THE DEMOGRAPHIC CRISIS IN BULGARIA – GEOGRAPHICAL DIMENSIONS

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Introduction

The geographical aspects of demographic phenomena and processes have been the focus of research for many years. In Bulgaria these processes and phenomena were most intensive in the 1950s when the regional demographic information began to be thoroughly analyzed. General theoretical principles about the development of population and economy were employed to explain the regional differences.

The negative processes, accompanying the population development, are characteristic of all advanced and highly advanced nations. The consequences for the society and for the demographic systems are similar but they have different intensity in different periods of time. As the demographic crisis in these countries is considerably mitigated by immigration and by the extension of the average life expectancy, the aforesaid problem is not in the centre of scientific discussions in them. On a global scale the population growth, the high birth rates and the related problems with the natural resources and environmental pollution are still regarded to be of major concern. At the same time, the forthcoming demographic problems (depopulation, reduced population reproduction and population aging), which will result in irreversible negative social and economic effects and demographic crises especially in the small states, are ignored.

The demographic crisis first affects territorial units of low rank and individual settlements. In geographical terms it is characterized by depopulation with emphasis placed primarily upon the population size while the reproduction and migration processes are underestimated.

The demographic crisis is a phenomenon, observed mainly in Eastern Europe (Latvia, Estonia, Hungary, Bulgaria) and is not so typical of the advanced countries. That is why most of the investigations are general and hypothetical and do not treat it from geographical aspects. Demographers begin to show interest in this issue in the mid–1990s when the demographic situation reached its worst parameters – very low birth rates, high crude and age specific death rates, marked population aging, emigration, high unemployment, etc. This research aims to reveal the spatial characteristics of the demographic crisis in Bulgaria. For that purpose it analyzes the quantitative parameters of the demographic crisis, defines its phases and on their basis classifies the territorial units and describes the main socio-economic problems.

In some respects the adverse demographic tendencies in Bulgaria can be established as early as the end of the 1960s but they become most acute at the beginning of the 1990s when the population development enters a new period notable for further demographic destabilization.

Demographic crisis – demographic situation

The term "demographic crisis" is closely related to the term. The demographic situation is an element of the "social situation" which is defined as a combination of social components (people, social communities, public relations, social institutions, social processes) in a certain locality and at a specific time.

The demographic situation can be also considered as a geographical category. It depends on the specific geographical and historical conditions of a territorial unit. In this paper, the "demographic situation" means the main demographic processes and structures for a certain period of time, resulting from social, demographic, economic, geographical, ethnical, cultural and some other factors. It reflects the objective socio-economic regularities in society. The demographic situation is different in different stages of demographic transition and largely depends on its own features in the near or more distant past.

The demographic crisis illustrates the heavily aggravated processes, concerning the population – depopulation, declining birth rates, rising death rates, deteriorated population structures, etc. The adverse quantitative changes in the parameters of the demographic situation have approached thresholds, which cause qualitative transformations. "Threshold" means such processes and phenomena which lead to continuous destabilization in the population reproduction and to socio-economic problems or problems of living conditions and which requires measures so as to reduce and overcome the negative effects. The demographic crisis is specific under certain geographical and historical conditions and is associated with the specific socio-economic characteristics of an individual locality. In this paper the term "demographic crisis" denotes the extremely low values of the major demographic processes and structures which have been reached as a result of socio-economic, urban, cultural, ethnical, geographical factors and of service infrastructure.

Geodemographic analysis

The complex geodemographic analysis of the level of demographic crisis, caused by numerous factors, is based on a whole set of indicators, which characterize most of these factors. For that purpose 13 indicators have been used: birth rate (for the

period 1993–2001), death rate (1993–2001), natural increase (1993–2001), number of in-migrants (1993–2001), number of out-migrants (1993–2001), migration increase (1993–2001), changes in the population number (1993–2001), net migration (1993–2001), share of population at ages from 0 to 14 (2001), share of population at ages 15–59 (2001), share of population aged 60 years or older (2001), share of Turkish population (2001) and share of gypsies (2001). The demographic crisis is defined as multidimensional characteristic of the social and demographic structure, economic development, the level of urbanization, reproductive and migration behavior of the population. Therefore, the phases of the demographic crisis are a result of different combination of indicators, characterizing the areas under investigation. Their parameters, describing the respective phases, are not stable in space and time and so, the territorial units can pass from one phase into another.

Generally, the demographic crises can be divided into the following phases – initial, intermediate and final. Some phases can be further divided into sub-phases, which depend on the specific nature of the demographic processes.

Initial phase of demographic crisis. It is characterized by a birth rate which varies around 10‰ on the average. At the same time this is the phase where the highest birth rate on a national scale has been recorded – 12–13‰. This figure is close to the threshold of the simple population reproduction. The death rate is about 11.9‰. The migration movements are dominated by out-migrations and hence, the migration increase and the net migration are negative. The negative net migration is twice as high as the national average (-5.2‰). The rate of population drop (–6.9‰) is lower than the national average by 0.7 points. The age structure is relatively good. The shares of population at below-working age (17.2%) and at working age (63.6%) are by 1–2 points greater than those for the country and the share of above-working age population (19.2%) is by 3 points smaller. The ethnic structure displays high concentration of Turks and gypsies. The share of Turkish population is twice as high as the national average – 18.8%, and of the gypsies – by 2 points (6%).

The initial phase of demographic crisis embraces the population of areas where the natural increase is about zero or slightly below zero. In the municipalities with negative migration increase the social, economic, geographical conditions and service infrastructure do not favour the positive reproduction pattern of population. In the municipalities with positive natural increase the low educational and cultural level, the ethnic identity, the low migration mobility, the high average numbers of children per one family encourage a considerably high birth rate.

Intermediate phase of demographic crisis. This phase is remarkable for a birth rate, which is roughly similar to the national average and yet, negligibly lower (8.6‰). It widely varies from one municipality to another (the difference is within 6 points). The same applies to death rate that is 13.9‰ on the average but depending on the degree of population aging, it varies within 14 points. The natural in-

crease is negative and is close to the national average – -5.4‰. The rate of population drop is slightly lower than that for the country – -7.0‰. This is caused primarily by the positive migration increase (+1.4‰). During the surveyed period the net migration is negative (-1.7‰) which is mostly due to the emigration. The in-migration and out-migration statistics substantially differ and depend on the place of the territorial unit and its center in the administrative and economic-geographical division of the country. The positive migration increase predetermines relatively well-balanced ratios between the main sex and age groups. The age structure resembles that of the country. The shares of below-working age (14.9%) and above-working age population (22.2%) are smaller than the national average ones by 1 point and of the working age population (62.9%) – by 0.6 points bigger. The ethnic structure is notable for its share of gypsies that is close to the national average (4.0%), for the smaller concentration of Turkish population (6.2%) and for a higher share of Bulgarian population as compared to the national average – 85.1%.

The intermediate phase of demographic crisis is defined by parameters of demographic situation, which are similar to those throughout the country. The population structures are basically formed by the migration movements (it should be emphasized that with the abating migrations it is the natural increase that becomes predominant). The favourable economic-geographical conditions and the available economic, servicing and other potential continue to attract in-migrants, which keep the population balance irrespective of the changing population number. To a great extent the changes in the demographic situation in the individual territorial units will result from the accelerated process of population aging, reduction of in-migration flows and universal transition to a one-child family pattern because of economic, social, cultural, psychological and some other transformations.

Final phase of demographic crisis. It is characterized by depopulation processes and population regressive reproduction. The birth rate is very low (about 6.5‰ on the average) and the lowest values are less than 4‰. The death rate is exceptionally high (about 25.5‰ on the average) and the extreme values are above 30‰ while the average death rate exceeds the national average by 11 points. As a result, the natural increase is negative (-19.0‰ on the average and higher than the migration increase) and is considered the primary cause for the population decrease (18‰ on the average). The migration increase and the net migration are positive but their values are too low (0.9‰ on the average) which actually does not improve the population age structure. The migration turnover in the municipalities is high which is a sign for their economic, social and demographic destabilization. Therefore, the in-migration and out-migration coefficients widely vary. The population aging has reached extreme values. The share of below-working age population is too small (12.1%) which is by 3 points smaller than the national average. There is an over-concentration of above working age population (41.4%) which is by 19 points higher than the national average. The ratio below working: above-working

age population is less than 0.3, which illustrates the heavy aging and the lack of population reproductive capacities. This fact is additionally accentuated by the low share of working age population – 26.5%, i.e. by 17 points lower than the national average. Such age structure explains the regressive type of population reproduction, which leads to depopulation. The ethnic structure is homogeneous with decisive prevalence of the Bulgarians (90%). The share of the gypsies is 6.6% and is by 2 points higher as compared to the average figure for the country. The share of Turkish population is negligible – 2.8%, i.e. by 6 points lower than the average for the country. In many of the municipalities, this share is 0% or less than 1%. The degradation of the demographic structures in the final phase of the demographic crisis essentially restricts the economic, cultural and urban development of the municipalities. The educational level is very low and most of the people are employed in agriculture. Their incomes are relatively low and include mainly pensions and relief funds. The service infrastructure is lagging behind in quantitative and qualitative terms and its utilization is inefficient. The economic-geographical location, which is rather unfavorable, the available economic, social, servicing, etc., potential and the level of urbanization impede the attraction of in-migrants and thus by means of positive migration movements to improve the demographic indicators which will result in a better demographic situation and in mitigation of the demographic crisis. Consequently, the depopulation of the areas, experiencing this phase of demographic crisis, will go on.

In order to distribute the municipalities in Bulgaria according to the phases of demographic crisis, a hierarchical clustering technique has been used, based on Euclidean distance measures and Ward's method of clusters' linkage. The clustering procedure produced a tree diagram in which 3 groups of municipalities can be distinguished. Each one corresponds to the respective types and sub-types of demographic crisis (*Figure 1*).

During the period 1993–2001 the initial phase of demographic crisis in Bulgaria affected 77 of a total of 263 surveyed municipalities (29% of their total number), 28.3% of the country's area and 26.5% of the country's population. They are situated in 2 of the previous 4 regions of demographic stability – the Eastern Rhodope district and Northeastern Bulgaria. At the beginning of the 1990s, the birth rate of these municipalities began to decrease in comparison with the past and yet, it is still on the threshold of the simple reproduction (about 14‰). In lots of them, either the Turkish population prevails or the share of the gypsies is high. A typical feature of the municipalities, going through this phase, is that the demographic crisis occurs suddenly because of the large-scale emigration of Turkish population to Turkey.

Figure 1

Demographic phases in Bulgaria and the used demographic parameters
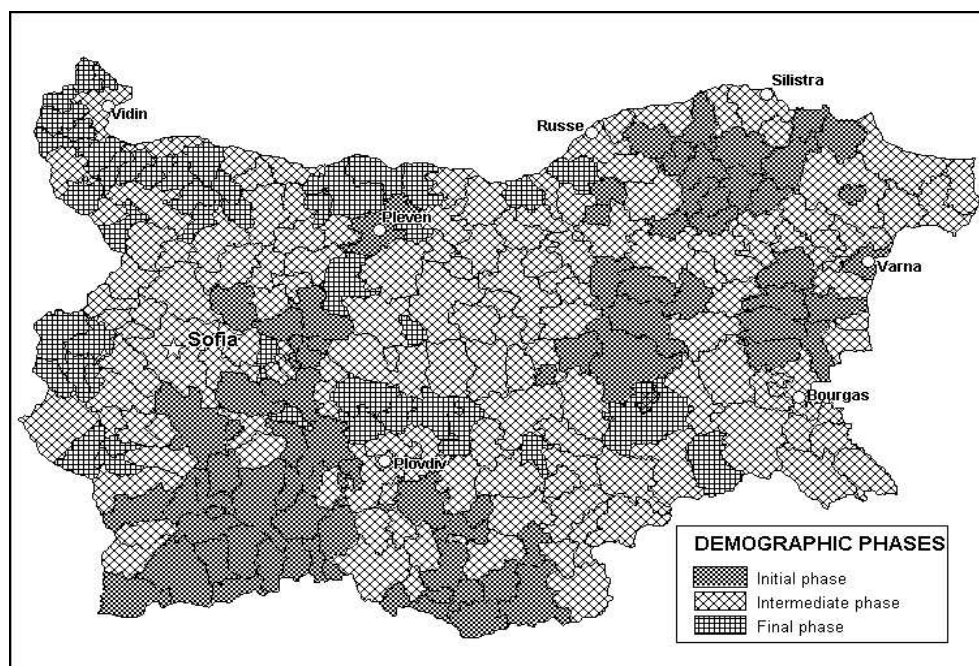
Parameters	Initial phase	Intermediate phase	Final phase
1. Number of the municipalities	77	141	45
2. Share of the municipalities (%)	29,3	53,6	17,1
3. Share of the country's area (%)	28,3	58,1	13,6
4. Share of the country's population (%)	26,5	68,8	4,7
5. Birth rate (‰)	10,1	8,6	6,5
6. Death rate (‰)	11,9	13,9	25,5
7. Natural increase (‰)	-1,8	-5,4	-19,0
8. Number of in-migrants (‰)	17,7	24,8	28,9
9. Number of out-migrants (‰)	21,3	23,4	28,0
10. Migration increase (‰)	-3,6	1,4	0,9
11. Changes in the population number (‰)	-6,9	-7,0	-18,1
12. Net migration (‰)	-5,2	-1,7	0,9
13. Share of population at ages from 0 to 14 (%)	17,2	14,9	12,1
14. Share of population at ages 15–59 (%)	63,6	62,9	46,5
15. Share of population aged 60 years or older (%)	19,2	22,2	41,4
16. Share of Turkish population (%)	18,8	6,2	2,8
17. Share of gypsies (%)	6,0	4,0	6,6

Source: Edited by the author.

This phase can be divided into two sub-phases – initial phase of demographic crisis, caused by impressive exodus, and intermediate phase, occupying a borderline position between stationary and regressive type of demographic situation.

Most numerous are the municipalities, experiencing the intermediate phase of demographic crisis – 141 of a total of 263 or 53.6% of all municipalities, 58.1% of the country's area and 68.8% of the country's population. The municipalities here perform different functions with priority given to mining industry, resort and recreation activities, etc. Dominant in them is the Bulgarian ethnos with its specific reproduction and migration behavior. The phase is notable for the higher negative migration increase as compared to the negative natural one and for a population aging, which is not so marked.

This phase can be divided into three sub-phases – initial stage, medial stage and final stage of the intermediate phase.

The final phase of demographic crisis includes 45 municipalities of a total of 263 surveyed ones (17% of them) which cover 13.6% of the country's area and 4.7% of its population. The demographic indicators of the municipalities in this phase are extremely adverse. With few exceptions, the municipalities are located in regions of long lasting depopulation – Northwestern Bulgaria, the regions bordering on Central West Bulgaria, the Central Stara Planina Mountain with its adjacent parts of the Danube Plain, the eastern half of the Upper Thracian Lowland with regions of Sredna Gora, Strandzha and Sakar. These 45 municipalities have been integrated into a separate group because of the extremely high death rate, the high rate of population drop (resulting from the extremely high negative natural increase), the heavy population aging and the exceptionally low birth rate.

Nowadays the demographic situation in the country is in crisis, which is evidenced by the degraded parameters of the demographic situation as far as the urban population is concerned. The emigration of young people and the changes in the reproductive behavior as a result of the socio-economic crisis have contributed to this process. Most of the inner migration has turned into outer migration thus accelerating the demographic crisis. The latter has affected severely the rural population, too. In the rural regions the demographic crisis started much earlier because of the village-to-town migration (associated with the government urban policy and the poor living and labour conditions in villages) and the evolutionary changes in population reproduction. There are no prospects for overcoming the crisis and for stabilizing the demographic situation in the near future. The high unemployment level together with the low standard of living will keep negative net out-migration balance.

The demographic crisis has incurred serious (and quite often irreversible) losses on society, resulting in social, economic and settlement destabilization. Therefore systems of preventive measures are needed to restrict the adverse consequences, which have to underlie the strategies and plans for general and regional socio-eco-

nomic development. The statistics show that due to the limited demographic resources a lot of schools and health centers are likely to be closed and a number of settlements – to be wiped out of the map. According to 2001-census more than 130 inhabited localities are practically depopulated, more than 3300 localities have less than 500 inhabitants and are deprived of the rights to elect a mayor and over 1400 settlements have a population of less than 100 people. The depopulation, which has affected numerous settlements, gives rise to plenty of managerial and regional planning problems.

The birth rate decrease below the level of simple reproduction is the major factor for the current demographic crisis. It makes the base of the age pyramid narrower at the expense of its central and top parts. This is the way in which the process of population aging as an element of the demographic crisis proceeds. It is the aging, which is mainly responsible for the rising crude death rate. To sum up, the low birth rate and the high death rate disrupt the normal population reproduction pattern. Besides, the demographic crisis leads by natural causes to a population decrease throughout the country or in a certain region of different rank and to heavily degrade demographic structures.

The process of aging and the decreasing number of population hamper the organization of production cycle and the efficient utilization of production technologies which in turn cuts down the investments for buying expensive equipment and for carrying out a wide-range of research activities. The smaller number of population at working age induces a reduced labour potential. It reflects also on the cultural sphere as the production of films, the publishing of books and the construction and maintenance of libraries do not pay. Another important consequence of the population aging is the retirement insurance, which becomes more difficult in the conditions of economic crisis, unemployment, low labour productivity and widespread "grey economy". With the population aging, the pension and health expenses grow. The reduced employment and the drastic drop in the volume of GDP adversely affect the pension fund and do not allow the old-aged people to live in dignity. The new scheme of health service and social benefits is being discussed and applied but it faces enormous difficulties and that is why is ineffective and turns out to be a subjective factor, rising the death rate. Owing to the accelerated depopulation, many buildings (houses, enterprises, administrative buildings, educational establishments), service infrastructure and equipment have been abandoned. The same refers to the local resources – farmland, recreation and tourist potential.

The most important social problem, which the government has to solve, is the adequate incomes of the old-aged people in Bulgaria. For that purpose it is necessary to obtain economic stabilization, to speed up the rates of economic growth and to introduce a better approach for collecting money that goes to the state budget.

The problem can partially be solved by compulsory and additional voluntary retirement insurance.

The birth rate can be encouraged not only by direct payments but also by tax concessions in the conditions of market economy. The first step in this respect is the application of some elements of the family income taxation in Bulgaria.

Most of the smaller Bulgarian villages exhibit highly aggravated socio-economic characteristics. These settlements and some of their buildings can be preserved to a certain extent by the increasing purchases of country cottages and their transformation into villas for short-term or long-term recreation – a practice that is presently observed. In addition, Bulgaria's forthcoming integration to the EU makes a lot of foreigners buy rural properties. Therefore, some of the Bulgarian villages might somewhat recover, although an overall stabilization is unlikely to occur.

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