.4%	6.8%	7.3%
10111	BOSANSKI NOVI	40518	1147	2.8%	1.7%	4.4%	7.7%	3.6%
10120	BOSANSKI PETROVAC	15005	616	3.9%	2.3%	5.8%	8.3%	25.3%
10138	BOSANSKI SAMAC	28743	4217	12.8%	8.0%	1.7%	18.4%	16.5%
10146	BOSANSKO GRAHOVO	7859	452	5.4%	5.3%	0.0%	8.4%	6.5%
10154	BRATUNAC	33073	546	1.6%	1.2%	1.8%	5.0%	2.3%
10162	BRCKO	76121	11506	13.1%	9.9%	4.7%	28.6%	17.8%
10189	BREZA	16969	348	2.0%	2.1%	1.4%	4.9%	6.2%
10197	BUGOJNO	43808	3081	6.6%	3.6%	4.0%	9.7%	16.9%
10219	BUSOVACA	17604	1275	6.8%	2.6%	2.3%	11.3%	5.5%
10227	CAZIN	58724	4685	7.4%	6.9%	7.3%	13.0%	13.0%
10235	CAJNICE	8874	82	0.9%	1.0%	0.7%	0.0%	2.2%
10243	CAP LJINA	26889	993	3.6%	1.0%	0.8%	5.4%	5.0%
10251	CELINAC	17652	1061	5.7%	5.5%	3.3%	7.9%	16.2%
10260	CITLUK	13168	1915	12.7%	0.0%	0.0%	12.4%	60.8%
10278	DERVENTA	52344	4145	7.3%	8.5%	1.8%	8.2%	6.0%
10286	DOBOJ	98096	4453	4.3%	4.4%	1.7%	8.1%	11.3%
10294	DONJI VAKUF	24124	420	1.7%	1.4%	1.4%	5.9%	7.4%
10308	TOMISLAVGRAD	22083	7926	26.4%	1.6%	5.7%	29.4%	31.7%
10316	FOĆA	39821	692	1.7%	1.4%	1.6%	5.4%	6.6%
10324	FOJNICA	15121	1174	7.2%	4.5%	2.1%	14.5%	2.4%
10332	GACKO	10668	120	1.1%	1.1%	1.0%	0.0%	2.4%
10359	GLAMOC	12205	388	3.1%	2.5%	4.3%	8.2%	12.9%
10367	GORAZDE	36712	861	2.3%	1.7%	2.3%	3.8%	5.7%
10375	GORNJI VAKUF	22452	2729	10.8%	4.5%	5.7%	17.4%	18.4%
10383	GRACANICA	57289	1845	3.1%	3.0%	1.9%	5.3%	21.7%
10391	GRADACAC	51707	4874	8.6%	8.0%	2.6%	25.4%	29.8%
10405	GRUDE	14080	2278	13.9%	22.2%	0.0%	13.6%	55.6%
10413	HAN PJEŠAK	6250	98	1.5%	1.7%	1.2%	14.3%	3.2%
10421	JABLANICA	12306	385	3.0%	0.2%	1.7%	4.5%	15.9%
10430	JAĆE	43542	1465	3.3%	1.8%	2.0%	5.3%	3.7%
10448	KAKANJ	53196	2754	4.9%	1.5%	1.7%	10.6%	10.3%
10456	KALESIJA	38833	2976	7.1%	9.5%	6.4%	17.1%	12.9%
10464	KALINOVIK	4655	12	0.3%	0.1%	0.5%	0.0%	0.0%
10472	KISE LJAK	21477	2687	11.1%	1.9%	5.7%	15.0%	20.9%
10499	KLADANJ	15542	528	3.3%	2.6%	3.1%	0.0%	13.3%
10502	KLJUC	35823	1568	4.2%	3.1%	5.3%	5.2%	5.1%
10529	KONJIC	42206	1672	3.8%	0.5%	2.3%	8.4%	6.1%
10537	KOTOR VAROS	34379	2474	6.7%	3.7%	3.6%	13.9%	6.0%
10545	KRESEVO	6209	522	7.8%	5.9%	2.0%	9.1%	13.3%
10553	KUPRES	8416	1202	12.5%	10.2%	3.9%	17.0%	18.0%
10561	LAKTASI	27917	1915	6.4%	5.5%	2.0%	6.0%	15.5%
10570	LISTICA	23413	3747	13.8%	3.4%	11.1%	13.7%	41.0%
10588	LIVNO	32307	8293	20.4%	3.7%	4.0%	26.3%	13.2%
10596	LOPARE	28536	4001	12.3%	15.4%	5.1%	20.6%	30.5%
10600	LUKAVAC	55457	1613	2.8%	2.6%	1.9%	5.8%	9.5%
10618	LJUBINJE	4126	46	1.1%	1.0%	1.5%	2.6%	1.9%
10626	LJUBUSKI	23720	4620	16.3%	4.6%	1.0%	17.0%	27.5%
10634	MAGLAI	41626	1762	4.1%	2.7%	2.9%	6.3%	14.0%
10642	MODRICA	31304	4309	12.1%	12.9%	2.3%	20.1%	16.9%
10669	MOSTAR	122071	4557	3.6%	1.2%	2.1%	6.6%	3.3%
10677	MRKONJIC GRAD	25680	1715	6.3%	6.4%	4.0%	5.8%	11.8%
10685	NEUM	3974	351	8.1%	0.0%	0.0%	9.0%	5.9%
10693	NEVESINJE	13886	562	3.9%	3.2%	5.2%	10.0%	11.9%
10707	ODZAK	23106	6950	23.1%	24.5%	2.5%	29.9%	27.9%
10715	OLOVO	16652	304	1.8%	1.7%	1.2%	7.4%	11.7%
10723	ORASJE	24683	3684	13.0%	4.8%	1.2%	15.8%	10.0%
10731	POSUSJE	14131	3003	17.5%	11.1%	33.3%	17.3%	39.1%
10740	PRIJEDOR	106968	5575	5.0%	4.2%	5.3%	5.4%	6.5%
10758	PRNJAVOR	42377	4678	9.9%	10.5%	5.4%	5.4%	14.1%
10766	PROZOR	18040	1720	8.7%	0.0%	4.3%	11.2%	14.9%
10774	NOVI TRAVNIK	29570	1143	3.7%	0.9%	1.0%	7.0%	4.8%
10782	ROGATICA	21597	381	1.7%	1.7%	1.6%	10.5%	7.3%
10804	RUDO	11426	145	1.3%	1.2%	0.9%	0.0%	6.6%
10812	SANSKI MOST	55702	4605	7.6%	3.7%	9.6%	6.7%	26.9%

Note: Population 'IN' denotes persons having their 'DUI' variable equal '00' (or 'SDRZ' variable equal '000', equivalently), population 'OUT' – other cases, i.e. *émigrés* (those temporarily residing abroad).

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Table 3(B4). - Continued

Opstina	Opstina Name	Pop. IN	Pop. OUT	% OUT	% Serbs OUT	% Muslims OUT	% Croats OUT	% Others OUT
10839	SARAJEVO-CENTAR	77749	1537	1.9%	1.1%	1.5%	2.5%	3.5%
10847	SARAJEVO-HADZICI	23850	350	1.4%	0.6%	1.4%	5.4%	3.6%
10855	SARAJEVO-ILIDZA	66295	1642	2.4%	1.2%	2.4%	4.9%	4.3%
10863	SARAJEVO-ILIJAS	24623	561	2.2%	1.8%	1.5%	5.7%	6.4%
10871	SARAJEVO-NOVI GRAD	134860	1756	1.3%	0.9%	1.2%	1.9%	2.0%
10880	SARAJEVO-NOVO SARAJEVO	93638	1451	1.5%	1.1%	1.6%	2.2%	1.9%
10898	SARAJEVO-PALE	16021	334	2.0%	1.7%	2.0%	3.1%	9.7%
10901	SARAJEVO-STARI GRAD	49779	965	1.9%	1.3%	1.7%	2.7%	3.8%
10910	SARAJEVO-TRNOVO	6927	64	0.9%	0.8%	0.7%	6.3%	8.8%
10928	VOGOSCA	24034	613	2.5%	1.7%	1.8%	5.6%	7.8%
10936	SKENDER VAKUF	18722	696	3.6%	4.0%	0.6%	2.7%	8.3%
10944	SOKOLAC	14570	313	2.1%	1.8%	2.4%	0.0%	11.0%
10952	SRBAC	19328	2512	11.5%	11.1%	8.8%	15.1%	18.5%
10979	SREBRENICA	36518	148	0.4%	0.5%	0.4%	0.0%	1.1%
10987	SREBRENİK	38373	2523	6.2%	11.3%	2.8%	16.1%	27.1%
10995	STOLAC	18070	611	3.3%	0.7%	1.5%	6.8%	7.8%
11002	SEKOVICI	9408	221	2.3%	1.7%	0.9%	12.5%	21.6%
11029	SIPOVO	14986	593	3.8%	3.5%	4.6%	9.7%	7.3%
11037	TESLİC	56412	3442	5.8%	5.3%	2.1%	10.5%	9.5%
11045	TESANJ	46311	2169	4.5%	3.6%	2.5%	11.4%	9.9%
11053	TİTOV DRVAR	16944	182	1.1%	1.0%	0.0%	0.0%	2.4%
11061	TRAVNIK	66512	4235	6.0%	1.0%	2.1%	12.2%	6.0%
11070	TREBINJE	30739	257	0.8%	0.7%	1.1%	2.8%	0.7%
11088	TUZLA	127833	3785	2.9%	2.5%	1.1%	4.4%	5.9%
11096	UGLJEVIK	23948	1639	6.4%	8.0%	3.3%	10.7%	13.8%
11100	VARES	21789	414	1.9%	1.0%	0.7%	2.6%	3.4%
11118	VELIKA Kladusa	50601	2307	4.4%	1.3%	4.2%	8.1%	10.7%
11126	VİSOKO	45178	982	2.1%	1.0%	1.5%	7.1%	10.4%
11134	VİSEGRAD	20636	563	2.7%	2.6%	2.4%	3.1%	6.6%
11142	VİTEZ	26463	1396	5.0%	1.9%	0.9%	8.3%	9.8%
11169	VLASENICA	33161	781	2.3%	1.7%	2.1%	0.0%	17.9%
11177	ZAVİDOVİCİ	55879	1285	2.2%	1.5%	1.5%	4.9%	6.1%
11185	ZENICA	143080	2437	1.7%	1.3%	1.1%	3.1%	2.7%
11193	ZVORNIK	78048	3247	4.0%	5.2%	3.1%	13.9%	5.0%
11207	ZEPCE	21827	1139	5.0%	5.7%	2.4%	7.6%	7.3%
11215	ZIVINICE	53271	1512	2.8%	4.2%	1.7%	3.3%	14.4%
Total Bosnia and Herzegovina		4142819	234213	5.4%	4.4%	2.9%	12.0%	7.9%

Note: Population 'IN' denotes persons having their 'DUI' variable equal '00' (or 'SDRZ' variable equal '000', equivalently), population 'OUT' – other cases, i.e. *de facto émigrés* (those temporarily residing abroad)..

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Table 4(B4). Ethnic Composition in Pre-War Municipalities in Bosnia and Herzegovina
Estimated for *De Jure* and *De Facto* Population Reported in the 1991 Census

Opština	Opština Name	ALL Serbs	ALL Muslims	ALL Croats	ALL Others	Serbs in BH	Muslims in BH	Croats in BH	Others in BH
10014	BANOVIĆI	17.0%	72.0%	2.1%	9.0%	16.9%	72.4%	2.0%	8.7%
10022	BANJA LUKA	54.5%	14.5%	14.8%	16.1%	54.1%	15.0%	14.8%	16.1%
10049	BIHAC	17.9%	66.0%	7.9%	8.2%	18.8%	65.4%	7.8%	8.0%
10057	BIJELOJINA	59.1%	31.1%	0.5%	9.3%	58.9%	32.3%	0.5%	8.2%
10065	BILEĆA	80.0%	14.6%	0.3%	5.1%	79.9%	14.6%	0.3%	5.2%
10073	BOSANSKA DUBICA	68.7%	20.3%	1.5%	9.5%	69.9%	20.9%	1.6%	7.5%
10081	BOSANSKA GRADISKA	59.6%	26.4%	5.7%	8.3%	59.9%	26.8%	5.5%	7.8%
10090	BOSANSKA KRUPA	23.7%	73.9%	0.2%	2.2%	24.2%	73.6%	0.2%	2.0%
10103	BOSANSKI BROD	33.3%	12.0%	41.0%	13.7%	33.7%	12.2%	40.6%	13.5%
10111	BOSANSKI NOVI	60.2%	33.6%	1.0%	5.2%	60.9%	33.1%	0.9%	5.1%
10120	BOSANSKI PETROVAC	74.8%	21.0%	0.3%	3.9%	76.1%	20.6%	0.3%	3.0%
10138	BOSANSKI SAMAC	41.3%	6.8%	44.7%	7.2%	43.6%	7.6%	41.8%	6.9%
10146	BOSANSKO GRAHOVO	94.9%	0.1%	2.7%	2.2%	95.0%	0.2%	2.6%	2.2%
10154	BRATUNAC	34.1%	64.0%	0.1%	1.8%	34.3%	63.9%	0.1%	1.8%
10162	BRČKO	20.7%	44.0%	25.4%	10.0%	21.4%	48.3%	20.9%	9.4%
10189	BREŽA	12.2%	75.5%	4.9%	7.3%	12.2%	76.0%	4.8%	7.0%
10197	BUGOJNO	18.5%	41.9%	34.2%	5.4%	19.1%	43.1%	33.0%	4.8%
10219	BUSOVACA	3.3%	44.7%	48.1%	3.9%	3.4%	46.9%	45.7%	3.9%
10227	CAZIN	1.2%	97.2%	0.2%	1.3%	1.2%	97.3%	0.2%	1.3%
10235	CAJNICE	52.6%	44.8%	0.1%	2.6%	52.5%	44.9%	0.1%	2.6%
10243	CAPLJINA	13.5%	27.2%	53.7%	5.6%	13.8%	28.0%	52.6%	5.5%
10251	CELINAC	88.5%	7.7%	0.4%	3.5%	88.7%	7.9%	0.4%	3.1%
10260	CITLUK	0.1%	0.7%	98.3%	0.9%	0.1%	0.8%	98.6%	0.4%
10278	DERVENTA	40.6%	12.5%	38.8%	8.1%	40.1%	13.3%	38.5%	8.2%
10286	DOBOJ	38.8%	40.1%	12.9%	8.2%	38.8%	41.2%	12.4%	7.6%
10294	DONJI VAKUF	38.8%	55.0%	2.8%	3.4%	39.0%	55.2%	2.7%	3.2%
10308	TOMISLAVGRAD	1.9%	10.5%	86.6%	1.0%	2.6%	13.4%	83.0%	1.0%
10316	FOČA	45.2%	51.2%	0.2%	3.4%	45.3%	51.2%	0.2%	3.2%
10324	FOJNICA	1.0%	49.2%	40.6%	9.2%	1.0%	51.9%	37.4%	9.7%
10332	GACKO	61.7%	35.6%	0.3%	2.3%	61.7%	35.7%	0.3%	2.3%
10359	GLAMOC	79.0%	17.9%	1.5%	1.7%	79.4%	17.7%	1.4%	1.5%
10367	GORAŽDE	26.2%	69.9%	0.2%	3.7%	26.3%	69.9%	0.2%	3.5%
10375	GORNJI VAKUF	0.4%	55.8%	42.5%	1.3%	0.5%	59.0%	39.4%	1.2%
10383	GRACANICA	22.9%	71.9%	0.2%	5.0%	23.0%	72.8%	0.2%	4.0%
10391	GRADACAC	19.8%	59.6%	15.2%	5.4%	19.9%	63.5%	12.4%	4.1%
10405	GRUPE	0.1%	0.0%	99.1%	0.8%	0.0%	0.0%	99.5%	0.4%
10413	HAN PUEŠAK	57.9%	40.1%	0.1%	2.0%	57.8%	40.2%	0.1%	1.9%
10421	JABLANICA	4.0%	71.6%	18.1%	6.3%	4.1%	72.6%	17.8%	5.5%
10430	JAICE	19.2%	38.6%	35.1%	7.1%	19.5%	39.1%	34.4%	7.0%
10448	KAKANJ	8.8%	54.4%	29.6%	7.3%	9.1%	56.2%	27.8%	6.8%
10456	KALESIJA	18.3%	79.2%	0.1%	2.4%	17.8%	79.9%	0.1%	2.2%
10464	KALINOVIK	60.6%	36.7%	0.4%	2.3%	60.6%	36.7%	0.4%	2.3%
10472	KISELJAK	3.0%	40.4%	51.8%	4.8%	3.3%	42.9%	49.5%	4.3%
10499	KLADANJ	24.6%	72.2%	0.2%	3.0%	24.8%	72.3%	0.2%	2.7%
10502	KLJUC	49.5%	47.2%	0.9%	2.4%	50.1%	46.7%	0.9%	2.4%
10529	KONJIC	15.1%	54.2%	26.2%	4.4%	15.6%	55.1%	25.0%	4.3%
10537	KOTOR VAROS	38.1%	30.1%	29.0%	2.8%	39.4%	31.1%	26.8%	2.8%
10545	KRESEVO	0.5%	22.7%	69.8%	6.9%	0.5%	24.2%	68.8%	6.5%
10553	KUPRES	50.6%	8.3%	39.6%	1.4%	51.9%	9.2%	37.6%	1.4%
10561	LAKTASI	81.0%	1.4%	8.6%	9.0%	81.8%	1.4%	8.6%	8.1%
10570	LISTICA	0.5%	0.0%	98.9%	0.5%	0.6%	0.0%	99.0%	0.4%
10588	LIVNO	9.6%	14.2%	72.2%	3.9%	11.7%	17.1%	66.9%	4.3%
10596	LOPARE	56.1%	36.8%	3.9%	3.2%	54.1%	39.9%	3.5%	2.5%
10600	LUKAVAC	21.3%	66.6%	3.7%	8.4%	21.4%	67.2%	3.6%	7.8%
10618	LJUBINJE	89.8%	8.0%	0.9%	1.3%	89.9%	7.9%	0.9%	1.3%
10626	LJUBUSKI	0.2%	5.6%	92.2%	2.0%	0.3%	6.6%	91.4%	1.7%
10634	MAGLAJ	30.7%	45.0%	19.3%	5.0%	31.1%	45.6%	18.8%	4.5%
10642	MODRICA	35.2%	29.1%	27.5%	8.2%	34.9%	32.4%	25.0%	7.7%
10669	MOSTAR	18.8%	34.5%	34.0%	12.7%	19.3%	35.1%	32.9%	12.7%
10677	MRKONJIC GRAD	76.8%	11.9%	7.8%	3.4%	76.7%	12.2%	7.8%	3.2%
10685	NEUM	4.8%	4.4%	87.7%	3.1%	5.2%	4.8%	86.8%	3.2%
10693	NEVESINJE	74.1%	22.9%	1.5%	1.5%	74.7%	22.6%	1.4%	1.4%
10707	ODŽAK	18.9%	20.7%	54.3%	6.1%	18.5%	26.2%	49.5%	5.7%
10715	OLOVO	18.8%	74.9%	3.8%	2.5%	18.9%	75.3%	3.6%	2.3%
10723	ORASJE	14.9%	6.7%	75.1%	3.4%	16.3%	7.6%	72.6%	3.5%
10731	POSUSJE	0.1%	0.0%	99.0%	0.9%	0.1%	0.0%	99.2%	0.7%
10740	PRJEDOR	42.2%	43.8%	5.6%	8.3%	42.6%	43.6%	5.6%	8.2%
10758	PRNJAVOR	71.2%	15.2%	3.7%	10.0%	70.7%	15.9%	3.8%	9.5%
10766	PROZOR	0.2%	36.5%	62.0%	1.2%	0.2%	38.3%	60.3%	1.1%
10774	NOVI TRAVNIK	13.3%	37.8%	39.6%	9.3%	13.7%	38.9%	38.2%	9.2%
10782	ROGATICA	38.2%	60.0%	0.1%	1.7%	38.2%	60.1%	0.1%	1.6%
10804	RUDO	70.4%	27.1%	0.0%	2.5%	70.4%	27.2%	0.0%	2.4%
10812	SANSKI MOST	42.1%	46.6%	7.2%	4.2%	43.8%	45.6%	7.2%	3.3%

Note: Population 'in BH' denotes persons having their 'DUI' variable equal '00' (or 'SDRZ' variable equal '000', equivalently), i.e. *de facto* residing in BH in 1991, while the 'ALL' (*de jure*) population includes also persons temporarily residing (working or not) abroad.

ANNEX B4

Table 4(B4). Continued

Opstina	Opstina Name	ALL Serbs	ALL Muslims	ALL Croats	ALL Others	Serbs in BH	Muslims in BH	Croats in BH	Others in BH
10839	SARAJEVO-CENTAR	20.9%	49.8%	6.8%	22.5%	21.1%	50.0%	6.8%	22.1%
10847	SARAJEVO-HADZICI	26.3%	63.4%	3.1%	7.2%	26.5%	63.4%	3.0%	7.1%
10855	SARAJEVO-ILIDZA	36.8%	43.1%	10.2%	9.9%	37.3%	43.1%	9.9%	9.7%
10863	SARAJEVO-ILIJAS	45.0%	42.0%	6.9%	6.1%	45.1%	42.4%	6.6%	5.9%
10871	SARAJEVO-NOVI GRAD	27.5%	50.6%	6.5%	15.4%	27.6%	50.6%	6.4%	15.3%
10880	SARAJEVO-NOVO SARAJEVO	34.5%	35.4%	9.2%	20.8%	34.7%	35.4%	9.2%	20.7%
10898	SARAJEVO-PALE	69.0%	26.7%	0.8%	3.5%	69.3%	26.7%	0.8%	3.3%
10901	SARAJEVO-STARI GRAD	10.1%	77.4%	2.2%	10.3%	10.2%	77.5%	2.2%	10.1%
10910	SARAJEVO-TRNOVO	29.5%	68.2%	0.2%	2.1%	29.5%	68.4%	0.2%	1.9%
10928	VOGOSCA	35.7%	50.7%	4.3%	9.2%	36.0%	51.1%	4.2%	8.7%
10936	SKENDER VAKUF	68.3%	5.5%	24.6%	1.6%	68.0%	5.7%	24.8%	1.5%
10944	SOKOLAC	68.4%	30.2%	0.1%	1.3%	68.6%	30.1%	0.1%	1.2%
10952	SRBAC	88.7%	4.3%	0.6%	6.4%	89.1%	4.4%	0.6%	5.9%
10979	SREBRENICA	22.7%	75.2%	0.1%	2.1%	22.7%	75.2%	0.1%	2.1%
10987	SREBRENIK	13.0%	74.6%	6.7%	5.8%	12.3%	77.3%	6.0%	4.5%
10995	STOLAC	21.0%	43.1%	33.1%	2.8%	21.5%	43.9%	31.9%	2.7%
11002	SEKOVICI	93.6%	3.4%	0.1%	2.9%	94.1%	3.4%	0.1%	2.4%
11029	SIPOVO	79.1%	19.0%	0.2%	1.7%	79.4%	18.8%	0.2%	1.6%
11037	TESLIC	55.1%	21.3%	15.9%	7.7%	55.3%	22.2%	15.1%	7.4%
11045	TESANJ	6.3%	72.0%	18.4%	3.3%	6.4%	73.4%	17.1%	3.1%
11053	TITOV DRVAR	97.0%	0.2%	0.2%	2.7%	97.0%	0.2%	0.2%	2.6%
11061	TRAVNIK	11.0%	44.9%	36.9%	7.2%	11.6%	46.8%	34.4%	7.2%
11070	TREBINJE	68.9%	17.8%	4.0%	9.3%	69.0%	17.7%	3.9%	9.3%
11088	TUZLA	15.4%	47.4%	15.3%	22.0%	15.4%	48.2%	15.1%	21.3%
11096	UGLJEVIK	56.5%	39.5%	0.2%	3.7%	55.6%	40.8%	0.2%	3.4%
11100	VARES	16.4%	30.2%	40.4%	13.1%	16.5%	30.6%	40.1%	12.9%
11118	VELIKA Kladusa	4.3%	91.0%	1.4%	3.3%	4.4%	91.1%	1.3%	3.1%
11126	VISOKO	16.2%	74.4%	4.1%	5.4%	16.3%	74.9%	3.9%	5.0%
11134	VISEGRAD	31.8%	63.5%	0.2%	4.5%	31.8%	63.7%	0.2%	4.3%
11142	VITEZ	5.4%	41.3%	45.4%	7.9%	5.5%	43.1%	43.9%	7.5%
11169	VLASENICA	42.3%	55.1%	0.1%	2.4%	42.6%	55.3%	0.1%	2.0%
11177	ZAVIDOVICI	20.4%	59.7%	13.2%	6.7%	20.5%	60.2%	12.9%	6.4%
11185	ZENICA	15.4%	55.2%	15.4%	14.0%	15.4%	55.5%	15.2%	13.9%
11193	ZVORNIK	38.0%	59.1%	0.2%	2.8%	37.5%	59.6%	0.1%	2.8%
11207	ZEPCE	9.9%	47.0%	39.6%	3.5%	9.8%	48.2%	38.5%	3.4%
11215	ZIVINICE	6.4%	80.2%	7.2%	6.2%	6.3%	81.1%	7.1%	5.5%
Total Bosnia and Herzegovina		31.2%	43.4%	17.4%	8.1%	31.5%	44.5%	16.1%	7.8%

Note: Population 'in BH' denotes persons having their 'DUI' variable equal '00' (or 'SDRZ' variable equal '000', equivalently), i.e. *de facto* residing in BH in 1991, while the 'ALL' (de jure) population includes also persons temporarily residing abroad.

ANNEX B4

Table 5(B4). Fraction of Refugees Who Left Bosnia and Herzegovina after the 1991 Census
Among the 1998 Out-of-Country Voters, By Municipality and Ethnicity

Opstina	Opstina Name	OC Voters '98	Refugees	% Refugees	% Ref. Serbs	% Ref. Muslims	% Ref. Croats	% Ref. Others
10014	BANOVICI	316	270	85.4%	64.0%	89.1%	63.6%	83.3%
10022	BANJA LUKA	10476	10093	96.3%	58.6%	98.9%	90.3%	96.7%
10049	BIHAC	1669	1081	64.8%	80.0%	64.6%	51.1%	72.7%
10057	BIJE LJINA	9428	9068	96.2%	58.0%	96.8%	88.2%	96.3%
10065	BILECA	733	727	99.2%	80.0%	99.3%	100.0%	100.0%
10073	BOSANSKA DUBICA	2691	2443	90.8%	40.5%	93.3%	93.3%	80.1%
10081	BOSANSKA GRADISKA	6115	5681	92.9%	39.5%	94.8%	80.3%	89.2%
10090	BOSANSKA KRUPA	1338	961	71.8%	60.7%	71.5%	75.0%	91.2%
10103	BOSANSKI BROT	2345	2158	92.0%	82.0%	97.3%	83.6%	95.6%
10111	BOSANSKI NOVI	4491	4256	94.8%	70.0%	94.9%	100.0%	97.1%
10120	BOSANSKI PETROVAC	576	531	92.2%	34.8%	94.7%	100.0%	92.0%
10138	BOSANSKI SAMAC	1644	1302	79.2%	43.8%	97.6%	71.6%	92.1%
10146	BOSANSKO GRAHOVO	11	3	27.3%	0.0%	-	100.0%	100.0%
10154	BRATUNAC	1918	1780	92.8%	50.0%	92.7%	100.0%	100.0%
10162	BRCKO	7783	6514	83.7%	66.0%	91.4%	61.0%	92.6%
10189	BREZA	305	249	81.6%	93.3%	80.8%	83.9%	80.0%
10197	BUGOJNO	3555	2744	77.2%	87.7%	76.5%	77.4%	75.8%
10219	BUSOVACA	782	467	59.7%	100.0%	67.8%	56.7%	68.4%
10227	CAZIN	2225	1359	61.1%	80.0%	61.2%	50.0%	50.0%
10235	CAJNICE	529	513	97.0%	75.0%	97.1%	-	100.0%
10243	CAP LJINA	1163	1091	93.8%	90.9%	97.3%	56.8%	95.8%
10251	CELINAC	463	407	87.9%	51.2%	96.0%	100.0%	93.1%
10260	CITLUK	250	88	35.2%	-	100.0%	27.1%	83.3%
10278	DERVENTA	3791	3364	88.7%	47.5%	98.4%	84.0%	95.7%
10286	DOBOJ	6791	6234	91.8%	62.9%	94.8%	81.2%	91.0%
10294	DONJI VAKUF	972	896	92.2%	72.7%	92.9%	86.2%	92.1%
10308	TOMISLAVGRAD	1534	778	50.7%	100.0%	90.9%	16.9%	45.5%
10316	FOCA	2214	2100	94.9%	78.6%	95.3%	85.7%	89.6%
10324	FOJNICA	540	390	72.2%	-	61.2%	74.7%	100.0%
10332	GACKO	512	500	97.7%	100.0%	97.6%	100.0%	100.0%
10359	GLAMOC	643	586	91.1%	47.8%	93.8%	40.0%	83.3%
10367	GORAZDE	1520	1341	88.2%	76.0%	88.3%	33.3%	97.8%
10375	GORNJI VAKUF	2026	1321	65.2%	100.0%	66.9%	63.7%	43.8%
10383	GRACANICA	1246	987	79.2%	66.7%	83.1%	100.0%	52.6%
10391	GRADACAC	1650	1099	66.6%	50.0%	76.9%	56.4%	58.4%
10405	GRUDE	172	31	18.0%	-	-	18.2%	0.0%
10413	HAN PJESAK	71	67	94.4%	-	94.3%	-	100.0%
10421	JABLANICA	323	264	81.7%	75.0%	83.6%	76.9%	70.8%
10430	JAJCE	4121	3731	90.5%	89.8%	91.6%	88.2%	95.2%
10448	KAKANJ	2104	1684	80.0%	86.4%	75.1%	81.3%	83.3%
10456	KALESIA	2370	1734	73.2%	46.7%	72.2%	100.0%	96.1%
10464	KALINOVIK	27	25	92.6%	-	92.6%	-	-
10472	KISELJAK	1019	692	67.9%	66.7%	75.6%	61.5%	53.3%
10499	KLADANJ	454	346	76.2%	52.4%	77.4%	-	77.3%
10502	KLJUC	3731	3321	89.0%	53.1%	89.5%	75.0%	90.3%
10529	KONJIC	1209	840	69.5%	100.0%	66.7%	69.5%	88.5%
10537	KOTOR VAROS	3307	2806	84.9%	62.5%	90.4%	71.6%	83.1%
10545	KRESEVO	239	149	62.3%	-	68.6%	59.7%	100.0%
10553	KUPRES	475	338	71.2%	72.0%	93.8%	56.1%	100.0%
10561	LAKTASI	205	153	74.6%	53.2%	94.1%	79.3%	76.5%
10570	LISTICA	429	113	26.3%	-	-	26.5%	0.0%
10588	LIVNO	1586	973	61.3%	92.9%	91.4%	27.4%	84.6%
10596	LOPARE	919	625	68.0%	39.3%	74.2%	62.5%	55.9%
10600	LUKAVAC	1095	872	79.6%	79.5%	80.8%	89.7%	70.8%
10618	LJUBINJE	43	39	90.7%	66.7%	92.3%	-	100.0%
10626	LJUBUSKI	875	619	70.7%	100.0%	100.0%	20.6%	87.5%
10634	MAGLAJ	1375	1050	76.4%	70.0%	80.2%	64.0%	73.1%
10642	MODRICA	5040	4514	89.6%	48.6%	98.2%	68.0%	93.0%
10669	MOSTAR	7169	6477	90.3%	92.7%	94.6%	61.9%	96.6%
10677	MRKONJIC GRAD	666	571	85.7%	34.4%	89.0%	81.0%	89.7%
10685	NEUM	50	31	62.0%	100.0%	100.0%	17.4%	100.0%
10693	NEVESINJE	267	201	75.3%	20.0%	78.6%	-	75.0%
10707	ODZAK	3037	2173	71.6%	38.0%	97.4%	48.5%	85.5%
10715	OLOVO	332	279	84.0%	66.7%	85.5%	78.1%	84.6%
10723	ORASJE	754	435	57.7%	76.9%	93.3%	51.0%	82.1%
10731	POSUSJE	182	40	22.0%	-	-	22.1%	0.0%
10740	PRJEDOR	14987	14027	93.6%	61.0%	94.1%	82.6%	93.6%
10758	PRNIAVOR	1996	1638	82.1%	43.9%	90.7%	85.0%	76.6%
10766	PROZOR	1298	1028	79.2%	100.0%	89.7%	48.5%	100.0%
10774	NOVI TRAVNIK	862	663	76.9%	94.1%	83.9%	73.8%	81.2%
10782	ROGATICA	792	746	94.2%	100.0%	94.1%	100.0%	95.8%
10804	RUDO	741	730	98.5%	80.0%	98.8%	-	85.7%
10812	SANSKI MOST	6181	5226	84.5%	50.9%	86.2%	77.5%	60.3%

Note: 'Refugees' are persons having their 'DUI' variable equal '00' (or 'SDRZ' variable equal '000', equivalently), i.e. *de facto* resided in Bosnia and Herzegovina in 1991, but left the country after the 1991 census and registered as Out-of-Country (OC) Voters in the 1998 elections, i.e. being post-census refugees.

ANNEX B4

Table 5(B4). - Continued

Opstina	Opstina Name	OC Voters '98	Refugees	% Ref ugees	% Ref. Serbs	% Ref. Muslims	% Ref. Croats	% Ref. Others
10839	SARAJEVO-CENTAR	2539	2369	93.3%	96.7%	92.7%	94.8%	94.1%
10847	SARAJEVO-HADZICI	595	522	87.7%	90.9%	86.5%	90.0%	100.0%
10855	SARAJEVO-ILIDZA	2693	2523	93.7%	96.9%	93.6%	92.4%	95.9%
10863	SARAJEVO-ILIJAS	464	419	90.3%	65.0%	90.8%	91.3%	95.6%
10871	SARAJEVO-NOVI GRAD	3517	3286	93.4%	91.8%	92.7%	94.5%	97.2%
10880	SARAJEVO-NOVI SARAJEVO	2414	2253	93.3%	92.9%	92.4%	92.9%	96.5%
10898	SARAJEVO-PALE	131	106	80.9%	52.4%	84.7%	100.0%	100.0%
10901	SARAJEVO-STARI GRAD	1420	1262	88.9%	84.4%	88.9%	91.3%	89.3%
10910	SARAJEVO-TRNOVO	96	86	89.6%	100.0%	87.8%	100.0%	100.0%
10928	VOGOSCA	873	792	90.7%	81.3%	91.7%	86.4%	91.0%
10936	SKENDER VAKUF	277	219	79.1%	52.1%	100.0%	83.4%	41.7%
10944	SOKOLAC	138	101	73.2%	11.1%	78.4%	-	50.0%
10952	SRBAC	238	157	66.0%	31.6%	92.5%	100.0%	70.6%
10979	SREBRENICA	1745	1714	98.2%	85.7%	98.2%	100.0%	100.0%
10987	SREBRENIK	842	586	69.6%	61.0%	76.5%	43.9%	31.3%
10995	STOLAC	931	864	92.8%	100.0%	96.8%	49.4%	100.0%
11002	SEKOVICI	65	55	84.6%	33.3%	98.1%	-	0.0%
11029	SIPOVO	532	476	89.5%	60.0%	90.6%	100.0%	82.4%
11037	TESLIC	2894	2564	88.6%	62.7%	94.1%	81.6%	94.4%
11045	TESANJ	1618	1275	78.8%	82.4%	81.7%	70.7%	82.5%
11053	TITOV DRVAR	44	35	79.5%	75.0%	100.0%	-	100.0%
11061	TRAVNIK	2099	1512	72.0%	88.9%	72.7%	69.7%	89.4%
11070	TREBINJE	2686	2660	99.0%	75.0%	99.2%	92.9%	99.0%
11088	TUZLA	1904	1651	86.7%	87.9%	86.8%	83.9%	89.3%
11096	UGLJEVIK	1099	978	89.0%	60.0%	90.3%	100.0%	83.5%
11100	VARES	753	702	93.2%	88.2%	90.8%	93.0%	97.7%
11118	VELIKA Kladusa	2043	1677	82.1%	83.3%	82.4%	80.0%	75.3%
11126	VISOKO	831	648	78.0%	92.0%	77.3%	80.0%	74.5%
11134	VISEGRAD	2154	2007	93.2%	63.6%	93.2%	100.0%	97.2%
11142	VITEZ	896	612	68.3%	71.4%	84.3%	61.0%	78.5%
11169	VLASENICA	1703	1544	90.7%	71.4%	91.0%	100.0%	81.5%
11177	ZAVIDOVICI	1525	1325	86.9%	93.8%	89.4%	69.5%	83.3%
11185	ZENICA	2643	2275	86.1%	89.3%	81.3%	92.2%	86.7%
11193	ZVORNIK	8469	7946	93.8%	64.2%	93.9%	100.0%	98.9%
11207	ZEPCE	789	551	69.8%	84.2%	74.6%	62.0%	75.0%
11215	ZIVINICE	1032	888	86.0%	82.6%	85.4%	95.8%	75.6%
Total Bosnia and Herzegovina		209440	181273	86.6%	63.8%	90.8%	68.5%	90.7%

Note: 'Refugees' are persons having their 'DUI' variable equal '00' (or 'SDRZ' variable equal '000', equivalently), i.e. *de facto* resided in Bosnia and Herzegovina in 1991, but left the country after the 1991 census and registered as Out-of-Country (OC) Voters in the 1998 elections, i.e. being post-census refugees.

ANNEX B5. THE 1997 OSCE VOTERS REGISTER

All post-Dayton elections in Bosnia and Herzegovina, including the one in 1997 and 1998, were conducted under the supervision of the Organisation for Security and Co-operation in Europe (OSCE). For the purpose of elections, OSCE established a register of persons eligible to vote, the so-called OSCE voters register (VR). Development of the register and data entry was conducted by the OSCE Office in Sarajevo.

Eligibility to vote is discussed in article IV of annex 3 of the Dayton Peace Accords: “Any citizen of Bosnia and Herzegovina aged 18 or older whose name appears on the 1991 census for Bosnia and Herzegovina shall be eligible, in accordance with electoral rules and regulations, to vote”. Registration stations were established in all municipalities of Bosnia and Herzegovina and in many foreign countries. Since the eligibility to vote in 1997 (and 1998) was based on a person’s presence in the 1991 census rolls, the voters register is a *subset* of the 1991 census. Every person in the voters register should be therefore also included in the census. However, some people could stay abroad during the census or were not enumerated for other reasons. If indeed such persons existed, this would only apply to an insignificant proportion of the population. Moreover, such persons could provide evidence of their eligibility and still had the possibility to vote.

Persons who wanted to vote in the 1997 (1998) local elections had to register first. The election registration form recorded the following basic items: surname, first name, sex, date of birth, and personal identification number (matični broj). The 1997 (1998) register contained also four items related to the location of voters in 1997 (1998) and 1991:

- Municipality of residence in 1991, as reported in the 1991 census;
- Municipality of residence in 1997 (1998), self-reported;
- Municipality or country where the registration took place in 1997 (1998);
- Municipality the person wanted to vote *for* in 1997 (1998).

Absentee registration and voting was permitted.

The municipality of registration is seen as a good indicator of the area where people actually lived when they registered. This variable can be therefore taken as an important source of statistical information about the de facto population living in Bosnia and Herzegovina in 1997 (1998). The various items on the municipalities where people lived and registered to vote in 1997 (1998) can be used to study changes in residence between 1991 and 1997 (1998). To be sure about the 1991 residence of the 1997 (1998) voters, we applied individual matching to link the data for 1991 with those for 1997 (1998).

The information contained in the 1997 (1998) voters register was made available to us by the OSCE. The data from the voters register show some of the same quality problems as the census. Although errors are generally less common in the 1997 (1998) voters register than in

the 1991 census, deficiencies in names caused by optical scanning of the registration forms, often pose problems for the identification of persons. The names from the voters register, as those from the census, were all checked and corrected with various computer programs and manual procedures. This was again done with the assistance of native B/C/S speakers familiar with naming traditions in Bosnia and Herzegovina.

The registration to vote was voluntary, which implies that the register is only a *sample* of the post-war population, excluding those who did not register to vote because they were not interested, ill, too young, or too old. The number of persons who registered to vote in the 1997 elections was 2.56 million, about 150,000 new voters registered additionally in 1998. Thus, the overlap of the two registers was considerable. We merged the individual records from these two registers, and established a joint database of 2,674,506 records. Out of the 2.67 million records, about 2.13 million (i.e. 2,125, 999) voters were matched in our project with the 1991 population census. This gave a matching rate of 79.5 percent. Among the total of 2.13 million records, some 319,405 voters were reported as out-of-country and 1,805,419 as in the country. Some 1,175 records had a corrupted location code and were excluded from the analysis. We also checked duplicates and compared the merged voters register with the lists of dead that we have available at OTP for Bosnia and Herzegovina. Some 864 records were additionally excluded due to the possibility of being reported in mortality sources, and some 730 records were excluded from the analysis as possible duplicates. Note that the excluded records could only be verified with certainty, if more information would become available about the persons in question.

The total population of the country was approximately 4.3 million 1991, whereas an estimate of 3.4 million people was given for 1995 by the 1998 World Population Prospects (United Nations, 1999). It is clear that the 2.13 million voters constitute a large and reliable sample of the 18+ population. Its size is big enough to prevent errors related to the persons not registering to vote.

There have been allegations that some people registered fraudulently to vote, especially in the 1997 elections. This alleged fraud is believed to have been committed by persons who registered under false names for political reasons. This was investigated thoroughly for Srebrenica and no evidence of massive fraud in the registration of voters in 1997 was found.¹⁶

The next problem inherent to the 1997-98 voters register is the return of refugees and displaced persons. More specifically, the 1997-98 voters register would *under-estimate* the number of persons who fled from their homes if many people returned to their pre-war place of residence before 1997-98.

¹⁶ Of 7,490 persons believed to have gone missing after the fall of the Srebrenica enclave, only 9 persons were found both in the lists of missing persons and in the 1997 and 1998 Voters' registers. See "Report on the Number of Missing and Dead from Srebrenica", by Helge Brunborg and Henrik Urdal, Office of the Prosecutor, ICTY, 12 February 2000.

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The Dayton Peace Accords made it clear that the return of refugees and internally displaced persons from Bosnia and Herzegovina should be made possible. Since our post-war data was collected during 1997-98, some refugees or internally displaced persons could already have returned to their pre-war municipalities of residence. The impact of this problem is believed to be small for 1996-1997 as according to official statistics (see below) the returns of refugees and internally displaced persons to their pre-war homes were far from being completed in the period until 1997. Finally, if there were refugees or displaced persons that returned to their former locations, this would only decrease the number of displaced persons and refugees.

According to the 1998 estimates made by the UN High Commissioner for Refugees (UNHCR, UNHCR (1998)), within Bosnia and Herzegovina up to 820,000 people remained **displaced** from their pre-conflict homes in mid-1998, of whom 450,000 in the Federation of Bosnia and Herzegovina and 366,000 in the Republika Srpska. Furthermore, over 550,000 **refugees** from Bosnia and Herzegovina were still in need of a durable solution by mid-1998. The largest numbers of refugees from Bosnia and Herzegovina were hosted by Yugoslavia (i.e. by Serbia and Montenegro, 226,000) and Croatia (34,500), with smaller numbers in the former Yugoslav Republic of Macedonia (3,000) and Slovenia (4,500). Outside the former Yugoslavia, Germany and Switzerland hosted the highest numbers of refugees (in total 254,000).

According to the UNHCR Office in Sarajevo (<http://www.unhcr.ba> and personal communication with the Public Information Unit) the total number of returns of refugees and displaced persons to the Republika Srpska was 83,518 in 1996-97. Out of these persons, only 966 Muslims and 159 Croats returned to RS in 1996-97 (1.2% and 0.2% of the total returns, respectively). Almost everybody returning to RS during this period were Serbs, 82,306 (98.5%). In most cases, only internally displaced persons returned and not refugees. On the other hand, the total number of returns in the Federation was about 347,837 in 1996-97, out of which 291,024 (83.7%) were Bosnian Muslims (i.e. Bosniacs), 47,249 (13.6%) were Croats, and only 1013 (0.3%) Serbs.

All in all, several hundred thousand people returned home in 1996-97. However, comparing the number of 1996-97 returns with the total number of refugees and displaced who were still in need of a durable solution in 1998, one can see that the scale of returns was relatively low in 1996-97. Moreover, the RS entity was apparently still considered unsafe for Muslims and Croats in 1996-97, as these were mainly Serbs who returned to RS in this period. The situation in the Federation was opposite to that in RS. The ethnic structure of returns is an additional reason why the 1996-97 returns do not significantly change the general picture of ethnic changes in the war period. However, because of the problem mentioned above, the results presented in this report can only be taken as an estimate of the number displaced persons and refugees as observed in 1997 and not as an estimate of the total ethnic change in the years from 1991 to 1997.

ANNEX B6. DISPLACED PERSONS AND REFUGEES IN BOSNIA AND HERZEGOVINA REPORTED BY UNHCR AND BH GOVERNMENTAL SOURCES (DDPR)

The Database of Displaced Persons and Refugees (DDPR) is an official source of information coming from the government of Bosnia and Herzegovina and UNHCR. It covers the whole territory of the country and can serve to produce official statistics of internally displaced persons (IDPs) and refugees in Bosnia and Herzegovina for municipalities, settlements or any other required area (e.g. towns or villages).

The database was established by UNHCR together with local authorities. Individual records of information about IDPs and refugees were collected in BH municipalities already during the conflict. After the war ended, the records were centralised and structured in a database. The process of centralisation and database development was co-ordinated by UNHCR, while municipal authorities provided the input information for the database. Two most obviously used versions of the database are from 1998 and 2000. The 2000 version is an improved and up-dated version of the 1998 collection and is based on records obtained in the so-called re-registration project conducted by UNHCR together with municipal and state authorities. In this project, the status of all displaced persons and refugees in Bosnia and Herzegovina was checked and if necessary revised. The 2000 version, available at the demographic unit, reports persons who in the year 2000 were still registered as displaced from their pre-war homes and needed a durable solution. A copy of the DDPR was acquired from the State Ministry of Human Rights and Refugees (MHRR) in Sarajevo in Mid-August, 2002.

The database contains information about 583,816 persons. Among them it also includes about 60,000 persons born after 1 April 1991, which can not be matched against the census. For about 1/3 of the persons reported in DDPR the available information is very complete (the third actually made the application: 191,954 persons). For the remaining 2/3 (i.e. families of the applicants: 391,862 persons), the information is more limited, and assumptions or linked information are needed to process the data (e.g. ethnicity of applicant is used for all family members). The quality of the data seems overall quite good, although there are some problems, such as in particular the personal identification numbers (JMBs) are incomplete or invalid in about 1/4 of all cases.

The most important shortcoming of the database is that the information about family members is limited to names, date of birth, sex, kinship with applicant, and JMB. There is no information about place of birth or ethnicity for the family members. The only additional information is the work status and occupation for the spouse of the applicant, and the implied information about current residence. Depending on the matching rate and purposes, information about pre-war residence might be linked from census.

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Also ethnicity may be linked from census, although this would limit information available to those records that actually match. More generally, ethnicity might be induced from family relations, i.e. children get the same ethnicity as the head of household, for spouses and in-laws only an assumption of no inter-ethnic marriages will provide any additional information.

All in all, for about 190,000 records, the DDPR contains quite a lot of information. For the remaining ca. 390,000 records, the available information is more limited, and we have to make assumptions and/or link the information from other sources.

For purposes of information gathering all records related to applicants and their family members have been combined in one data table. Based on the combined table and on the assumption that all families have the same nationality as the family head, we obtained the following ethnic composition of DPs and refugees (not considering duplicates):

Table 1(B6). Absolute and Relative Number of Internally Displaced Persons and Refugees in Bosnia and Herzegovina by Ethnicity, Status as of 2000

Ethnicity	IDPs		Refugees		Total	
	Number	Percent	Number	Percent	Number	Percent
Muslims	247,378	44.3	27	0.1	247,405	42.4
Croats	41,913	7.5	73	0.3	41,986	7.2
Serbs	267,350	47.8	24,571	98.7	291,921	50.0
Others	2,280	0.4	224	0.9	2,504	0.4
Total	558,921	100.0	24,895	100.0	583,816	100.0

The vast majority of the persons registered are IDPs within BH, but some 25,000 persons are refugees from Croatia, obviously Croatian Serbs, currently *residing in* Bosnia. For purposes concerning the HERCEG-BOSNA case, these refugees are excluded.

Note that the ethnic composition of refugees *from* Bosnia and Herzegovina is a different issue that has been estimated in this report on the basis of out-of-country voters reported in the 1997-98 voters register (see Table 2(B6) below). The out-of-country voters left Bosnia and moved abroad where they still resided at the time of the 1997 and 1998 elections.

Note also that the ethnic composition of internally displaced persons in Bosnia and Herzegovina and refugees from this country residing abroad are quite different too, which can be only partly ascribed to the differences between the sources. It seems that these two processes affected different ethnic groups. While Muslims were the absolute majority among refugees outside Bosnia, both the Muslims and the Serbs were two majority groups among the IDPs.

Table 2(B6). Ethnic Composition of Persons Displaced within Bosnia and Herzegovina and Refugees from the Country, Status as of 2000 (IDPs) and 1997-98 (REFs)

Ethnicity	Refugees from BH 1997-98	DPs in BH 2000
Muslims	51.0	44.3
Croats	24.8	7.5
Serbs	16.7	47.8
Others	7.5	0.4
Total	100.0	100.0

Matching against the census proved, as with most sources, possible. A test case using Prijedor and different matching criteria, showed a matching rate close to 80%. Matching directly against the 1997/98 voters register may also prove useful, and an initial, strict matching criterion matched at once 65% of all those born in 1980 or before.

There are some duplicates in the database, but the problem is quite limited. Based on initial testing, between 1.5% and 3% of all records are duplicates.

There are also some other relatively minor issues, like misspelled names, invalid date of births, and mismatch between JMB and reported sex and/or date of birth. Some of these issues can be, at least partially, addressed and corrected, others can not be fixed. However, the scopes of these problems are very limited.

Having assessed the overall quality of the DDPR as fairly satisfactory, in this report we present uncorrected statistics obtained by running queries in the original database. We believe that any improvements of the data would not significantly change the aggregate numbers as those discussed in Section 3.5.

ANNEX C. OVERVIEW OF METHODS OF THE ANALYSIS

ANNEX C1. DATA LINKING

Our analysis of changes in the ethnic composition of the HERCEG-BOSNA area is based on three variables with values specified for each individual: location before the war, location after the war, and ethnicity. The 1991 census contains information on ethnicity and location before the war, but not on the persons' location after the war. The 1997 voters register contains, on the other hand, the persons' post-war location, but neither the pre-war location nor ethnicity, the two latter variables being available only in the 1991 census. By combining these two data sets together into one set, we were able to make a joint analysis of the pre- and post-war population changes. Combining related data sets through individual linking has been used as the data reconstruction method in this study.

To link our data sets, we employed a multi-step procedure. Each step consisted of several comparisons between two sets of related individual-level data records. One record always describes one individual and is a collection of his/her characteristics on a number of items, such as for example the first name, family name, father's name, date of birth etc. All steps followed the same logic (see below). The differences between the steps were the slightly differing criteria used to match the records, and the fact that the population available for next possible matches shrank after each step. In other words, once a number of records had been matched in two related data sets, these records were excluded from the next round of matching. In the new step, the matching criterion applied was modified compared with the previous ones to capture new matches.

Each step consisted of three separate rounds. The first round was to identify the records in the voters register corresponding to the records in the census and to store the sequential numbers of these records in a table. Information common to both data sets was used to identify the corresponding records. The fields used in the matching were the following: first name, last name, personal ID number, date of birth, and municipality of residence. These fields in the records in the voters register were compared with the respective fields in the census records. For each record in the voters register that corresponded with one record in the census, the sequential numbers from each data set (i.e. source) were registered in a separate table. These combinations of sequential record numbers are called *matches*.

The second step concentrated on quality and consistency checks of the matches obtained. All matches were checked for duplicates to make sure that each record in the voters register had one and only one corresponding record in the census, and vice versa. Duplicates were deleted.¹⁷ After duplicate checks and other quality control measures such as inspecting samples of the matched records visually, they were registered in the databases as final matches.

¹⁷ Note that duplicates are multiple matches and not multiple records. Deleting duplicates means deleting multiple links and not records that still remain available for the next round of matching.

The third step was to register the approved matches in the data sets as links between records in the voters register and records in the census. The result from this process was that more than 2 million records out of the total of 2.56 million in the voters register were linked to corresponding records in the 1991 census.

The set of linked records forms the basis for our calculations involving the post-war population. The meaning of a link established between the voters register and the census is that a person whose records have been linked is identified as *a survivor*.¹⁸ An identified survivor is known to be alive after the war since the person registered to vote in 1997. All references made to the post-war population of survivors refer to the set of individual records successfully linked in our procedures.

Because of the voluntary nature of the registration to vote any *absolute* number provided in this report is in fact a minimum estimate of the 1997 population, for example a minimum size of an ethnic group, population displacement, age and sex distribution etc. The actual absolute figures are higher due to the fact that some part of the population did not register to vote. If however, one considers the population of registered voters as a sample of the actual population, then the sample can be seen as extremely large and reliable. This is why the *relative* figures (i.e. fractions or percentages) are good measures of the actual distributions and can be safely used.

The voters register was used as the source of statistical information about the actual 1997 population in the country. For the registered voters their municipality of residence in 1997 is not explicitly reported in the register. The place of registration is however specified for each registered voter in all necessary detail. In the analyses that involved the 1997 population, we assumed that the place where a person registered to vote (i.e. the place of registration) was a good approximation of the location where the person actually lived in when he or she registered. The municipality where they registered to vote is then referred to as the voters' municipality of residence.

The persons eligible to vote in the 1997 elections had to be born before 1980. Consequently, all comparisons involving the 1997 voters on one hand and the 1991 census population on the second hand must be restricted to individuals who were born at the latest in 1979. All comparisons presented in this report are restricted to those who were 18 or more years of age in 1997. Birth cohorts¹⁹ born after 1979 are excluded from the census data in our analyses (in the voters register no such persons should be registered). The final data set of the (18+) census population, who used to live in the HERCEG-BOSNA area before the war, includes 231,610 individuals (see Table 2, Section 7). Out of this 1991 population, 142,204 individuals have

¹⁸ Note that "a survivor" is a standard term used in the life table analysis in demography to denote a person who has not died until the age x years. The term does not have any negative connotations.

¹⁹ A birth cohort is the group of people who were born the same year.

been identified²⁰ at any place in Bosnia or abroad (*ibid*). Some 118,792 persons have been identified as voters who registered to vote in the HERCEG-BOSNA municipalities (*ibid*).

Linking of individual data is common in demography and statistics. Scandinavian countries have been applying this approach for about 30-40 years. An operational system of unique ID numbers is a prerequisite for such linking. If there exists no such system or the existing system is not fully operational, as in the countries of the former Yugoslavia, other data items have to be used, in particular first and family names and date of birth. Similar items are also often used in historical demography for linking parish records, census data and other individual data, in the so-called family reconstitution studies.

The linking approach, although well established and known to demographers, is not commonly used throughout the world. Sizeable populations, lack of consistent ID numbers, and strong privacy protection regulations make the individual linking rarely useable in many high-income countries. The method is rarely applied in low-income countries since these countries cannot afford the costs of highly skilled personnel and expensive equipment required for the individual linking approach. Moreover, most low-income countries cannot afford or are unable to keep systematic high-quality records of the population.

Nation-wide comparisons of populations between different periods or geographic locations are usually done without individual-level linking but by using cross-sectional aggregate (or macro) data. The macro-level approach is for instance commonly applied by official national and international statistical agencies to produce and compare basic demographic statistics, such as death and birth rates, nuptiality and migration statistics, and others. The usefulness of the macro approach is still great, as the large population size and the large numbers of demographic events observed guarantee a fair degree of reliability of the results.

We believe that for our purposes the individual linking approach is superior to the macro approach, but not only in the sense of accuracy of the aggregate level statistics showing the relative distributions of the population. Here the benefits can be minor. The real advantage of the individual linking approach is that we can follow the same individuals between the two years considered. It is the best approach for the reconstruction of the fate of the population. Moreover it is, generally believed that the individual linking approach yields highly reliable results. The only problems with this method are inherited from the deficiencies in the data quality, which have, however, been largely overcome in our project by quality checks and applying extensive procedures for data matching.

²⁰ The term “identified” is used here to denote records matched with the 1991 census.

ANNEX C2. ESTIMATION OF NUMBERS OF DISPLACED PERSONS AND REFUGEES

The estimated overall numbers of the IDPs and refugees were obtained using a classical statistical method of sampling proportions (W.G. Cochran, 1977). The method applies the theorem stating that the sample proportion p ($p=a/n$; proportion (p) of IDPs and REFs (a) in the population of 1997-98 voters (n)) is an unbiased estimate of the population proportion P ($P=A/N$; proportion (P) of IDPs and REFs (A) in the 1991 census population (N)). In this case, the estimate of the unknown overall size of the population of all IDPs and refugees (A) can be obtained by multiplying the sample proportion (p), by the size of the census population (N). Confidence intervals can be calculated by applying the formulas explained below, towards the end of this Annex.

Note, that the estimation was made for every ethnic group separately at the municipal level, and, in the second step, a system of weights was used in order to produce consistent estimates for larger areas.

The following variables are available to estimate the number of internally displaced persons (IDPs) and refugees from the selected municipalities in Bosnia and Herzegovina:

- N_{ij} 1991 population size of i -th ethnic group ($i \in \{\text{Serbs, Muslims, Croats, Others}\}$) from j -th municipality,
- N_j Total 1991 population size of j -th municipality (sum of all N_{ij} values with respect to i),
- W_{ij} Share (weight) of the i -th ethnic group from j -th municipality in the total population of Bosnia and Herzegovina (N), calculated as:

$$W_{ij} = N_{ij} / N = N_{ij} / \left(\sum_j N_j \right) = N_{ij} / \left(\sum_i \sum_j N_{ij} \right)$$
- W_j Share (weight) of the total population from j -th municipality in the total population of Bosnia and Herzegovina (N), calculated as $W_j = N_j / N$ (sum of all W_{ij} values with respect to i),
- n_{ij} 1997 number of identified survivors from i -th ethnic group originating from j -th municipality (post-war population sample size), of which:
- d_{ij} 1997 number of identified displaced survivors (including refugees) of i -th ethnic group originating from j -th municipality, i.e. number of persons registered to vote either in other municipalities or out of country (an observed value).
- p_{ij} fraction of persons displaced from the j -th municipality within the given i -th ethnic group (a random variable),
- \hat{p}_{ij} a point estimate of the p_{ij} , calculated as $\hat{p}_{ij} = d_{ij} / n_{ij}$.
- τ_{ij} number of persons of a given i -th ethnic group displaced from the j -th municipality, $\tau_{ij} = p_{ij} N_{ij}$ (a random variable): displacements from different municipalities and for different ethnic groups are assumed to be independent,
- $\hat{\tau}_{ij}$ a point estimate of the τ_{ij} , calculated as $\hat{\tau}_{ij} = \hat{p}_{ij} N_{ij}$.

For each municipality j , the numbers $d_{Serbs,j}$, $d_{Muslims,j}$, $d_{Croats,j}$, $d_{Others,j}$, represent therefore **minimum estimates** of numbers of persons displaced from this municipality, Serbs, Muslims, Croats and Others, respectively. The minimum estimate of the total number of persons displaced from this municipality (d_j) can be obtained as a simple sum: $d_j = d_{Serbs,j} + d_{Muslims,j} + d_{Croats,j} + d_{Others,j}$.

A **point estimate** of the overall number of refugees and DPs from i -th ethnic group ($i \in \{Serbs, Muslims, Croats, Others\}$) originating from j -th municipality ($\hat{\tau}_{ij}$) is calculated as:²¹

$$(1) \quad \hat{\tau}_{ij} = \frac{d_{ij}}{n_{ij}} \cdot N_{ij},$$

the standard error of its estimation being equal:

$$(2) \quad SE(\hat{\tau}_{ij}) = N_{ij} \cdot SE(\hat{p}_{ij}) = N_{ij} \cdot \sqrt{\frac{\frac{d_{ij}}{n_{ij}} \cdot \left(1 - \frac{d_{ij}}{n_{ij}}\right)}{n_{ij} - 1}} \cdot \sqrt{\frac{(N_{ij} - n_{ij})}{N_{ij}}} = \sqrt{\frac{\frac{d_{ij}}{n_{ij}} \cdot \left(1 - \frac{d_{ij}}{n_{ij}}\right)}{n_{ij} - 1}} \cdot \sqrt{(N_{ij} - n_{ij}) \cdot N_{ij}}.$$

The precision of estimation can be evaluated using the concept of **confidence intervals**. A confidence interval covers the unknown value of estimated number of refugees and displaced persons from i -th ethnic group originating from j -th municipality, with a certain probability, say $(1-\alpha)$. In the other words, we can be $(1-\alpha) \cdot 100\%$ confident that the true number of refugees and DPs is covered by the interval. Therefore, the narrower the confidence interval, the better the estimation. For large samples, the $(1-\alpha)$ confidence interval for $\hat{\tau}_{ij}$ can be obtained from the normal distribution as ranging from $\hat{\tau}_{ij} - u_{\alpha} \cdot SE(\hat{\tau}_{ij})$ to $\hat{\tau}_{ij} + u_{\alpha} \cdot SE(\hat{\tau}_{ij})$, where u_{α} is the quantile of rank $1 - \alpha/2$ from the standard normal distribution.

A **point estimate** of the overall number of refugees and DPs originating from the j -th municipality ($\hat{\tau}_j$) is calculated in the following way:

$$(3) \quad \hat{\tau}_j = N_j \cdot \hat{p}_j = N_j \cdot \sum_i \hat{p}_{ij} \cdot \frac{W_{ij}}{W_j} = \frac{N_j}{W_j} \cdot \sum_i \hat{\tau}_{ij} \cdot \frac{W_{ij}}{N_{ij}} = N \cdot \sum_i \hat{\tau}_{ij} \cdot \frac{1}{N} = \sum_i \hat{\tau}_{ij},$$

where \hat{p}_j is the estimate of the fraction of persons displaced from the j -th municipality (which is a weighted average of estimated fractions for particular ethnic groups, with shares of these ethnic groups in the total census population used as weights), and the summation with respect to i involves *Serbs*, *Muslims*, *Croats* and *Others*. The standard error of $\hat{\tau}_j$ estimation is equal (following the assumption of independence of displacements for different ethnic groups):

$$(4) \quad SE(\hat{\tau}_j) = \frac{N_j}{W_j} \cdot \sqrt{\sum_i (SE(\hat{p}_{ij}))^2 \cdot W_{ij}^2} = \frac{N_j}{W_j} \cdot \sqrt{\sum_i \frac{(SE(\hat{\tau}_{ij}))^2}{N_{ij}^2} \cdot W_{ij}^2} = N \cdot \sqrt{\sum_i (SE(\hat{\tau}_{ij}))^2 \cdot \frac{1}{N^2}} = \sqrt{\sum_i (SE(\hat{\tau}_{ij}))^2}$$

²¹ All equations follow William G. Cochran (1977), *Sampling Techniques*, 3rd edition. John Wiley & Sons, New York, Chichester, Brisbane, Toronto, Singapore. See Chapter 3, p. 50-53.

ANNEX C2

where the summation with respect to i involves *Serbs*, *Muslims*, *Croats* and *Others*. Again, for the large samples, the $(1-\alpha)$ confidence interval for $\hat{\tau}_j$ can be obtained from the normal distribution as ranging from $\hat{\tau}_j - u_\alpha \cdot SE(\hat{\tau}_j)$ to $\hat{\tau}_j + u_\alpha \cdot SE(\hat{\tau}_j)$. A similar analysis may be performed for a set of ethnic groups, e.g. for *non-Serbs*. The summation with respect to i involves in such cases only *Muslims*, *Croats* and *Others*.

To obtain the overall number of refugees and DPs ($\hat{\tau}_A$) originating from any of the municipalities within a certain set of municipalities A (where A can be for example a region, a political entity, the whole country, or it can be subjectively chosen), the summation with respect to j (i.e. for all municipalities $j \in A$) is required:

$$(5) \quad \hat{\tau}_A = \sum_{j \in A} \hat{\tau}_j.$$

Similarly, it can be proven, that the standard error of $\hat{\tau}_A$ estimation is equal (assuming the independence of displacements from different municipalities):

$$(6) \quad SE(\hat{\tau}_A) = \sqrt{\sum_{j \in A} (SE(\hat{\tau}_j))^2}$$

The same procedure can be applied for obtaining estimates of numbers of refugees and DPs originating from any of the municipalities from the set A , for any particular (i -th) ethnic group, in equations (5) and (6) $\hat{\tau}_j$ is then to be replaced by $\hat{\tau}_{ij}$.

■

ANNEX D. PROFESSIONAL QUALIFICATIONS OF THE AUTHORS

The report “Ethnic Composition, Internally Displaced Persons and Refugees in Eight Municipalities of Herceg-Bosna, 1991 to 1997-98” (hereafter: the HERCEG-BOSNA report) is a product of the Demographic Unit (DU), Office of the Prosecutor (OTP), ICTY. The results discussed in the HERCEG-BOSNA report were obtained in the course of a broader project conducted at DU in 2001 and 2002, in which all municipalities in Bosnia and Herzegovina were covered. Results for selected municipalities were summarized in the expert report: “Ethnic Composition and Displaced Persons and Refugees in 47 Municipalities of Bosnia and Herzegovina, 1991 to 1997-98”, by Ewa Tabeau (ET), Marcin Zoltkowski (MZ), Jakub Bijak (JB) and Arve Hetland (AH), dated 4 April 2003, ERN: 0291-5501-0291-5738 (hereafter: MILOŠEVIĆ report). Large parts of these two reports are therefore overlapping (such as, for example, the discussion of sources and methods included in the annexes).

Both reports are outcomes of a team effort. The team consisted of four DU demographers, E. Tabeau, M. Zoltkowski, J. Bijak and A. Hetland. ET is a senior researcher with extensive experience in demography and statistics, graduated in statistics and econometrics, and has a Ph.D. in mathematical demography. JB is a young professional, specialised in quantitative methods of statistics and econometrics, graduated in mathematical demography, and with broad interest and already considerable experience in statistical methods and their applications in demography. AH is a senior computer scientist and mathematician, with extensive experience in large-scale individual-level data processing, computer programming, and generally in demography. MZ is a quantitative researcher and talented computer programmer, a statistician and economist, who also studied mathematics and specialized in probabilistic theory. ET was involved in all stages of the project’s completion (data quality control and data processing, design of the analysis, selection of methods, interpretation of results, and writing the report); she was responsible for the analytical aspects of the MILOŠEVIĆ and HERCEG-BOSNA reports. JB, AH, and MZ were engaged in data processing, quality controls, database development, writing computer programs, and also analysis. All authors contributed to writing of the text. The MILOŠEVIĆ and HERCEG-BOSNA reports builds up on the work completed by other DU demographers, i.e. Helge Brunborg, Torkild Lyngstad, and Henrik Urdal, who were engaged in the OTP population project in the years 1998-2000.

Details of professional qualifications of the authors are contained in Annexes D1 to D4. The most significant expert and research reports prepared in the Demographic Unit and experts witness testimonies of DU demographers completed so far are listed below.

ANALYTICAL REPORTS DISCLOSED BY THE DEMOGRAPHIC UNIT IN ICTY CASES

ANNEX D

Case No.	Case Name	Author	Title	Date
IT-02-54	MILOŠEVIĆ (Bosnia)	E. Tabeau, M. Žótkowski, J. Bijak, and A. Hetland	Ethnic Composition in and Internally Displaced Persons and Refugees from 47 Municipalities of Bosnia and Herzegovina, 1991 to 1997.	04 April 2003
IT-02-54	MILOŠEVIĆ (Bosnia)	E. Tabeau, M. Žótkowski and J. Bijak	Population Losses in the Siege of Sarajevo, 10 September 1992 to 10 August 1994.	10 May 2002
IT-02-54	MILOŠEVIĆ (Bosnia)	E. Tabeau, M. Žótkowski and J. Bijak	Addendum I to the report: Population Losses in the Siege of Sarajevo, 10 September 1992 to 10 August 1994. (Possible duplicates).	03 June 2002
IT-02-54	MILOŠEVIĆ (Bosnia)	E. Tabeau, M. Žótkowski and J. Bijak	Addendum II to the report: Population Losses in the Siege of Sarajevo, 10 September 1992 to 10 August 1994. (Excluded records).	24 July 2002
IT-02-54	MILOŠEVIĆ (Bosnia)	E. Tabeau, J. Bijak, N. Lončarić	Death Toll in the Siege of Sarajevo, April 1992 to December 1995: A Study of Mortality Based on Eight Large Data Sources.	18 August 2003
IT-98-29-I	GALIĆ (Sarajevo)	E. Tabeau, M. Žótkowski and J. Bijak	Population Losses in the Siege of Sarajevo, 10 September 1992 to 10 August 1994.	10 May 2002
IT-98-29-I	GALIĆ (Sarajevo)	E. Tabeau, M. Žótkowski and J. Bijak	Addendum I to the report: Population Losses in the Siege of Sarajevo, 10 September 1992 to 10 August 1994. (Possible duplicates).	03 June 2002
IT-98-29-I	GALIĆ (Sarajevo)	E. Tabeau, M. Žótkowski and J. Bijak	Addendum II to the report: Population Losses in the Siege of Sarajevo, 10 September 1992 to 10 August 1994. (Excluded records).	24 July 2002
IT-97-24	STAKIĆ (Prijedor)	Brunborg, T. Lyngstad, and E. Tabeau	Population changes in Prijedor from 1991 to 1997.	10 March 2001
IT-97-24	STAKIĆ (Prijedor)	E. Tabeau	Basic Demographic Characteristics and Socio-Economic Status of Missing and Killed Persons from the Municipality of Prijedor, 30.04-30.09.1992.	9 September 2002
IT-95-9	SIMIĆ et al. (Šamac and Odžak)	E. Tabeau and J. Bijak	Changes in the ethnic composition in Bosanski Šamac and Odžak, 1991 and 1997	9 August 2001
IT-98-32-T	VASILJEVIĆ (Višegrad)	E. Tabeau and J. Bijak	Changes in the Ethnic Composition in the Municipality of Višegrad, 1991 and 1997	17 August 2001
IT-94-2	NIKOLIĆ (Susića Camp)	Ewa Tabeau and Marcin Zótkowski	Demographic Consequences of the Conflict in the Municipality of Vlasenica, May-September 1992	01 Nov. 2002
IT-00-39 & 40	KRAJIŠNIK-PLAVSIĆ (Bosnia)	E. Tabeau and M. Zótkowski	Ethnic Composition and Displaced Persons and Refugees in 37 Municipalities of Bosnia and Herzegovina 1991 and 1997	28 July 2002
IT-98-33	KRSTIĆ (Srebrenica)	H. Brunborg and H. Urdal	Report on the Number of Missing and Dead from Srebrenica	12 February 2000
IT-98-33	KRSTIĆ (Srebrenica)	H. Brunborg	Addendum on the Number of Missing and Dead from Srebrenica	12 April 2003
IT-02-60	BLAGOJEVIĆ et al. (Srebrenica)	H. Brunborg and H. Urdal	Report on the Number of Missing and Dead from Srebrenica	12 February 2000
IT-02-60	BLAGOJEVIĆ et al. (Srebrenica)	H. Brunborg	Addendum on the Number of Missing and Dead from Srebrenica	12 April 2003
IT-02-60	BLAGOJEVIĆ et al. (Srebrenica)	H. Brunborg, E. Tabeau and A. Hetland	Rebuttal Report Blagojevic et al. (IT-02-60) Regarding Report on the Number of Missing and Dead from Srebrenica by Helge Brunborg and Henrik Urdal, 12 February 2000	25 August 2004
IT-02-54	MILOŠEVIĆ (Kosovo)	H. Brunborg	Report on the size and ethnic composition of the population of Kosovo	14 August 2002
IT-02-54	MILOŠEVIĆ (Kosovo)	H. Brunborg	Addendum on the size and ethnic composition of the population of Kosovo	12-Sep-2003

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EXPERT TESTIMONIES OF OTP DEMOGRAPHERS

H. Brunborg, in: MILOŠEVIĆ (IT-02-54, Bosnia and Herzegovina), 18.02.2004

H. Brunborg, in: BLAGOJEVIĆ (IT-02-60-T, Srebrenica), 3.02.2004

E. Tabeau, in: MILOŠEVIĆ (IT-02-54, Bosnia and Herzegovina), 7.10.2003

E. Tabeau, in: STAKIĆ (IT-97-24, Prijedor), 23.09.2002

E. Tabeau, in: GALIĆ (IT-98-29-I, Sarajevo), 30.07.2002

E. Tabeau, in: STAKIĆ (IT-97-24, Prijedor), 24-25.07.2002

E. Tabeau, in: GALIĆ (IT-98-29-I, Sarajevo), 22-23.07.2002

E. Tabeau, in: SIMIĆ et al. (IT-95-9, Bosanski Šamac, Odžak), 10.07.2002

E. Tabeau, in: LUKIĆ et al. (IT-98-32-1, Višegrad), 19.09.2001

H. Brunborg, in: KRISTIĆ (IT-98-33, Srebrenica), 15.06.2000

ANNEX D1. PROFESSIONAL QUALIFICATIONS OF EWA TABEAU (ET) – DEMOGRAPHER, PROJECT LEADER²²

ET graduated in statistics and econometrics (M.Sc. degree, with the highest grade, 1981) and obtained her Ph.D. (with the highest grade, 1991) in mathematical demography at the Warsaw School of Economics. In 1983-1991 she was an academic teacher at the Warsaw School of Economics where she taught descriptive and mathematical statistics and demography to undergraduate courses. Thereafter, she moved to the Netherlands where she lives and works also at present. In the Netherlands she worked almost 10 years at the Dutch National Demographic Institute, where she was responsible for mortality research for the Netherlands and other European countries (see below). Since September 2000 she has been working as a demographer and project leader in the Demographic Unit at the Office of the Prosecutor, ICTY. During her employment at the OTP, ET completed more than twenty analytical research reports related to demographic consequences of the 1990s conflicts in the former Yugoslavia, and in particular in Bosnia; many of them were expert reports and were used in ICTY cases, and testified seven times as an expert witness before the Tribunal for the Former Yugoslavia.

ET worked at the Netherlands Interdisciplinary Demographic Institute (NIDI) in The Hague (Dutch national demographic institute) from July 1991 to September 2000, most time as a senior researcher and project leader. Her responsibilities at NIDI included conducting and proposing demographic research regarding modeling and prediction of mortality and health processes in the Netherlands and other European countries. Modeling mortality by cause of death had become her first domain, and resulted in several widely recognized international publications. ET was invited, as an expert, by national and international organizations (e.g. Eurostat – Statistical Office of the European Union; ING Group - Life Insurance NL, Goldman & Sachs - Life Insurance USA, Statistics Netherlands, British Government Actuary's Department) to consult their projects involving issues of mortality and health development and prediction. She supervised young researchers completing their theses for the M.Sc. and Ph.D. degrees. International and national demographic journals invited her to review submitted papers.

ET had fellowships in the French (1995) and German (1990) National Demographic Institutes. She has links with demographers all over Europe, especially with those from Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Poland, and United Kingdom. ET has excellent knowledge of several types of software. She speaks and writes Polish (native tongue), English, Dutch, and, to less extent, Russian and German.

ET has authored more than 100 research papers. Her record of selected recent papers includes: 3 monographs published internationally, 25 articles published in international and national journals, 18 conference papers presented at international conferences, and more than 50 other research reports and working papers.

²² Project Leader Listed First, All Remaining Authors Follow in Alphabetical Order.

**ANNEX D2. PROFESSIONAL QUALIFICATIONS OF JAKUB BIJAK (JB) -
DEMOGRAPHER**

JB graduated in Quantitative Methods and Information Systems at the Warsaw School of Economics (WSE), where he obtained, with the outstanding grade, the M.Sc. degree for the thesis in the field of mathematical demography. Results of his dissertation have been invited for presentation at the European Population Conference in August 2003 and have also been published in the scientific journal of Polish demographers. In 1999 he was a junior guest researcher (a three-month fellowship) at the Netherlands Interdisciplinary Demographic Institute (NIDI) in The Hague. In 1999-2000 JB worked as a student assistant at the Institute of Statistics and Demography, WSE, where he taught statistics (descriptive and mathematical) to undergraduate courses. During 2001, he was a research assistant in the Demographic Unit at the Office of the Prosecutor, ICTY. Since October 2002 he was employed, as a young professional, at the Demographic Unit again. During his employment at OTP he co-authored 7 expert and research reports. From the year 2003 he has been employed at the International Organization for Migration, Regional Office for Central Europe in Warsaw, and he has also been working on his Ph.D dissertation.

Already during his university education JB authored many excellent study research papers. As a student he attended several conferences for young researchers where he presented a number of valuable papers. He was head of the Artificial Intelligence Research Group at WSE. He also participated in some (Polish and international) research projects related to demographic and economic aspects of society, and wrote several reports.

JB has outstanding knowledge of computer software (among others: MS Access, MS Excel, MapInfo, ArcView GIS, Statgraphics, SPSS, Statistica) and programming languages (Turbo Pascal, Visual Basic). He speaks and writes several languages (Polish, English, German, and to less extent Serbo-Croatian and Dutch).

**ANNEX D3. PROFESSIONAL QUALIFICATIONS OF ARVE HETLAND (AH) -
DEMOGRAPHER**

AH completed the university programme of undergraduate courses in mathematics and computer science and obtained the Bachelor degree (cand. mag.) from the University of Oslo in 1993. As part of his (on-going) Master (M.Sc.) programme he has taken courses in Logic, Rewriting Systems and Compiler Design. He also attended the 7th International Summer School in Jyväskylä, Finland, 1997, with lectures by prof. Juha Alho, on Stochastic Population Projections.

AH was employed at Statistics Norway from February 1994 to August 1999 and from August 2000 to August 2001, (first in the IT Section and lastly in the Division for Social and Demographic Research), where he was responsible for software development for a household micro simulation project and for official Norwegian population projections. He helped produce and publish the official population projections in 1996 and 1999. From 1998 to 2001 he worked on a research project funded by the Norwegian Research Council, in which he applied probabilistic methods to population projections. AH was the main software developer in this project, and also co-authored several scientific papers related to the project.

From August 1999 to August 2000 AH was affiliated with by SafetyCable AS, a Norwegian company specialised in solutions for computer theft prevention. In his position there he supervised the company's software projects, acted as network manager, and contributed to the management of the company. From May 2001 until his employment at ICTY, he was also a member of the board of SafetyCable.

AH has been employed as a Demographer in the Demographic Unit at the office of the Prosecutor, ICTY, The Hague, since August 2001, and has been working on analysing new data sources to be incorporated in the unit's database project.

AH is a computer programming expert, with experience in C, C++, Java, Simula and SAS and working knowledge of Pascal, SML, VB, Lisp, Perl, HTML, and several scripting languages. AH is also familiar with many software tools (MS Word, MS Excel, MS PowerPoint, MS Access, OpenOffice, ArcView, SAS, LaTeX), operating systems (all MS Windows platform, Linux (Certified Professional), BSD-derivatives), and PC and networking hardware. AH speaks and writes Norwegian (native tongue) and English, and can speak some German.

**ANNEX D4. PROFESSIONAL QUALIFICATIONS OF MARCIN ŻÓŁTKOWSKI
(MZ) – DEMOGRAPHIC ASSISTANT**

In 2001, MZ graduated in Banking and Finance at the Warsaw School of Economics in Poland (WSE, M.Sc. degree in Banking and Finance, with “excellent”, the highest grade), and also completed the Master programme of Quantitative Methods and Information Systems at WSE. In 2005 he finished mathematics at the Warsaw University (M.Sc. degree; in 2002 having a leave of absence due to his employment at OTP), specialising in the probability theory. Since 2001, MZ has been engaged in a Ph.D. programme in Financial Mathematics at WSE.

In 2000-2001 MZ worked as a student assistant in the Institute of Econometrics, WSE, where he taught econometrics and stochastic processes to undergraduate courses. In 2001-2002, he lectured “Capital and Monetary Markets” at the postgraduate programme in the International School of Managers in Warsaw. In 2002-2003, he was a research assistant in the Demographic Unit at the Office of the Prosecutor, ICTY, the Hague. During his employment in the Demographic Unit, OTP, he co-authored four expert and research reports and developed software for the analysis of demographic data.

In 1998-99, he was an active member of the Artificial Intelligence Research Group at WSE, organising and taking part in conferences on artificial intelligence.

MZ is an expert in computer programming (C/C++, Delphi, Pascal, VB, HTML, etc.), software (MS Access, MS Excel, MS Word, GIS and ArcView, SPSS, Statistica, Mathematica, Matlab, Maple, LaTeX, etc.), hardware and operating systems (Windows, Linux). MZ speaks and writes Polish (native tongue), English, German, and Russian.