SPATIAL DISPARITIES OF POPULATION EVOLUTION IN PLAIN BIRDA-MORAVITA

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Abstract: This study aims to present the causes of unequal population developments over a long period of time (1880-2011), and the social and economic repercussions it may have on the studied area. Setting population trends in villages of Moravița Birda Plain aims to identify a general trend in the area that is being analyzed. The evolution of the population in the territory is directly related to the impact of its natural movement.

Keywords: evolution of the population, demographic trend, birth, death, natural demographic balance, spatial disparities, infant mortality.

INTRODUCTION

The analysis of spatial disappearances that occur in the evolution of the population which belongs to a geographic area is an interesting subject of study for both geographic Romanian literature and international geographic literature. The existence of inequalities in the evolution and natural movement of the population in Birda Moravita Plain and the disappearances that have led to progress and to economic downfall in the analyzed time interval are the foundation of the present study. Another reason for the article is the identification and analysis of multiple causes of social and economic inequality that have led to major differences and large gaps between the villages studied.

It should be noted that in terms of evolution and natural movement of population, Plain Birda Moravița fits the general trend of evolution in the Banat Plain. In small towns there is a negative trend due to the migration of some segments of the population, while in large villages or towns, predominantly fluctuating trends and even progressive ones are manifested.
Classical methods specific to the studies based on quantitative data and applying the concept of territorial disparity in a relatively small area, are the main ways of highlighting the geographical phenomenon known as highly representative at a regional level.


I.1 The relevance of the concept of spatial disparity

Even if it is known that spatial disparities always existed in the territory, the space being identified with the notion of heterogeneity, in the ‘50s, scientists have paid attention to this concept when they became aware of the economic disparities existing on a regional level.

We can say that in the second half of the twentieth century, the analysis of the regional disparities play an increasingly important role in studies of regional geography, these being important in the territorial differentiation but, at the same time, representing a violation of ethical norms (Ancuta 2008, p.17, see Dramowicz, 1985).

In geographical language, the disparity notion is identifying with the "inequality", but "inequality" felt, perceived and experienced as an injustice (Ancuta, 2008, p.17, cf. Brunet, Ferras, Thery 1992), this inequality produces differences at an economic, social and cultural level (ibid).

According to George (1980), one can speak about disparities only when the "differences can reach higher values and whether they can have a quantitative or qualitative, positive or negative impact on the operation of planning and economic development".

Addressing disparities was performed more often, not only by the social choice but by concepts such as "justice, equality, equity and development", concepts that are used increasingly often in geographical approaches (Claval, 1977).

According to Aydalot (1984) disparity means “remoteness from the norm, the difficulty consists in choosing the rules that cannot be regarding identity or equality, it being directly correlated to the spatio-temporal context of that society”.

When talking about spatial disparity, we can appeal to some notions in direct correlation with this, concepts such as spatial justice, equality and fairness. In this sense some authors believe that "spatial inequalities are only translations of spatial social inequality" (Duncan, 1989) "spatial attribute referring to the context of the concept and not the content of the concept" (Pirie, 1982).
The impact of inequality in the distribution of population in an area or large differences in the values of birth or death rate is in direct relation with economic progress or regression of the studied area, according to E. Morin (1977), "economic development, supported by developing industrial technique can ensure social progress and individual good."

In an attempt to complement and highlight the disparity term some authors try to define the concept of territory, which is seen both as the world lived and as system. As the world lived territory can be represented by "a portion of the land area equipped with a certain identity, structure, organized human society" (Chammssey, cf.le Berre, 1992).

The territory as a system was considered a "set of interacting elements and relationships between them, the elements making part of the system through their relations, the status of each component is constrained, conditioned and dependent from the others" (Bertalanffy, 1971 cf.Nir 1990, p.77). Territory as the system has been a concern for geographers and the acquisition of general systems theory by them in the 70s allowed "to formalize this intuition, geographers being satisfied to discuss the virtues of the theoretical approach" (Chapman, 1974 Leghausen 1974 Chorley and Kennedy, 1971 cf, Nir 1990 Donis, 1977).

The concept of disparity can also be used outside of "territory", to designate in a geographical sense the conflicting relations between the majority and the minority, they are not set final, between the two existing agreements and forms of acculturation (Cretan, 1999, p.26 ).

II. RESEARCH METHODOLOGY

The term "spatial disparity" is a term used increasingly often in human Romanian geography and international cuisine. For this purpose we took as starting point the work of Romanian literature ( Ancuta , 2008 ), and international geographic literature ( Claval , 1995 Brunette, Ferras , Thery 1992, George , 1980; Dramowicz , 1985) and have imported some theoretical elements in the area of settlements in Birda Moravița Plain, in order to make a relevant study of the consequences that may generate in this territory, the presence of inequalities in the evolution and natural movement of the population.

The empirical work was done on the basis of quantitative indicators such as birth rates, death rates, natural population balance, and the data obtained from the Department of Statistics, Timis, processing data from population, censuses, Health Department Timis.

Since this is a study based largely on quantitative data, using geographic classical methods such as analysis, synthesis, comparison and mapping method plays a major role.
In this respect, the method of analysis and synthesis aims to present in an organized way, the socio-economic impact, produced by the evolution or involution of the population or natural movement. The mapping method (plotting data corresponding to different censuses) is intended to provide a clear picture about the peculiarities of geographical phenomena under discussion in the article. The study of spatial disparities in a longer period of time, involves the analyses and the comparison of several censuses that highlight the similarities and especially the differences that cause a strong or diminished socio-economic impact on a regional level; from this point of view, the comparison method is particularly relevant.

III. NUMERICAL EVOLUTION OF THE POPULATION IN PLAIN BIRDA MORAVIȚA

The study, on the population of a territory is of special importance economically, socially and politically. They give policy makers important clues about the distribution of labor in that territory, in accordance with the economic potential and the economic policy of transformation of the geographical landscape. Therefore people should not be regarded as a simple demographic phenomenon, but as an essential factor in the progress of human community that depends on the dynamism of our entire existence. Knowledge of the population in any locality, is involving, inter alia, a complex analysis of all components. Currently, both national and global efforts are especially important in terms of directions in the development of population.

In the following lines we propose to analyze all the elements that would mean a complex study of the population of the settlements in the plains Birda Moravița, this study having a much broader scope of coverage aimed at the whole complex of human geography factors.

"The population is an indicator of maximum generality, always closely related to the characteristics of time and space" (Vert, C., 2001, pg.47). The number of inhabitants in an area is of great importance because the degree of housing is related to the economic development of the area. Plain Birda Moravița settlements recorded over time many fluctuations and inequalities regarding the number of inhabitants. Depending on these fluctuations we can distinguish three periods:

- Prewar period (1880-1920). This period is characterized by a progressive tendency in all Plain Bird Moravița locations, mainly due to massive colonization by German and Hungarian population that occurred during this period in the area. In the western part of the Plain Birda highest values were recorded in Ciacova. There, in 1890 more than half of the population was of German descent. Also in the village of Fodorhaz the German population was found up to 95 percent. Massive colonization by Germans in this period brought significant increase in population in Deta, Giera and
Spatial Disparities of Population Evolution in Plain Birda-Moravita.

Denta. In places from the Plain Moraviţa (Moravia, Jamu Mare, Clopodia, Stamora Germană), 1890 brought an increase in population due to arrival of the Germans in rural areas. To this trend, totally progressive over a period of ten years, contributed the colonization’s of Hungarian population, Hungarians being found in significant number (100-500 people) in different localities: Deta, Ciacova, Jamu Mare, Clopodia, Ferendia.

- The interwar and communist (1930-1977) period is characterized by many fluctuations in population, particularly due to rural exodus to neighboring towns in search of jobs. Also a drastic population decline recorded after 1930 in most regions of the plains Birda Moraviţa because of the Second World War in which hundreds of people were killed. After 1960 the entire region was characterized by the phenomenon of cooperatives. In each community there was established an Agricultural Cooperative Production (CAP), and an Agricultural Socialist Enterprise (IAS), a phenomenon that intensified rural exodus to neighboring towns (young people have left in search of jobs as their land was confiscated because they refused to work in CAP).

- Post communist period (1992-2011) is characterized by a general setback of the population. The causes of this drastic decline are reflected particularly in changing the political regime (the collapse of the socialist system, which allowed the legalization of abortion and the use of a variety of contraceptive methods) which led to a change in the mentality of the population (the model of the family with one child), a reduced natural growth and a migration growth due to increased migration to other cities (especially Timisoara and Resita) or even to other countries. (Fig. 1).

Based on analysis of population trends during 1880-2011, several trends of evolution can be outlined; they reemphasize discrepancies established at regional level. In the current city, Deta, appears a progressive tendency (Figure no.2). The steady increase of population is due to the particular various jobs that have attracted people from neighboring villages and due to the maintenance of a large number of Germans and Hungarians throughout this period. It should be noted that, in 1890, in Deta, functioned a brick factory, 4 systematic mills, numerous workshops and in 1925 was founded The Factory of Veneer and Wood Industry, Prohaska s.p.a. (Chevereșan, 1925, p.60). There was, however, a slight decrease in population in 1920, following the First World War, and in 2002 to 2011 as a result of demographic aging and intensification of migration of youth to other cities and to other countries.
A second type is the fluctuating tendency, specific to the communes in the north, Jebel (Fig.3) and Parța (Fig.3), and to the east village, Voiteg, (Figure 3); here, the population oscillates in time, between 200-300 people. This type of trend is due to rural exodus of the population to neighboring towns caused by CAP land
confiscation, the rather small natural growth and the two world wars. The decline of
the population in Jebel village, in 2011 is caused by an action of administrative
nature (separation from city Pădureni in 2004). Regarding common Parţa, we must
mention that it is the only one at a regional level that is increased in population, in
both 2002 and 2011, the increase being due to the proximity of Timisoara
municipality. Much cheaper land and buildings attract large numbers of people.

But if we try to establish a general trend of regional development, we opt for
a trend of regressive or partially regressive type. We speak of a partly regressive
trend because until 1900, all municipalities are experiencing a steady increase in
population due to the colonization of foreign population (German, Hungarian, etc.),
then geo demographic evolution enters a general decline until 2011, but still in some
years (1930, 1941) attempts to increase light. This trend is characteristic to villages
in the south of the region (Banloc - Giera – Moravita), in the West (Ciacova) or East
(Denta, Birda, Jamu Mare, Liebling) (Fig. 4). If we look at the graphics for these
common demographic developments, we see a continuing decrease in the number of
inhabitants, which was accentuated by decline since 1992, due to the liberalization
of abortion after the fall of communism, which led to a negative natural increase,
due to increased migration to countries such as Germany, Spain and England (people
left in search of jobs). Village Banloc’s and town Ciacova’s current decrease in the

Fig. 3. Evolution of the population numerically in communes with a variable tendency (a-
Jebel,b-Parţa,c-Voiteg) (Source: Department of Statistics, Timis)
number of inhabitants in 2011 (2520 inhabitants, compared to 4525 in 2002 and 5028 in Banloc in 2011 compared to 7285 in 2002 Ciacova) finds its explanation in the case of administrative nature: common Banloc lost Doloţ 2006 and the city Ciacova lost localities Ghilad and Gad in 2004. In all of these graphics can be seen for some localities (Ciacova, Birda) a rather sudden increase of population in 1930 and 1941, thanks to the economic populating policy with population from Moţilor Land.

![Fig. 4. Evolution of the population in the municipalities with numerical regressive tendency (a-Banloc, b-Ciacova, c-Denta, d-Birda, e-Giera, f-Jamu Mare, g-Lieling, h-Moravita) (Source: Department of Statistics, Timis)](image)

**IV. VITAL STATISTICS**

Each community is characterized in terms of quantity and structure by the existence of two features: the people and the number of generations that form it. (Vert, 2001, p.67). The two features are in a continuous process of conversion. Every year, while recording a new generation, existing generations will be reduced as a result of mortality. Thus, we define natural movement as a process of continuous replacement of generations, it can be analyzed from several perspectives (Vert, ibid). At the regional level there is a continuous decrease of the birth rate, a steady increase in mortality, which implies a negative natural balance in 1992 and 2002 (Fig. 5).
IV.1. Birth

Thereby, at each commune level, major differences regarding birth developments stand out recording a continuous decline in the studied censuses. During the prewar years (1900) recorded values exceeding birth rate of 40% 0, far exceeding mortality values and generating a positive natural balance. The highest values were found in the southern municipalities Giera, Banloc and eastern Birda. Percentages below 40% 0 registered Denta municipalities, Moravita, Partos, Jamu Mare. The causes of these high values are found in both the public mindset regarding the respect towards tradition and the role of the family in society (most family nuclei having 2-3 children) and in the absence of contraceptive measures during the period. Postwar period (1992) brings major changes in birth rate. Plain Birda Moravița municipalities experienced a continuous decline. The highest value, in this year birth rate was reported in Deta followed by common Liebling, common Moravita, Banloc and Giera. The other common birth values dropped below 10% 0. Year 2002 has lower birth rates, the highest value being semantic in common Liebling followed by Deta and Giera (between 10-15%), other communes exceeding the 10% 0. The causes of this significant reduction were influenced by the communist regime after 1989, which led to the liberalization of abortion, as well as changing attitudes towards occidental, family adoption model in which families had more than one and rarely two children. Evolution of birth is studied and plotted in Fig. 6.
Fig. 6. Evolution of the birth rate in plain Birda-Moravița in 1990 (a), 1992 (b) and 2002 (c) (Source. Department of Statistics, Timis)

IV.2. Mortality

Towards the second component of the natural movement of the population, namely mortality, numerous discrepancies were observed in villages of Birda-Moravița Plain, within the studied period of time. In the prewar period (year 1900) due to elevated values of birth rate and prevalence of the younger age, mortality scored lower. The highest value was recorded in the eastern part of Voiteg common, followed by values between 20-30% o in Banloc Ciacova and Jebel etc. Concomitant with a continuous decrease of the birth rate, mortality values remain at relatively high rates, in 1992 recording just over 20% percent in the West: Ciacova and East Dental and all the other common values ranged between 15-20 %. However, in the villages Moravita and Jebel mortality rate dropped below 10 % o. In 2002, due to the decline of regional population, mortality values declined also, but compared to the number of alive baby births, mortality remained quite high. Thus, most municipalities still characterized it by percentages ranging from 15-20% o in Ciacova, Dental, Jebel, Voiteg. Values below 10% have been identified in Giera.
villages, Birda and Moravita. The general causes of the maintenance of mortality values are the result of birth rates ever lower to the rural exodus and a growing aging population. The evolution of mortality, in the years analyzed, is plotted in Fig.7.

Fig 7. Evolution of mortality in 1900 (a), 1992(b) and 2002 (c) (Source: Department of Statistics, Timis)

IV.3. Infant mortality

In the Plain Birda Moravita this component of the natural movement of the population showed relatively high values in the years 1900-1910, this being due to a rather low standard of living, extremely low hygienic conditions at communal level, and the presence, among the children of some diseases such as diphtheria, scarlet fever, whooping cough, etc. The average number of deaths (under 1 year from 1900 to 1910) can be seen in Table 1.
**Table 1**: Average number of deaths under 1 year in the period 1900-1910

<table>
<thead>
<tr>
<th>Nr.crt</th>
<th>Village/Town</th>
<th>Average number of deaths under 1 year</th>
<th>Percentual value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Banloc</td>
<td>93</td>
<td>0.95</td>
</tr>
<tr>
<td>2.</td>
<td>Birda</td>
<td>25</td>
<td>0.93</td>
</tr>
<tr>
<td>3.</td>
<td>Ciacova</td>
<td>117</td>
<td>0.76</td>
</tr>
<tr>
<td>4.</td>
<td>Denta</td>
<td>60</td>
<td>1.00</td>
</tr>
<tr>
<td>5.</td>
<td>Deta</td>
<td>32</td>
<td>0.62</td>
</tr>
<tr>
<td>6.</td>
<td>Giera</td>
<td>31</td>
<td>0.89</td>
</tr>
<tr>
<td>7.</td>
<td>Jamu Mare</td>
<td>59</td>
<td>0.71</td>
</tr>
<tr>
<td>8.</td>
<td>Jebel</td>
<td>49</td>
<td>0.82</td>
</tr>
<tr>
<td>9.</td>
<td>Liebling</td>
<td>33</td>
<td>0.63</td>
</tr>
<tr>
<td>10.</td>
<td>Moravița</td>
<td>34</td>
<td>0.71</td>
</tr>
<tr>
<td>11.</td>
<td>Parța</td>
<td>19</td>
<td>0.69</td>
</tr>
<tr>
<td>12.</td>
<td>Voiteg</td>
<td>28</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>Total regiune</td>
<td>580</td>
<td>0.80</td>
</tr>
</tbody>
</table>

(Source: Studia Censualia Transilvania, 1997)

During communist and interwar period, infant mortality data were not officially registered. Instead, in 1992 and 2002 mortality values were very low (between 1-3 children in each community). In some of the analyzed communes has been no death among children under one year. These values are primarily due to a relatively high standard of living (otherwise specifically settlements in Banat), an improved regional health system and reduction of disease in children.

**IV.4. Morbidity**

In 2010, at the regional level there is a variety of disorders, 66% (4703) of them being found in rural areas (Fig. 8). The highest shares hold urinary genital diseases (15%) and acute renal failure or cystitis, followed by respiratory diseases (12%) such as: acute nasopharyngitis, acute sinusitis, bronchitis, asthma. Under 10% of people suffering from skin diseases, infectious and parasitic diseases, tumors (especially tumors of the breast, colon, nervous system disorders, mental and behavioral disorders (schizophrenia), endocrine diseases (not dependent of insulin diabetes, calcium deficiency in the food, etc.). The general causes of these types of diseases are reflected in environmental conditions such as lack of hygiene and low living conditions, and inadequate housing in particular Roma population (adobe housing, dampness and moisture that conditions producing infectious and parasitic diseases, blood diseases, respiratory diseases, diseases of the genital ). Working in a toxic environment or excessive pollution is the cause for the production of various types of tumors, in this respect, a clear example being the firms in the area of Deta, Takata and Eybl. Equally difficult socio-economic conditions favor them, stress and

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depression causing various endocrine diseases and many behavioral disorders. (Dispensary village Banloc, 2012).

\[Fig. 8. \text{Distribution of medical conditions, average on a regional level (2010)}\]
(Source: Department of Health Timiş, 2012)

IV.5. Natural population balance

At the regional level, due to the fluctuation of its two components (births and deaths), we find a natural increase falling equally in a fluctuating trend. Thus, due to higher birth mortality values in 1900 the natural increase was positive for all municipalities in Plain Bird Moravița, the highest values are registered in the villages: Banloc (natural demographic balance exceeded 13%), in Denta and Giera (values over 20%) and the Jamu Mare, Moravita and Liebling. The lowest natural growth value was recorded Voiteg common, here the difference between births and deaths is not so great.

In 1992, due to an increase in mortality and decrease in live baby births, natural increase is negative in most of the common. The lowest values were recorded in Denta, followed by Ciacova and Jamu Mare. The only commons where demographic balance was less than 0 were Liebling and Moravia and Deta city. The year 2002 retains the same trend, indicating, in Ciacova, the lowest value, the other common values recorded natural increase between 1.8% o (Liebling) and -8.2% o (Denta).
Table 2. Evolution of the demographic natural balance in the municipalities Plain Birda–Moravița years 1900–1992 and 2002 (%).

<table>
<thead>
<tr>
<th>Nr.crt.</th>
<th>Village/Town</th>
<th>1900 (%o)</th>
<th>1992 (%o)</th>
<th>2002 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Banloc</td>
<td>13.22</td>
<td>-4.7</td>
<td>-5.1</td>
</tr>
<tr>
<td>2.</td>
<td>Birda</td>
<td>22.77</td>
<td>-5.8</td>
<td>-3.6</td>
</tr>
<tr>
<td>3.</td>
<td>Ciocova</td>
<td>3.09</td>
<td>-12.2</td>
<td>-8.5</td>
</tr>
<tr>
<td>4.</td>
<td>Denta</td>
<td>17.4</td>
<td>-13.1</td>
<td>-8.2</td>
</tr>
<tr>
<td>5.</td>
<td>Deta</td>
<td>9.4</td>
<td>0.7</td>
<td>-2.4</td>
</tr>
<tr>
<td>6.</td>
<td>Giera</td>
<td>20.2</td>
<td>-4.1</td>
<td>3.8</td>
</tr>
<tr>
<td>7.</td>
<td>Jamu Mare</td>
<td>8.32</td>
<td>-8.9</td>
<td>-6.6</td>
</tr>
<tr>
<td>8.</td>
<td>Jebel</td>
<td>7.33</td>
<td>0</td>
<td>-5.9</td>
</tr>
<tr>
<td>9.</td>
<td>Liebling</td>
<td>10.1</td>
<td>0.2</td>
<td>1.8</td>
</tr>
<tr>
<td>10.</td>
<td>Moravița</td>
<td>13.4</td>
<td>3.2</td>
<td>-1.3</td>
</tr>
<tr>
<td>11.</td>
<td>Parta</td>
<td>16.3</td>
<td>-4.2</td>
<td>-4.9</td>
</tr>
<tr>
<td>12.</td>
<td>Voiteg</td>
<td>7.7</td>
<td>-5.8</td>
<td>-7.2</td>
</tr>
<tr>
<td></td>
<td><strong>Average values</strong></td>
<td><strong>12.4</strong></td>
<td><strong>-4.5</strong></td>
<td><strong>-4.0</strong></td>
</tr>
</tbody>
</table>

(Source: Department of Statistics, Timis)

V. CONCLUSIONS

Taking as starting point both Romanian literature (Ancuta, 2008), Munteanu (2006), Vert C. (2001), Peek (1981) and Erdeli (2000) and the international literature (Claval, 1995 Brunette, Ferras, Thery 1992, George, 1980; Dramowicz, 1985) we can draw some conclusions regarding the issue of spatial disparities in evolution and natural movement. We consider that Plain Birda–Moravița is representing a highly heterogeneous complex, both in terms of numerical population evolution and in natural movement. The general trend of evolution is a regressive, mainly due to a negative demographic balance but also due to increased migration. In direct correlation with the natural movement, the evolution of the population is mainly regressive, due to reduced economic progress especially in small and very small villages, which is distinguished by the predominance of old population. Discrepancies between birth and the evolution of the mortality in the censuses studied are due to the liberalization of abortion and adoption of the Western conception regarding the family (1-2 children) by the Romans. Inequalities were established mainly in the evolution of birth and mortality from the censuses studied, the decrease of the first indicator in relation to the second has as a consequence: a decline in the regional economy.
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