

# ETHNO-DEMOGRAPHIC DEVELOPMENT IN BOSNIA AND HERZEGOVINA IN 1971–1991 AND ITS PROPENSITY FOR ETHNIC CONFLICT

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## Abstract

Different population dynamics of the three main nations of Bosnia and Herzegovina during the era of Yugoslav federation raised uncertainty and tensions in this socialist republic. The differences in the demographic development of Muslims, Serbs and Croats began to clearly manifest especially during the years 1971–1991. These demographic changes in Bosnia and Herzegovina in this period are important to perceive as some of the crucial elements which, together with some other negative factors (primarily the economic decline, paralysis of the federal government, mounting political tensions and nationalism) during the 1980s, were the cause for the interethnic tension to build up. Due to the consequences of different population dynamics we tried to identify the regions where the representation of individual nations was transformed. Such regions, during the monitored period, registered increasing interethnic rivalry. In these regions it is possible to apply the so called Ethnic Competition Theory. The moment the diverse demographic dynamics distinctly increase ethnic tensions, and cause mutual conflicts in the monitored area to escalate it is possible to quantify the rate of this ethnic rivalry in a specific region with the help of recorded changes of local numerical representation of individual ethnic groups. With the use of three selected indicators (index of ethnic competition, index of demographic disadvantage and relative growth rate) we can measure susceptibility to conflict. This quantitative analysis of the ethnic structure and population growth should partially clarify reasons for the subsequent ethnic cleansing in the specific regions during the civil war in Bosnia and Herzegovina.

**Key words:** Bosnia and Herzegovina, ethno-demographic development, ethnic competition theory, measuring demographic interaction, scenarios of demographic dynamics.

## INTRODUCTION

Different population dynamics of the three main nations of Bosnia and Herzegovina during the era of Yugoslav federation raised uncertainty and tensions in this socialist republic. The differences in the demographic development of Muslims, Serbs and Croats began to clearly manifest especially during the years 1971–1991. The fatality of these changes, which had caused major alterations in the proportional representation of nations in Bosnia and Herzegovina, however, is not too often analysed in

academic texts. Although most professional papers emphasize the influence of the mosaic-like ethnic composition of the country it had on the escalation of tensions and the subsequent ethnic cleansing, they do not deal with a detailed ethnic composition of the country until the 1980s. It is, however, important to perceive the demographic changes as the key element, which, together with some other negative factors (primarily the economic decline, paralysis of the federal government, mounting political tensions and nationalism) during the 1980s was the cause for the interethnic tension to build up. The

fear of Bosnian Serbs and Croats, whose number was in decline, of Muslim domination, which was successfully strengthened by the rhetoric of the local nationalist elite, was one of the main causes for the outburst of the destructive civil war. The demographic dynamic itself was not a priori the fuse setting off the conflict, nevertheless, regarding the development of the political and social situation in Bosnia and Herzegovina and in the Yugoslav federation in general at the beginning of the 1990s, it made a significant impact on the subsequent escalation of the tensions.

The objective of this paper is to identify the regions where, due to the consequences of different population dynamics, the representation of individual nations was rather considerably transformed. Such regions, during the monitored period, registered increasing interethnic rivalry. A quantitative analysis of the ethnic structure and population growth of constitutive nations in 1971–1991 may partially clarify reasons for the subsequent ethnic cleansing in the specific regions. In this respect, the ethnic cleansing represented rather drastic measures used not only for geostrategic plans of the conflicting parties but it also confirmed (or restored) the affiliation of a particular region to a specific nation. The paper thus draws attention to the fact that the incentives of the resulting extremely inhumane practices crystallized during the referenced period of 1971–1991.

#### **DIVERGENT POPULATION DYNAMICS OF MUSLIMS AND SERBS IN SOCIALIST BOSNIA AND HERZEGOVINA: GENERAL ASSESSMENT**

Before approaching the national composition data analysis it is necessary to grasp in theory and define the correlation of the population dynamics of the constitutive nations (i.e. the change in the ethnic composition) and the probability of its transition – in case of mutually extremely unfavourable development – to an ethnic conflict. In this context, when taking into account the basic presuppositions of modernist theories which seek the ideal environment for nationalism in places where political and ethnical boundaries differ, Bosnia and Herzegovina (within socialist Yugoslavia) represented an ideal example

(Tomeš 2008). Experts who have examined the collective behaviour of ethnic groups have stated that uneven demographic development (together with historical, cultural, economic and other factors) should not be perceived as the direct cause of the subsequent collective response but rather as its immediate predecessor. Every escalated response of a certain community to an unsatisfactory growth in population in ethnically diverse environment is ultimately always stimulated and regulated by specific acts of its political representatives (Hechter et al. 1982).

The nationalists of Bosnia and Herzegovina had been successful in the ranks of their own nation to effectively dispense an atmosphere of panic and fear of losing their own positions at the expense of another nation. Muslims, who in the 1980s reached more than 40% of the total population, continued to expand demographically. The Muslim elite clearly anticipated this demographic advantage. In this respect the state of affairs in Bosnia and Herzegovina was intensified by proclamations of some of the representatives who emphasised that after reaching the tipping point of representation of 51% in the country the Muslims would have a full right to create a traditional Islamic country with Islamic laws regardless of the opinion of smaller ethnic groups (Mojzes 1998).

The Serbian nationalist elite, who were fully aware of this demographic threat, used it to their advantage as the basis for effectively mobilising Serbian voters. Serbian nationalists, who in connection with the unstoppable disintegration of the Yugoslav federation tried forcibly implementing their separatist programme, started a war in Bosnia and Herzegovina. The key idea of their programme, i.e. the refusal to become a minority group in a country they did not want, was almost unanimously supported by the Serbian people of Bosnia and Herzegovina. In a crucial referendum in the spring of 1992, the Croat elite from Bosnia and Herzegovina, entirely under the influence of Tuđman's policy, erred on the side of the country independence. They were well aware of the fact they might be more likely to succeed in implementing their own geopolitical ideas in regards to the final arrangement of Bosnia and Herzegovina.

In ethnically heterogeneous communities, where interethnic tensions had been recorded due to contradictory or uneven demographic behaviour of individual ethnic groups, it is possible in these respects to apply the so called Ethnic Competition Theory. It is based on a principle of specific circumstances which increase the competition among ethnically different groups amplifying the susceptibility to escalated collective actions. Tensions increase mainly on account of power struggle and securing dominant positions due to dissimilar population dynamics (e.g. in the form of usurpation of administrative positions, control over law-enforcement agencies, securing other work positions and housing options, etc.) among an ethnically distinct population living in one area (Olzak 1994). Adverse demographic trends thus generate significant changes and tensions in the society, which can retrospectively serve as a basis to mobilise own ethnic groups. This results not only in increased interethnic competition but also in an increased risk of mutual tensions (Dostál 1999).

The moment the diverse demographic dynamics distinctly increase ethnic tensions, and cause mutual conflicts in the monitored area to escalate it is possible to quantify the rate of this ethnic rivalry in a specific region with the help of recorded changes of local numerical representation of individual ethnic groups (Slack and Doyon 2001). It is generally accepted that the degree of the ethnic rivalry in the monitored area increases the moment a numerically and proportionally until then weaker ethnic group grows stronger at the expense of numerical decline or stagnation of the other so far stronger group. The moment none of the constitutive nations had no absolute majority – therefore it was unable to entirely control Bosnia and Herzegovina – relative importance of population and its geographical distribution in the country increased.

Although apart from the increasing tensions between the Serbs and Muslims it is also important to take into account the mutual arrangement between the Serbs and Croats, and the Muslims and Croats, the coexistence of the Muslims and Serbs, who had been sharing almost half of all the

municipalities, might have been crucial in the subsequent escalation. The severity of demographic changes in Bosnia and Herzegovina - i.e. most importantly the population growth of Muslims and the drop in Serbian population in the last two decades of socialist Yugoslavia and related deterioration of mutual relations- manifested, among other things, as an indirect result of Yugoslav national politics. The government of this republic re-distributed political power equally, i.e. all central positions and other key positions in the government and law-enforcement agencies of the country were distributed based on the national ratio principle (proportional representation of ethnic groups) both on the national and lower administrative levels on the basis of official results of statistical censuses (Friedman 1996; Ramet 1992).

This parity, however, was not entirely strict from the long run perspective. The decision-making positions and law-enforcement agencies of Bosnia and Herzegovina were dominated by Serbs and Croats. It was therefore only a matter of time before the vital population growth of Muslims would transform to sufficiently strong pressure that would enhance their hitherto inadequate representation in political and administrative positions of Bosnia and Herzegovina. The opportunity to change the existing proportional representation presented itself at the time of the new constitution in 1974. This constitution, which confirmed the decentralization trends initiated during the previous decade, loosened the Yugoslav national structure into a loose confederation and shifted a significant amount of decision-making power from the centre to communist unions of individual republics and autonomous regions (Kosovo a Vojvodina).

The attractiveness of republican and regional political positions started to rise due to enhanced competencies at the expense of federal positions (Rusinow 1977). Since these positions were being filled according to the mentioned ethnic ratio principle, the resulting recognition of Muslims as the sixth Yugoslav nation and their numerical superiority ultimately significantly boosted their position and influence over the Bosnian and also the Yugoslav home affairs.

The dynamic population growth of the Muslims also reflected in the change of their numerical superiority in the Communist League (formerly the Communist Party) of Bosnia and Herzegovina. The Party proportional representation of Muslims during the monitored period grew progressively (Friedman 1996). Even though the share of Muslim party members had been growing rapidly Serbs managed to maintain their numerous (the largest) representation in the Party throughout the period of the socialist Yugoslavia in absolute numbers (Ramet 1992).

Transformations in the numerical representations of individual nations, which created pressure for the redistribution of administrative and key employee positions at the municipal level, intensified the ethnic antagonism at the national level. It fully manifested during the socio-economic crisis in the Yugoslav federation which became evident especially in poorly developed republics, i.e. in Bosnia and Herzegovina too. Economic decline, which was magnified by an almost complete halt of inflow of grants from the centre, reflected in another decline of already insufficient job opportunities and pressure exerted on layoffs in unprofitable factories in the least opportune moment when many municipalities were in a process of changing their proportional representation of individual ethnic groups. The nationalist way of thinking in the Bosnia-Herzegovina society, which rapidly strengthened during the 1980s, therefore, among other things, surfaced in mutual accusations of which nation was more affected by the economic collapse and who was responsible for the economic and social decline of the country.

### MEASURING SUSCEPTIBILITY TO CONFLICT – SELECTED INDICATORS

To measure the susceptibility to conflict it is necessary to choose such parameters which would be able to adequately quantify population changes in different regions and predict their subsequent development. Despite the growth of nationalism, which became evident in the politicization of ethnic categorization during a census in 1991, the national boundaries in certain areas remained overlapped. It

was in these ethnically mixed municipalities (*opštine*), due to a different demographic development of respective constitutive nations, ethnic competition increased.

### Index of Ethnic Competition (IEC)

Based on different population trends using quantitative analysis of the ethno-demographic changes during 1971–1991 we will first localize municipalities with an increasing ethnic competition index with the result of potentially deteriorated inter-ethnic coexistence. The *index of ethnic competition (IEC)* is calculated by the following formula:

$$IEC = \frac{N_2}{N_1} \cdot \frac{N_2}{P} \quad [1]$$

where  $N_2$  denotes the absolute number of the second numerically strongest nation in a municipality.  $N_1$  then refers to the numerically strongest nation in the municipality,  $P$  denotes the total number of people. The index of ethnic competition ranges from 0 (ethnic homogeneity) to 0.5 (if both compared nations are balanced) (Slack and Doyon 2001). It is possible to measure the degree of ethnic diversity within a defined territory in different ways – e.g. with an index of ethnic fragmentation (Yeoh 2003). For better clarity and substantial information, eventually the index of ethnic competition was used for the calculation of coexistence in ethnically heterogeneous regions.

Given that the index calculates ethnic competition in a municipality between two numerically strongest ethnic groups, it is necessary to firstly define these two numerically strongest ethnic groups in individual municipalities during two monitored periods of 1971 and 1991, and quantify their interethnic relationship (i.e. calculate the index of ethnic competition). Break values were defined by quantiles which derived ordered data into essentially equal-sized data subsets.

However, the index of ethnic competition itself in individual municipalities does not fully represent the development of proportional representation

of constitutive nations and its possible propensity to conflicts in the monitored area. By comparing two different time intervals it is possible to determine the rate of escalation or reduction of the intensity of the ethnic competition, but it is not possible to find out which ethnic group was in a majority, i.e. whether a less numerically represented ethnic group had not prevailed over time or whether on the contrary the dominant position of the majority ethnic group had grown stronger. Therefore to evaluate the demographic progress of three constitutive nations and its possible tendency to conflict it is necessary to use other indicators.

### Measuring Demographic Interaction

For a parallel calculation of the rate of demographic interaction between individual ethnic groups during the specified periods two suitable indicators are used: the so called index of demographic disadvantage (IDD) and a relative growth rate (RGR). The resulting value of the *index of demographic disadvantage (IDD)*, based on scale classification, refers to the intensity level of the population decline of a nation in the monitored area:

$$IDD = \left( \frac{M_{91} - S_{91}}{P_{91}} - \frac{M_{71} - S_{71}}{P_{71}} \right) \cdot \frac{S_{71}}{P_{71}} \cdot 100 \quad [2]$$

$M_{91}$  in the formula represents the number of Muslims in 1991,  $S_{91}$  represents the number of Serbs in the same year and  $P_{91}$  is the total population during a census in 1991. Data from 1971 are likewise filled in as  $M_{71}$ ,  $S_{71}$  and  $P_{71}$ . The index is weighted by the proportion of Serbs in the population in 1971 in order to reflect the extent of loss of advantage to Serbs (Slack and Doyon 2001). These calculations were analogically carried out in Serb-Croat and Croat-Muslim districts and in the given moment were weighted by the examined nation.

The other possible option is the *relative growth rate (RGR)*:

$$RGR = \frac{N_{91}}{N_{71}} \cdot \frac{P_{71}}{P_{91}} \quad [3]$$

RGR quantitatively expresses whether one ethnic group is growing faster than the other with regards to the overall development of the population in a specified administrative district (i.e. a municipality).  $N_{71}$  is the number of members of a specific ethnic group in 1971,  $N_{91}$  is the number of members of a specific ethnic group in 1991,  $P_{71}$  is the total population of a specific administrative district in 1971,  $P_{91}$  is the total population of a specific administrative district in 1991 (Jelen 2009).

At last, an index of demographic disadvantage was used to calculate the population shift between individual nations (potential growth or decline) in the monitored area. The calculation can be visually properly graphically represented in a cartogram. Break values for the index of demographic disadvantage were also defined by quantiles. The calculation of the index of demographic disadvantages does not show the trend of population behaviour of the monitored nations though. The different demographic dynamics of the two monitored nations is shown by a relative growth rate which is employed in identifying scenarios of demographic dynamics of the nations (Bosnia and Herzegovina) in question.

### Administrative Organisation of the Socialist Republic of Bosnia and Herzegovina – Selection of Appropriate Geographic Units for Comparison

An essential part of the methodical planning of the quantitative analysis is the selection and subsequent justification of analysed territorial units. To analyse the population dynamics in individual nations in Bosnia and Herzegovina it is necessary to use sufficiently informative geographical regions which would be of at least similar size and approximately the same population. Municipalities (i.e. opštine) can be considered such areas. Comparison of individual territorial units of the lowest settlement level (i.e. naseljena mjesta) is not virtually viable due to technical feasibility (in 1991 there were 5,587 settlements in the republic), lack of retrospective data bases at that level and considerable changes in their cadastral assessment.

At the same time, due to modifications in the administrative zoning of Bosnia and Herzegovina and changes in a population census methodology, it is difficult to compare the statistical base at a regional level for the whole socialistic period. The relevant comparison is primarily complicated by a key reform of political-territorial units in the 1960s, a variable number of municipalities during individual censuses, different methodology of carried out censuses, and cadastral changes in their administrative demarcation. For these reasons, and also owing to the lack of officially acknowledging the Muslim nation prior to 1971, it is not possible to compare the data of a census prior to 1971 with sufficient informative value. The data analysis itself is feasible only for the years 1971–1991 when neither the administrative structure of the country nor the area of the monitored units changed.

### **Census Impartiality in 1991**

The last Yugoslav census in 1991 took place in a specific political, economic and social context. Three nationalist parties (Muslim SDA, Serbian SDS and Croatian HDZ), which after first multi-party elections in Bosnia and Herzegovina dominated the distribution of political power, effectively controlled the preparations and the census itself. Specific political context played an important role in how people identified themselves and it manifested in the decreased unpatriotic category of the Yugoslavs from 8% in 1981 to 5.5% in 1991 (Stanovništvo Bosne i Hercegovine). Decrease in numerical representation of the Yugoslavs brought some authors to a conclusion that the census in Bosnia and Herzegovina as soon as in 1971 and 1981 shows a covertly advancing process of ethnic homogenization (Kovačević 2005). Census as a political tool was supposed to serve as a recount of proportional representation of individual nations to confirm their strength in numbers and to demonstrate their dominance in the regions. The role of the statistics was significantly marginalized. Excessive politicization reflected into a number of controversial phenomena (different, officially published results, inconsistency in the records of persons working abroad over a long period i.e. working

as Gasterbeiters, the number of duplicates, etc.) for which it is necessary to approach the census results with caution.

Official results at the local level were therefore often considered unreliable, incorrect or variously interpretable (Marinković 2005). Despite all the criticism, however, Muslims, Serbs and Croats mostly accepted the results at the national level and did not excessively dispute the relative numerical representation of people in each ethnic category. The census of 1991, despite all the reservations is the key database to retrospective research and for the comparison of demographic indicators of the population development over pre-war period in Post-Dayton Bosnia and Herzegovina (Nejašmić 2008).

### **ETHNIC ADMINISTRATION OF BOSNIA AND HERZEGOVINA AND ITS CHANGES AT THE LEVEL OF MUNICIPALITIES DURING 1971–1991**

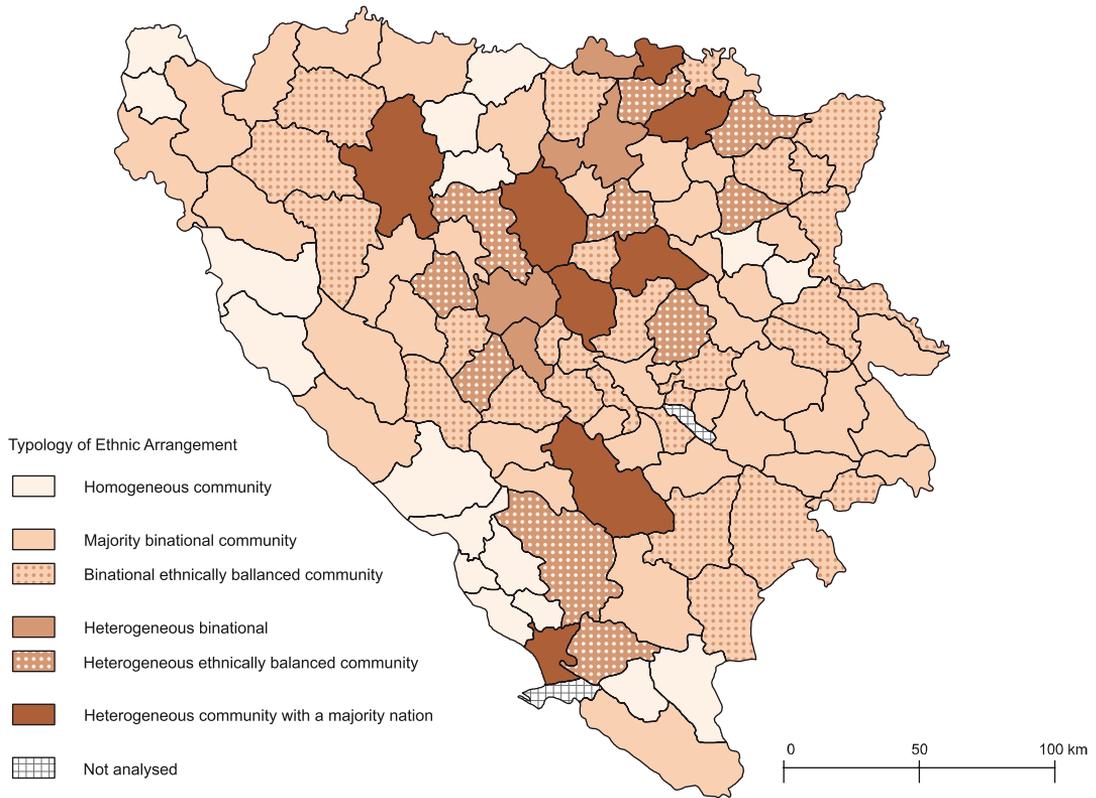
In order to understand the graveness of the ethnographic changes during 1971–1991 and during the whole socialist period in Bosnia and Herzegovina at the local level, it is necessary to study in detail the areal distribution of the three fundamental nations and its changes. Due to the fact that Bosnia and Herzegovina was rightfully considered a multiethnic republic in terms of space its ethnic heterogeneity should not be perceived as evenly distributed. The following six typological rules reformulate the “typical” claim regarding the multiethnic character of this Yugoslav republic and they also draw attention to the differences in ethnic administration of individual districts. Despite their different demographic behaviour and migration of individual nations, which reflected during 1971–1991 in partial changes in the ethno-demographic structure at the local level (i.e. within the boundaries of one settlement structure of one municipality), the ethnic composition of municipalities did not change very much (90 municipalities out of 106 retained their type). In case of the remaining 16 municipalities the heterogeneity increased due to the decline in numbers of Serb representation (e.g. Konjic, Teslić, Bijeljina, etc.) and at the same time the ethnic diverseness was in decline on account of the decline of Serbian population.



**Figure 1** Administrative Organisation of the Socialist Republic of Bosnia and Herzegovina.

When analysing the spatial changes in the distribution of people of Bosnia and Herzegovina at the level of municipalities, the following may be stated: not only did the majority of people not live within urban settlements on homogeneous communities, but the demographic development also gradually reduced the number of people living in ethnically homogeneous areas to the detriment of population growth in heterogeneous locations (i.e. in towns) with a contribution of rural exodus, which is considered the main source of the ethnic heterogeneity increase. On the other hand, however, it should be noted that it was the ethnic minority population that had the tendency to leave the homogeneous areas, which on the contrary reinforced local ethnic homogeneity (Bougarel

1992). Homogeneous rural areas, if not situated in close proximity of larger cities, were at the same time unattractive for ethnically different inhabitants. Continuous exodus of young people and changes in the demographic structure of the rural society did not reflect in the changes of ethnic composition of a specific rural area. It was also true that in ethnically homogeneous municipalities, though their number between the years 1971–1991 declined, the rate of homogeneity in the monitored areas increased. The increase of ethnic homogeneity over the years 1971–1991 was the most significant in Muslim municipalities Cazin and Velika Kladuša. Some Croatian municipalities remained almost 100% ethnically homogeneous: e.g. Posušje, Grude, or Čitluk.



**Figure 2** Typology of ethnic arrangement of districts in Bosnia and Herzegovina in 1991.

Source: author's calculations based on census data in 1991.

### Typology of Ethnic Distribution of Municipalities of Bosnia and Herzegovina

When studying the ethnic composition of 106 monitored municipalities of Bosnia and Herzegovina, using the terms ethnically heterogeneous and homogeneous municipalities is not sufficient due to considerable mutual differences of the ethnic composition in individual municipalities. The following borrowed and modified Bougarel's typology defines six basic patterns of national configuration (Bougarel 1992), see Figure 2.

1) *A homogeneous community*: with a prevailing national group representing 80% of the total population of a particular municipality. This category experienced a decline in the number of municipalities during 1971–1991 from 21 municipalities to 17. Three of them were in 1991 of Muslim majority: Cazin,

Velika Kladuša and Živinice; seven of them were of Serb majority: Bileća, Bosansko Grahovo, Čelinac, Laktaši, Ljubinje, Srbac, Šekovići, Titov Drvar and six of them consisted of a Croat majority group: Čitluk, Grude, Ljubuški, Posušje, Široki Brijeg and Tomislavgrad.

2) *A majority binational community*: the dominant national group was represented by 60–80% of the total population or the local majority nation was twice as high in numbers as the numerically second largest ethnic group. The third constitutive nation did not exceed 10% of the total number of people of a particular municipality. The number of municipalities in 1971 and 1991 remained almost identical (increase from 33 to 38). This type of structure had more than 60% representation of Muslims in 17 municipalities, Serbs in 13 and Croats in 4 districts.

3) *A binational ethnically balanced community*: the prevailing nation reached max. 60% of the total population of an administrative unit, or it population-wise did not exceed twice the number of people of the second numerically strongest nation. The third constitutive nation did not exceed 10% of the total number of people of a particular municipality. Since 1971 the number of municipalities increased from 26 to 28 in 1991.

4) *A heterogeneous binational community*: not one of the constitutive nations exceeded 60% of the total local population. The numerically most powerful nation did not exceed the second largest ethnic group twofold. The local numerically strongest nation exceeded the third constitutive nation twofold, which was, however, represented by at least 10% of the total number of people of a specific municipality. Since 1971 the number of municipalities decreased from 7 to 5 in 1991: Bosanski Brod, Doboj, Novi Travnik and Travnik.

5) *A heterogeneous ethnically balanced community*: individual nations were relatively balanced in numbers. The first nation was not represented by more than 50% and the second numerically strongest nation did not exceed the third nation twofold. The third constitutive nation was at the same time represented by at least 15% of the total number of people of a specific municipality. Since 1971 (12 municipalities) the number of municipalities was reduced to 10: Brčko, Bugojno, Jajce, Kotor Varoš, Maglaj, Modriča, Mostar, Stolac, Vareš and Tuzla.

6) *A heterogeneous community with a majority nation*: the largest nation was represented in a municipality by at least 50% and not more than 60%. At the same time it had twice the number of people as the second ranked nation. It also had to be true that the second and third constitutive nations were represented by at least 10%. In this category, the number of 7 municipalities in 1971 increased by one municipality as of 1991: Banja Luka, Čapljina, Gradačac, Konjic, Odžak, Teslić, Zavidovići and Zenica.

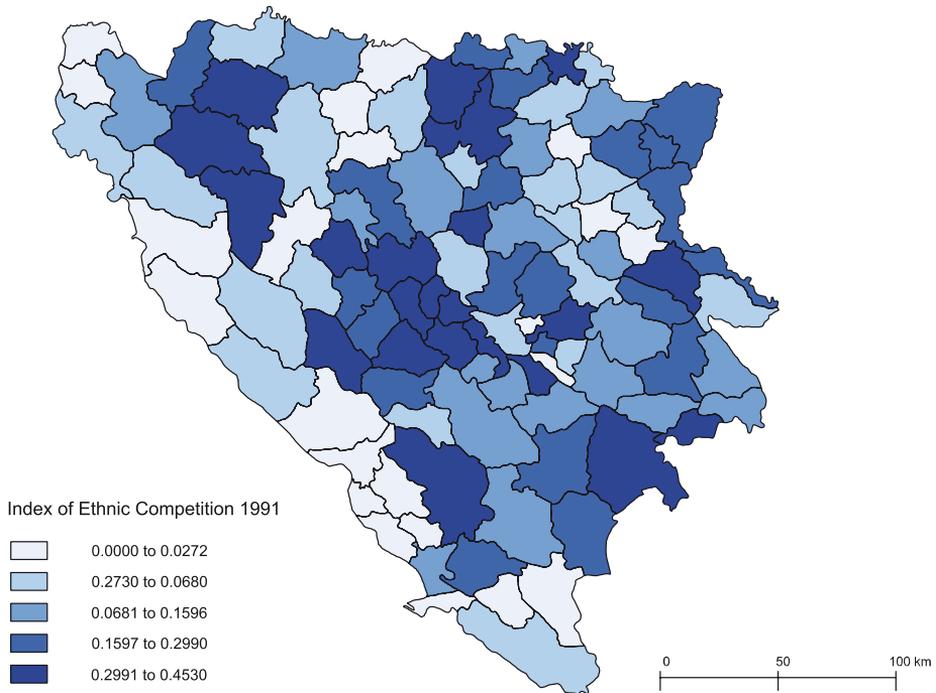
## QUANTIFICATION OF SUSCEPTIBILITY TO CONFLICT – RESULTS

Despite the relatively small changes in the typology of ethnic distribution at a municipality level, during the period 1971–1991 their proportionate representation of essential nations and their geographical distribution significantly modified. These changes in some areas only signalled elsewhere de facto confirmed the results of a modification of demographic trends of the three main nations of Bosnia and Herzegovina in the monitored period.

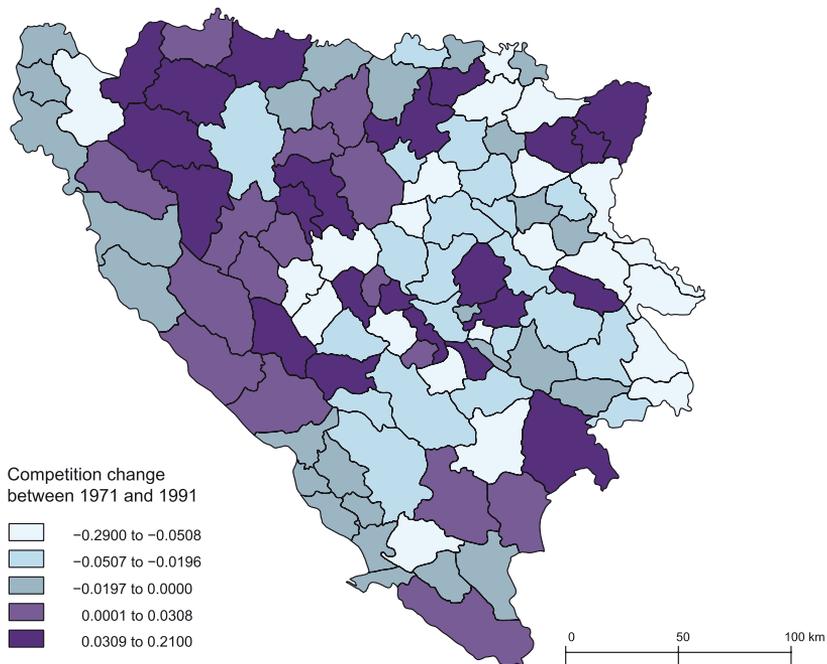
### Results of the Index of Ethnic Competition Measurement

Figure 3, which demonstrates the level of interethnic coexistence in 1991, clearly shows a high degree of ethnic competition in several territorial clusters. The following municipalities reached a marginal value of 0.5 (i.e. almost balanced representation): Ključ (0.453), Busovača (0.416) and Prijedor (0.408). The area of Bosanska Krajina (from Ključ to Doboj) during the monitored period of 1971–1991 referred to general emphasis of ethnic heterogeneity of the local Serb-Muslim population. Similar development took place in two other locations in eastern Bosnia in the zone from Bijeljina across Vlasenica to Čajniče and Foča and in the environs of Sarajevo (suburban municipalities Ilijaš and Ilidža). The last region with a growing rate of heterogeneity was a central-west region of Bosnia where the rate of ethnic heterogeneity between local Muslims and Croats was increasing. In these defined regions ethnical boundaries thus overlapped.

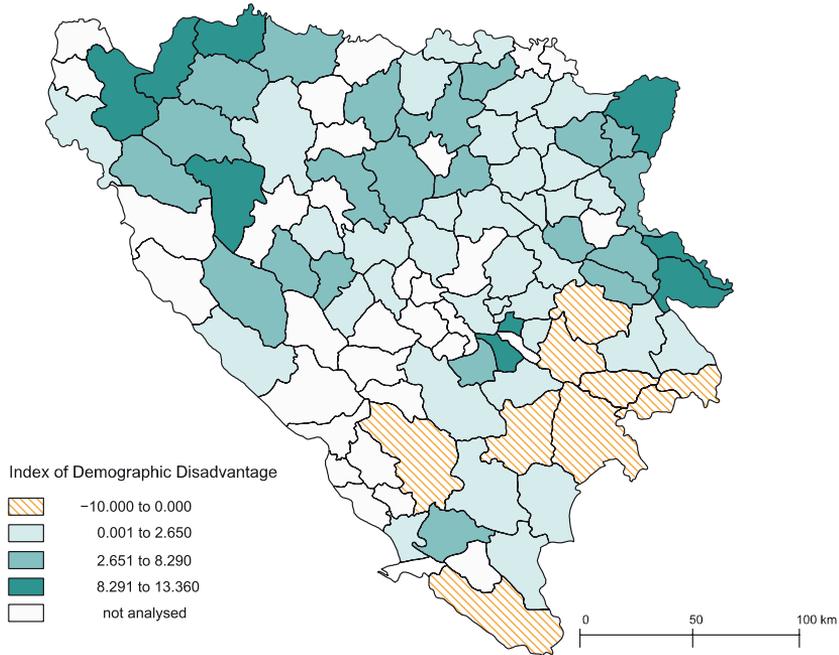
If the data of the analogically calculated index of ethnic competition of 1971 is subsequently subtracted from the index of 1991, we get the final value of growth/decline rate of ethnic competition (Figure 4). This index grew among ethnic groups in 38 municipalities. The highest increase of ethnic competition between 1971 and 1991 was recorded in municipalities Ključ, Sarajevo-Ilidža, Busovača, Kotor Varoš and Doboj. In the remaining districts, on the contrary, based on the calculation the competitive environment decreased.



**Figure 3** The degree of ethnic competition (expressed by index of ethnic competition, IEC) in Bosnia and Herzegovina in 1991. Source: author's calculations based on census data in 1991.



**Figure 4** The change of the index of ethnic competition (IEC) in Bosnia and Herzegovina between 1971 and 1991 (calculated as  $IEC_{91} - IEC_{71}$ ). Source: author's calculations based on census data in 1991.



**Figure 5** Demographic interaction in Muslim-Serb municipalities during 1971–1991, based on index of demographic disadvantage (IDD, weighed by Serb 1971 % population).

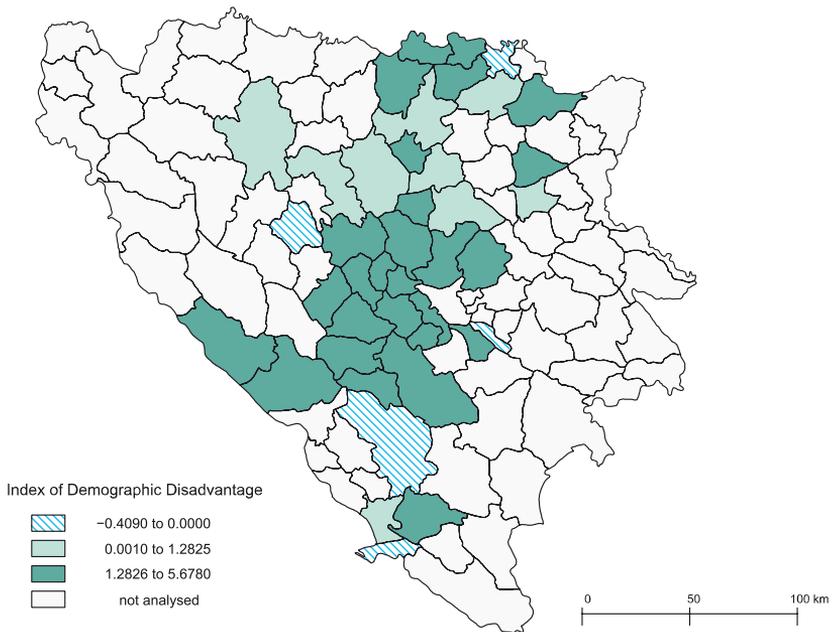
Source: author's calculations based on census data in 1991.

However, when looking at the cartographic display it is surprising to see locations that would be expected to confirm the growth of interethnic tension (i.e. mainly in eastern Bosnia) without any change. In the outcome, the unrestrained population growth of the Muslim population in local regions, which, apart from Foča, significantly outweighed the numerical presence of Serbs, reduced the rate of ethnic heterogeneity. That, however, did not imply that by the decrease in the relative representation of one nation at the expense of the growth of another the ethnic tensions were reduced. The reduction of ethnic tensions expressed in numbers (e. g. in the northern part of Podrinje, where the decline was the most intense) was only superficial. On the other hand, the substantial drop of Serbs in numbers in municipalities Bratunac, Zvornik, Vlasenica, or Srebrenica, and also in a municipality Bosanska Krupa created a fragile ethnic-demographic reality, which, during the following escalation, indicated the direction of the ethnic cleansing policy.

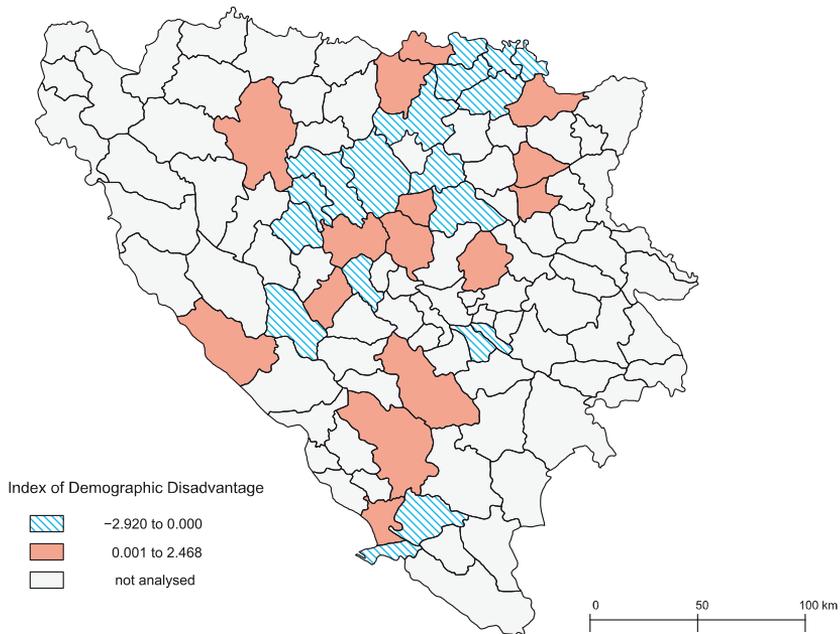
### Results of the Demographic Interaction Measurement

In the statistical analysis, first of all, 17 ethnically homogeneous districts were excluded. Then, based on the numerical representation of the constitutive nations and their population dynamics during 1971–1991, the number of Muslim-Serb, Serb-Croat, Croat-Muslim and ethnically mixed municipalities was determined. For the same period the rate of relative growth of nations that were represented in a particular municipality and index of demographic disadvantage were calculated. Similarly the indexes were calculated for the two numerically largest nations (alternatively also for the third nation with a minimum representation of 15%) in multi-ethnic municipalities.

It has been already stated that with regard to the subsequent development, i.e. the escalation of the tensions, it is necessary to monitor the population



**Figure 6** Demographic interaction in Muslim-Croat municipalities during 1971–1991, based on index of demographic disadvantage (IDD, weighed by Croat 1971 % population).  
Source: author’s calculations based on census data in 1991.



**Figure 7** Demographic interaction in Serb-Croat municipalities during 1971–1991, based on index of demographic disadvantage (IDD, weighed by Croat 1971 % population).  
Source: author’s calculations based on census data in 1991.

dynamics primarily in 50 binational municipalities populated by Serbs and Muslims. Only five of them experienced a decline in the percentage of the Muslim population at the expense of very weak numerical growth of the Serbs in 1991. In all other municipalities, on the contrary, the number of Muslims was progressively increasing.

Relative representation of Muslims in all 106 municipalities during the monitored period decreased only in 25 cases. This value was considerably different from the population decline of Serbs, whose relative presence to the contrary decreased in 99 municipalities. In the remaining seven economically moderately or weakly developed municipalities their number slightly increased or stagnated (see Figure 5).

The second numerically strongest types of binational municipalities were 12 Muslim-Croat districts. Apart from those, the comparison also included multiethnic municipalities where the representation of both Muslim and Croatian nationalities exceeded 15%. The number of Croats did not increase in any of the districts with their significant representation (with the exception of Mostar and Jajce). On the other hand, Muslims in comparison with Croats slightly increased in numbers in 10 out of 12 common districts and in all multi-ethnic municipalities with both of these nations present (see Figure 6). There are only four examples of the last type of municipalities with Serb-Croat communities. Likewise, in this case the comparison included other multi-ethnic municipalities with Serb and Croat nations both exceeding 15%. Only in two of them (Skender Vakuf and Kupres) Croats slightly grew in numbers at the expense of the Serbs (see Figure 7).

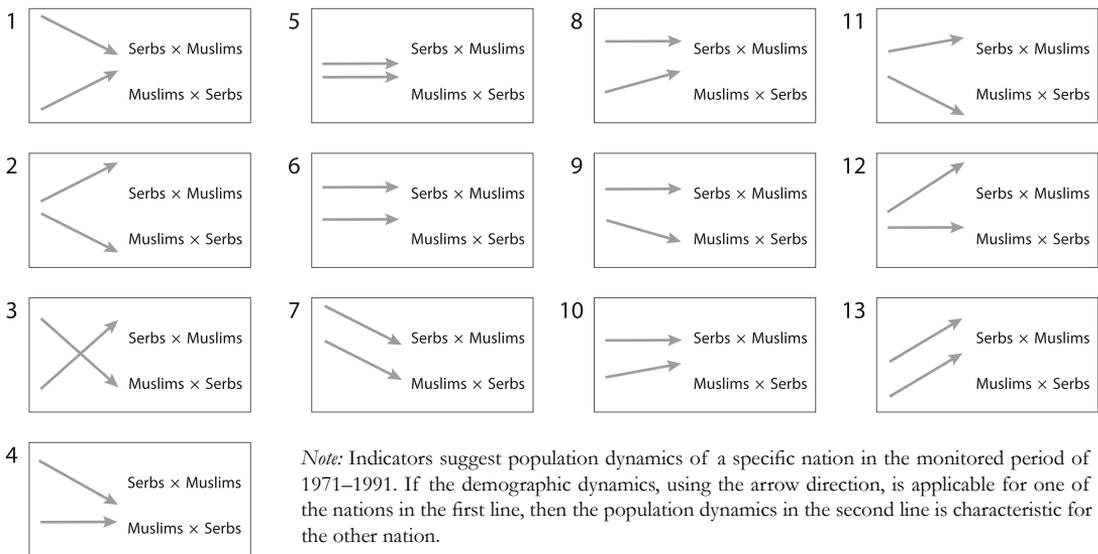
## SCENARIOS OF DEMOGRAPHIC DYNAMICS

With the three factors (index of ethnic competition, index of demographic disadvantage and relative growth rate) it is possible to locate the areas where, during the last two decades of the existence of socialist Yugoslavia, ethnic heterogeneity was increasing/decreasing, and outline the considered scenarios of population dynamics of constitutive nations of Bosnia and Herzegovina. Within those,

two out of the three constitutive nationalities in most municipalities had determinative position (i.e. in 65 municipalities out of 106 monitored municipalities). Only significant representation of individual nations (i.e. min. 15%) was monitored. When, for example in Livno, Serbs were the third represented nation regarding the percentage with 11% in 1971 and 9% in 1991, the rate of demographic interaction between the Serbs and the second largest nation was not measured. Figure 8 shows 13 theoretically considered models of demographic dynamics in examples of population behaviour of most often represented Muslims and Serbs. The same models, which are calculated based on the relative growth rate, are theoretically valid for the relationship of Serbs with Croats and Croats with Muslims.

From the quantitative analysis in Muslim-Serb municipalities it is evident that only the first three scenarios from Figure 8 are the most frequently reoccurring ones. In these cases the scenario of the demographic dynamics of Serbs is set for them detrimentally due to their population decline and, on the contrary, to the progress of the Muslim population. The first typological scenario (16 municipalities in total) defines a decline in Serbian population at the expense of a proportional growth of the Muslims (Figure 9). Nevertheless, despite the progressive increase the Muslim representation in most of these municipalities remained minor. Still, there were certain exceptions with the initially majority number of Serbs approximating to the Muslims. In municipalities Bijeljina, Ključ, Bosanski Novi and Bosanska Dubica, where the most intensive increase was recorded in the index of demographic disadvantage, current Serbian dominance was sharply reduced. It is therefore not surprising that in these regions the rate of ethnic competition increased between 1971 and 1991 as it is shown in Figure 4. A threat for the Serbs to become a minority occurred in a relatively short period and while maintaining the current trend the situation could have deteriorated.

In case of the second and probably the most represented model out of the discussed models (Figure 10), the relatively comparable Muslim and Serb



**Figure 8** Scenarios of demographic dynamics of Muslim-Serb municipalities between 1971 and 1991.

representation gradually reversed to a population decline of the Serbs and a dynamic increase of the Muslims (22 municipalities altogether). This is well detectable in the Bihać's region where in municipalities Bosanska Krupa or Bihać the presence of Serbs was significantly reduced. Even more dramatic decline occurred in rural districts of Bratunac, Srebrenica and Zvornik, where the Serb majority had to face stagnation for quite some time and then the subsequent decline in population. Extreme drop in Srebrenica and Bratunac caused that the once dominant Serbs in these municipalities found themselves in an unfavourable minority status. The decline of the Serb population also took place in central Bosnia (Maglaj, Kladanj) and the surroundings of Sarajevo (municipalities Trnovo, Hadžići and Sarajevo Centar), where the Muslims had been maintaining their strong positions over a long period.

The third model, however, delineating the demographic reality, was for the Serbs the most painful because originally less numerously represented Muslims had in over the period of twenty years numerically outgrown the Serb population which found itself in decline (Figure 11). The loss of their dominant position in Prijedor, Sanski Most, Doboj, Vlasenica and mainly in some municipalities of Sarajevo (Sarajevo Novo, Ilidža, Vogošća)

significantly weakened the presence of the Serbs and their influence in these regions. In Vlasenica and municipality Sarajevo-Vogošća, the representation of both nations completely changed. During the last two decades prior to the disintegration of Yugoslavia the Muslims secured for themselves absolute majority over these two opštine.

The total population decline of Serbs manifested also by the fact that in the same models with a swapped order of nations the Serbs had never managed to fulfil the first scenario. Regarding the second scenario, they increased in numbers only in rural municipality Rudo, and in municipality Čajniče within the third scenario. Population dynamics of Muslims and Serbs according to a relative growth rate were supported by cartographic arrangements with the repeated use of the index of demographic disadvantage. With its use it is possible to monitor the distribution of those municipalities where the Serbs found themselves in an extremely unfavourable and cautionary demographic status further ahead. Though it is not of course possible to predict the demographic development in detail, which was forcibly interrupted by the ethnic conflict, it is likely, based on the scenarios of population trends, that mainly in the three in detail outlined models the ethnic tension might continue to increase.

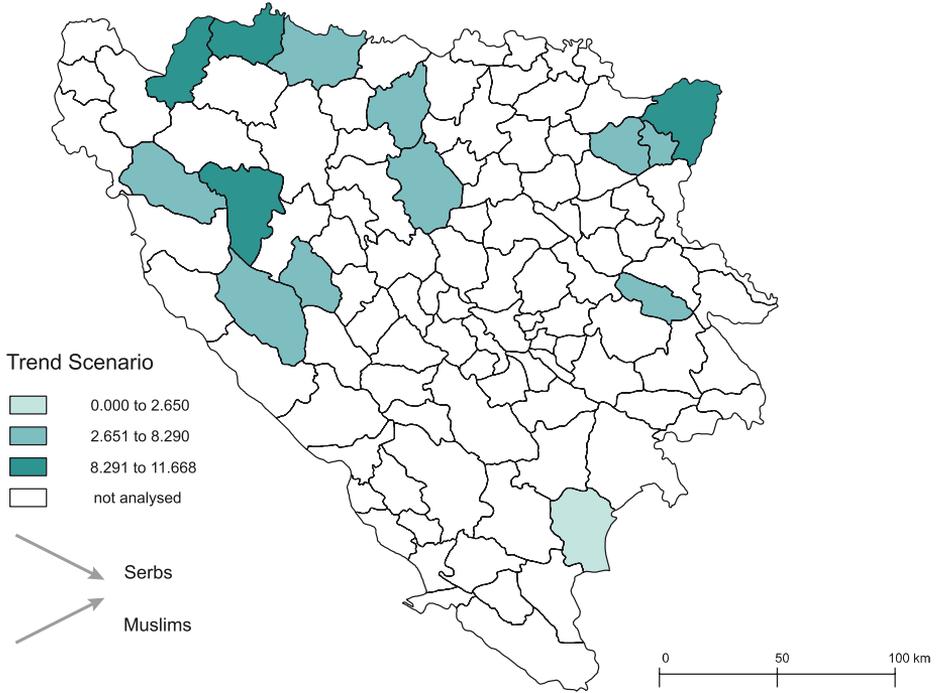


Figure 9 Scenario 1. Source: author's calculations based on census data in 1991.

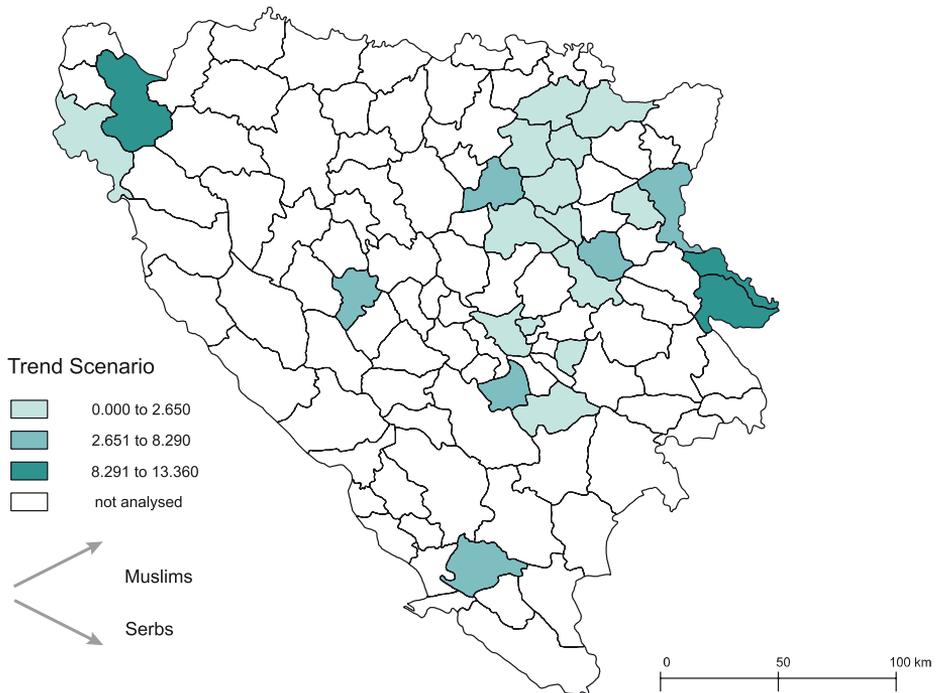
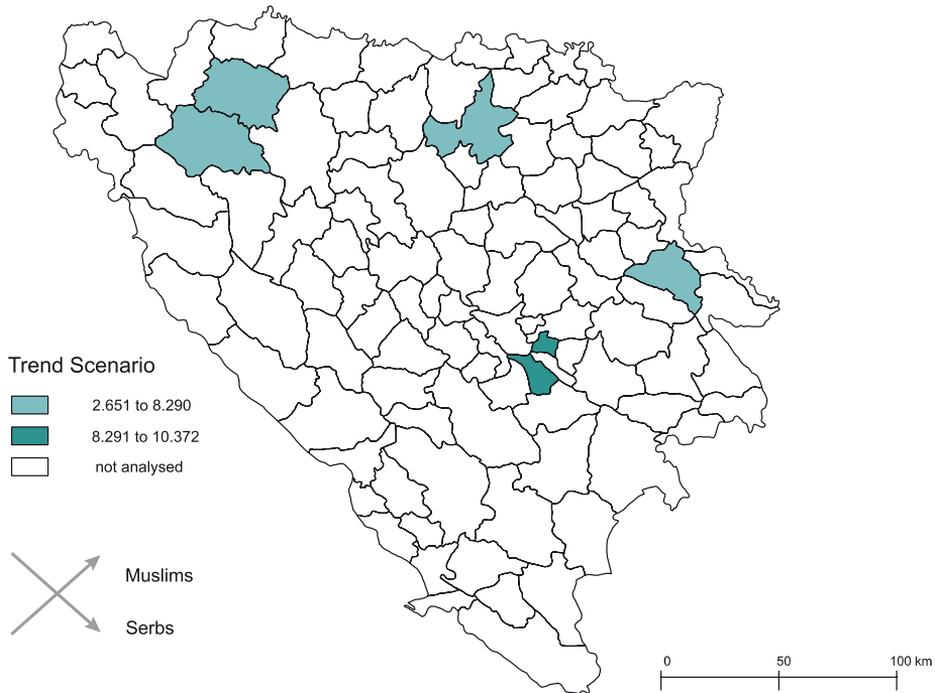


Figure 10 Scenario 2. Source: author's calculations based on census data in 1991.



**Figure 11** Scenario 3. Source: author's calculations based on census data in 1991.

Demographic dynamics in the case of Muslim-Croat municipalities mostly resembled the second, fourth, sixth and ninth typological scenarios (see Figure 6), i.e. the population behaviour of both nations in these districts more or less stagnated or their proportional representation imperceptibly decreased. Based on the previously mentioned scenarios of different demographic trends interethnic relations in any of these municipalities did not escalate. Basically the same, i.e. balanced and stagnant scenarios (No. 5 and 6) also applied to the coexistence of Serbs and Croats. Only in Skender Vakuf the number of Croats slightly increased at the expense of the declining Serb majority.

Municipalities with a nation holding a minority status or gradually declining displayed a clear pattern. In parliamentary elections in 1990, vast majority of local voters supported nationalist parties, which presented themselves as defenders of interests of three constitutive nations of Bosniaks-Muslims (SDA), Serbs (SDA) and Croats (HDZ), to the detriment of civil parties. Significant support to the nationalists was provided mainly by economically

poorly developed rural regions with nevertheless ethnically homogeneous and poorly educated population. This pattern slightly shifted only in larger urban settlements, where on average 20–30% of urban population considered nationalist rhetoric a threat to the existing national principles (i.e. the emphasis on multiethnic tolerance) which were the basis for Tito's Yugoslavia. The vast majority of people living in the city, however, supported nationalist parties. Nationalists received the least support in Tuzla (48% of voters voted civil parties), municipality Novo Sarajevo (43%) and Sarajevo Centar (39%), Vareš (38%), Jajce (31%) and other parts of the city of Sarajevo. On the contrary, the biggest support for nationalist parties came from some purely Croatian municipalities (Posušje 1.9% for civil (citizens) parties or Široki Brijeg 4.4%), in Muslim municipalities (Cazin 6.2%, Velika Kladuša 9.2%) and Serbian districts (Gacko 8%) (Bougarel 1992:122–135). Civil (citizens) parties received poor support in areas with increasing interethnic tensions due to demographic dynamics (Kupres 4.2%, Čajniče 5.5%, Bratunac 7.2%, Vlasenica 7.5%, Bosanska Krupa 9%).

## **THE POPULATION DYNAMICS OF CONSTITUTIVE NATIONS OF BOSNIA AND HERZEGOVINA AND THEIR IMPACT ON GEOGRAPHIC CHANGES IN DEFINING TRADITIONAL TERRITORIES**

The conclusion of this paper will present the previously discussed transformations set into context of defining the traditional territory of the nations of Bosnia and Herzegovina and their changes. The polarization of population potential of each nation of Bosnia and Herzegovina after the Second World War, which was shaped by a distinct natural population increase and various migration movements, reflected in a changing geographic arrangement and the scope of traditional territories of each nation. In ethnic population distribution in the area of Bosnia and Herzegovina certain regularity of historical and geographical development applied. The urban environment was on average occupied by more Muslims than Serbs, who on the other hand were a majority group in locations at higher altitude and geographically extensive rural areas. The ethnic factor thus pointed to a specified pattern in population density. Regions with dominating Muslim population quite clearly exhibited high and increasing population density. The Muslims significantly strengthened their population potential not only in urban areas but also in their adjacent urban-rural zones. They grew weaker in numbers only in some regions, mostly it was at the expense of areas resided by Croats (in Posavina, West Herzegovina and Central Bosnia) and to a lesser extent also in Bosanska Krajina, where the majority of Serbian population lived. On a percentage basis, this decline often did not exceed even one percent. The concentration of the Croatian population remained constant whereas the population density in the Serbian majority areas was very low.

Comparing the population density of the 109 municipalities in 1991, it is evident that out of the 20 most densely populated municipalities not one of them had a Serb majority group prevailing and only two (Vitez, Orašje) municipalities were populated by the Croat majority group. The

remaining 18 municipalities (e.g. municipalities of Sarajevo, Tuzla, Zenica, Breza, Živinice etc.) were mainly populated by Muslims. These 20 municipalities had a total area of less than 10% of the territory of Bosnia and Herzegovina. By contrast, in a group of 20 least populated municipalities 15 of them were Serbian (the lowest population density was in municipalities Čajniče, Pale, Trebinje etc.), 3 were Muslim (Rogatica, Foča, Trnovo) and 2 were Croatian (Tomislavgrad, Neum). These 20 municipalities were distributed over almost 30% of the total area of Bosnia and Herzegovina (Stanovništvo Bosne i Hercegovine 1995).

The Muslim population traditionally occupied four main areas of Bosnia and Herzegovina. In addition to Central Bosnia, where they lived in a wide zone along the River Bosna in the axis of Sarajevo – Visoko – Zenica, their settlements extended from the River Bosna further north in the area of Posavina (Derвента, Teslić, Tuzla and Brčko). The area between Sarajevo and Zenica was during the last years prior to the disintegration of Yugoslavia considered “a demographic engine” of Bosnia and Herzegovina with a stable natural increase in population, progressive and balanced age structure and positive migration balance (Markotić and Tomić 1991:76). Another historical region with a significant Muslim representation was Cazinska Krajina in north-western Bosnia with the largest city of Bihać. The last region with a dynamically increasing population of Muslims before the end of the Second World War was a valley of the River Drina (especially in towns Goražde, Ustikolina and Čajniče).

In 1948 these four regions were not widely compact settlements yet. They were geographically scattered regions with Serbs as the majority population (apart from the three mentioned examples). However, towards the end of the existence of federal Yugoslavia these areas (from Zvornik to Foča) were proportionally dominated by the Muslim population. It is quite evident that these four transformations formed an immutable foundation, a “Muslim demographic centre”, which during the following decades not only strengthened but also its total geographic area expanded. The Muslim population

started influencing some adjacent until then absolutely Serb-majority areas, for example Bosanska Krajina near regions with centres of Prijedor and Sanski Most, or Croatian regions from Central Bosnia across a valley of the Neretva River towards Mostar.

National space of Muslims, as opposed to Serbian and Croatian territories, attained a higher degree of economic development due to its more pronounced urban character. The Muslims, given a higher level of urbanisation compare to the Serb and Croat population, at the same time showed a lower degree of ethnic homogeneity. In other words, ethnic heterogeneity was in the case of more developed environment increasing. (Karačić 1971:91–93).

In contrast, the distribution of Serbs and Croats de facto reflected their adverse demographic dynamics. Comparative representation of Serbs was in permanent decline. Their natural population growth was exceeded during the last decade prior to the disintegration of Yugoslavia even by less numerous Croats. Yet the natural population growth of Serbs in Bosnia and Herzegovina (and Kosovo) was in the long run twice the number of Serbs in Serbia Proper, Vojvodina and Croatia. It is simply possible to say that extensive compact territories they inhabited after the Second World War, unlike the Muslim territory, started to significantly reduce and fragment. From originally vast territories the Serbs got to keep mainly territories of Bosanska Krajina with the centre of Banja Luka and as appose to year 1948 more divided territories of Bosnia and east Herzegovina. Thus they lost their close relative majority they still had in 1948 in the then administrative arrangement of Sarajevo and its immediate environs. A similar situation took place in the valley of the Drina River.

As a result of the population growth and a weak migration activity the Muslims started gradually outnumber in most urban centres in municipalities where until then none of the nations was in absolute majority. Therefore in these quite often densely populated, geopolitically and economically significant centres the representation of Serbs (and Croats) was reduced. The vast majority of these

centres with proportional changes in population were located in a Serb-Muslim contact zone. The zones, where Serbs and Muslims came into contact with each other more frequently, thus extended. During the years 1981–1991 the proportional ethnic majority in six significant municipalities with strong population (12.82% people of Bosnia and Herzegovina) changed: Doboj, Prijedor, Novo Sarajevo, Mostar, Sarajevo Ilidža and Derventa. In 1981 the Serbs represented a relative majority in Sarajevo Ilidža, Novo Sarajevo, Doboj and Prijedor. In 1991 Muslims prevailed. For completeness essential to add that the Serb population grew only in Derventa, which was dominated by Croats. Changes also took place in Mostar where, in 1991, the Muslims numerically exceeded the Croats.

With the cities geographically expanding their rural territories got gradually adjacent to the urban settlements and at the same time they began to merge with one another which created extensive areas of urban centres. In the last decade of the existence of socialist Yugoslavia, Muslim area thus geographically interconnected rural settlements of larger cities. As a result of proliferation of urban environment the surrounding rural settlements were often adjacent to their lands with, however, ethnic population different from the majority population living in the city. Results of such changes manifested in a census in 1991 because rural areas with proportionally smaller population de facto vanished.

Croats maintained their population position mainly in Western Herzegovina even though this region suffered the greatest emigration of entire Yugoslavia which reduced the local natural population growth. In fact the number of Croats did not decline only in Bosnia and Herzegovina but also in Croatia. If heterogeneous Mostar is not taken into consideration, this territory was dominated by rural settlements completed with small urban settlements. Croats, apart from Herzegovina and some small municipalities of central Bosnia (Kreševo, Kiseljak, Busovača etc.) traditionally inhabited north Posavina as well as the Sarajevo region where they were outnumbered by Muslims and Serbs. Overall, these four regions were in 1991 populated by 70% of Bosnian Croats (Allcock 2002:119).

## CONCLUSION

In this study we tried to show that different population dynamics of the three main nations (and mainly Muslims and Serbs) of Bosnia and Herzegovina during the period of the Socialist Federal Republic of Yugoslavia raised a radical change of the ethno-demographic reality in this socialist republic. The differences in the demographic development of Muslims, Serbs and Croats began to clearly manifest especially during the years 1971–1991. These demographic changes in Bosnia and Herzegovina in this period are important to perceive as some of the crucial elements, which, together with some other negative factors (primarily the economic decline, paralysis of the federal government, mounting political tensions and nationalism) during the 1980s, was the cause for the interethnic tension to build up. The fear of Bosnian Serbs and Croats, whose number was in decline, of Muslim domination, which was successfully strengthened by the rhetoric of the local nationalist elite, was one of the main causes for the outburst of the destructive civil war.

The territories where during the last decades Muslims, prior to the outbreak of the conflict, competed with the Serbs in terms of demography the most, are at the same time located in close proximity to places with Serbian domination. During the conflicts the territories became the first target of military attacks. It is therefore possible to observe a clear correlation between the weakening numerical representation of the Serbian people during the last two decades and the degree of violence. In other words, defined areas with a rapidly growing degree of ethnic competition and demographic interactions saw during civil conflicts in Bosnia and Herzegovina the most drastic attacks on civil ethnically minor population. The civil war in Bosnia and Herzegovina was thus unfolded with inexorable logic of space.

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## Résumé

### Etno-demografický vývoj Bosny a Hercegoviny v letech 1971–1991 a jeho sklon k etnickému konfliktu

Tato studie zkoumá odlišný demografický vývoj tří ústředních národů Bosny a Hercegoviny, jenž v této republice federativní Jugoslávie způsobil radikální etno-demografické proměny. Rozdíly v populačním chování Muslimů-Bosňáků, Srbů a Chorvatů se začaly zřetelně projevovat v letech 1971–1991. Demografické proměny je třeba považovat za jeden z klíčových elementů, jenž společně s dalšími negativními faktory (hospodářský úpadek socialistické Jugoslávie, vzrůst politického napětí a nacionalismu atd.) v 80. letech 20. století představoval příčinu růstu mezietnických tenzí. Strach početně oslabujících bosenských Srbů a Chorvatů z dominance Muslimů, který úspěšně posilovala rétorika tamních nacionalistických elit, byl jedním z hlavních důvodů, proč následně vypukla ničivá občanská válka. Studie na základě rozdílných populačních trendů tří konstitutivních národů identifikuje regiony, v nichž došlo k výrazné proměně tamního etnického složení.

V oblastech, kde vzrůstala heterogenita, se ke konci existence socialistické Jugoslávie v důsledku eskalace politické, hospodářské a sociální situace zvyšovalo mezietnické napětí. V této souvislosti lze

uplatnit teorii tzv. etnické konkurence. Její základ tvoří teze, že určité okolnosti zvyšující konkurenci mezi etnicky odlišnými skupinami, mohou umocňovat náchylnost k vyostřenému kolektivnímu činu. Tenze se obzvláště stupňují, pokud etnicky odlišné obyvatelstvo, které společně sdílí jeden žitý prostor, mezi sebou začne v důsledku rozdílného populačního vývoje horlivěji soupeřit o moc a o zajištění dominantního postavení (např. v podobě přisvojování správních pozic, kontrole bezpečnostních složek, zajištění jiných pracovních postů, možností bydlení atd.). Nepříznivý demografický vývoj tak způsobuje významné změny a pnutí ve společnosti, jež mohou zpětně posloužit jako podklad k mobilizaci vlastní etnické skupiny. V jejím důsledku se pak zvyšuje nejen mezietnická konkurence, ale roste tím i riziko vzájemných tenzí.

V okamžiku, kdy různorodý demografický vývoj zcela zjevně zvyšuje etnické napětí, lze míru vzájemné etnické konkurence ve sledovaných regionech kvantifikovat právě změnami zdejšího početního zastoupení jednotlivých etnických skupin. K měření demografické interakce mezi národy a náchylnosti k případnému vypuknutí etnického konfliktu byly využity tři klíčové indikátory: index etnické konkurence, index demografické nevýhody a relativní index růstu. Tyto parametry identifikovaly regiony, kde v posledních dvou dekádách vzrůstalo mezietnické napětí a nastínily základní scénáře následného demografického vývoje v etnicky smíšených okresech. V poslední části studie je rozdílná populační dynamika konstitutivních národů Bosny a Hercegoviny zasazena do kontextu geografických proměn vymezených tradičních území obývaných jednotlivými národy. Především v prostorovém rozmístění Srbů, ale i Chorvatů se odrážel jejich nepříznivý demografický vývoj. Relativní zastoupení těchto dvou národů se trvale snižovalo.

Závažnost demografických proměn v Bosně a Hercegovině, tj. především populační růst Muslimů a ztráty Srbů a s tím spojené zostřování vzájemných vztahů se mj. projevily jako nepřímý důsledek jugoslávské národnostní politiky. Ta v této republice paritně přerozdělovala politickou moc, tj. ústřední pozice a další rozhodující posty ve státní správě a bezpečnostních složkách země podle principu

národnostního klíče, tedy proporčního zastoupení etnických skupin, jak na republikové, tak i na nižší administrativní úrovni na základě oficiálních výsledků statistických sčítání. Tato parita ale nebyla z dlouhodobého pohledu zcela striktní. V rozhodovacích pozicích a bezpečnostních složkách Bosny a Hercegoviny početně dominovali Srbové a Chorvaté. Zůstávalo tedy pouze otázkou času, kdy se živelný populační růst Muslimů přetvoří v dostatečně silný tlak, jenž posílí jejich doposud neadekvátní zastoupení v politických a administrativních funkcích Bosny a Hercegoviny.

Kvantitativní rozbor etnického uspořádání a populačního růstu v posledních dvou dekadách existence Titovy Jugoslávie může částečně objasnit důvody, proč k následnému etnickému čištění došlo právě v těchto vymezených oblastech. Teritoria, ve kterých Muslimové Srbům před vypuknutím občanské války nejvíce demograficky konkurovali a která se současně nacházela v těsné blízkosti regionů se srbskou dominancí, se stala prvními cíli vojenských útoků zpočátku vypuknutí konfliktu. Mezi oslabením početního zastoupení (srbského národa) v posledních dvaceti letech a stupněm násilností v daných regionech lze proto pozorovat zřetelnou korelaci. Jinými slovy ve vymezených oblastech, ve kterých prudce vzrůstal stupeň etnické konkurence a demografické interakce, docházelo v průběhu občanského konfliktu v Bosně a Hercegovině k nejdrastičtějším atakům vůči civilnímu etnicky menšinovému obyvatelstvu. Občanský konflikt v Bosně a Hercegovině se tak následně odvíjel až s neúprosnou prostorovou logikou.

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