A PRELIMINARY ANALYSIS OF AGRICULTURE IN WESTERN MOLDAVIA

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Abstract: The purpose of this paper is to emphasize the features of agriculture in Western Moldavia and especially in Botoșani County in a regional context (Western Moldavia), between 2003 and 2010. Since agriculture is an important factor for the economy of an area, it is important to notice and identify the development steps of this economic sector. Sometimes, administrative units have a natural tendency to specialize in certain crops and livestock according to the qualitative and/or restrictive factors. This phenomenon highlights the modernization of agriculture and the elimination of subsistence farming. An important actor for the positive metamorphosis of agriculture in Western Moldavia and the engine for economic development in rural areas is represented by the European funds, which encouraged the development of agriculture, and particularly its specialization. This study analyses the concentration and share of the cultivated land and livestock density, also comprising a set of clusters made at the level of the basic administrative units starting from these indicators. The present paper is also meant to investigate the present stage of development of the study area, emphasizing the progress / regress that the agricultural field recorded between 2003 and 2010.

Keywords: *agriculture, rural areas, rural development, local economy, Western Moldavia.*

1. Introduction

The priority of rural development is the modernization of agriculture and, more widely, of the rural economy by mastering the economic and social functions which are vital for the food system: providing balanced nutrition for the entire population, the necessary raw materials for non-agricultural activities and ensuring an active and profitable export of agricultural products. In rural economy, agriculture is a major market that directly contributes to the development of non-agricultural sectors and other branches related to countryside activities.

From the economic point of view, the village must evolve by entering business and rural economy must be gradually transformed from a subsistence economy into a modern, commercial and competitive economy.

That is why the economic development of rural areas is a main priority in land-use planning and in providing technical tools for an area (Law 80-502/1980, Article 72). Thus, the land-use planning and economic development of rural areas must lead to the achievement of some specific agricultural objectives:

• developing agricultural production in close relation to the non-agricultural economic activities of the companies with an agricultural upstream and downstream profile;

• upgrading the rural infrastructure with suitable technical tools, the agricultural and forestry land, the rural villages.

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In terms of land-use planning and of providing technical tools for the agricultural land, there are two national issues to be adressed: increasing the area (and the livestock production) of agricultural holdings and of their plots.

The Agency for Payments and Intervention in Agriculture has an important role in Romania's rural development by accessing European funds, in order to implement the support measures financed by the European Agricultural Guarantee Fund.

Between 2007 and 2013, the National Plan for Rural Development had the following main objectives with the purpose of supporting the projects in the field of agriculture:

- increasing the competitiveness of agricultural and forestry products;
- managing the agricultural and forestry lands that fall into the following categories: provide surface support for naturally less favoured areas (mountain areas), for agri-environment areas (meadows, organic farming) and for the first afforestation of agricultural and non-agricultural lands;

At the national level, there is a major concern for the development of agriculture and the absorption of European funds because this sector represents an important factor for the development of the local economy. This study will highlight the dynamic of the agriculture sector in Western Moldavia between 2003 and 2010 and the agricultural specialization of the basic administrative units.

2. Methodology

The analysis of the agriculture sector in Western Moldavia was achieved by using the data from the agricultural censuses in 2003 and 2010. The identification of the agricultural specificities of this area and the development of this sector was possible by using specific indicators of livestock production (cattle, sheep, horses, pigs, goats, poultry, donkeys and mules, domestic rabbits and bee colonies) and farm land (arable, orchards, vineyards, pastures and hayfields). The following indices were mapped using Philcarto in order to draw typologies of the basic administrative units: crop concentration, livestock density and share of land. These clusters are designed to highlight the evolution of agriculture because they present the deviations from the average of the indicators used and the influence of land-use on livestock production.

Crop concentration was calculated after the following formula:

$$\mathbf{Cci = (Ci/Ta)/(Tci/Tta)}$$

where: **Cci** = concentration of crop x,
Ci = crop x of an area,
Ta = total agricultural land of an area,
Tci = total land cultivated with crop x at the regional level,
Tta = total agricultural land at the regional level.

The share of agricultural land and crops at the regional and county level was necessary in order to notice the similarities and differences between these two indices. The share of agricultural or cultivated land is calculated as follows:

$$\mathbf{Pt = (Ta\ or\ Tc\ /\ Tta\ or\ Tc)\ *100}$$

where: **Pt** = share of land,
Ta = agricultural land,
Tc = cultivated land,
Tta = total agricultural land at the regional level,
Tc = share of crop land from the total agricultural land at the regional level.

The livestock density indicates the livestock specialization at the level of the basic administrative units or of a county. Thus, during the Agricultural Census of 2010, a detailed census of livestock was made because small farmers were raising a certain type of animals

that had not been recorded in the previous census. The livestock density was calculated as follows:

$$\mathbf{Dea = A/Ta}$$

where, **Dea** = livestock density,
A = category of animal,
Ta = agricultural land.

The analytical approach was performed after using statistical methods and graphic software programmes (Philcarto and Adobe Illustrator) for mapping and processing the results.

3. Research results

The economy of a rural administrative unit can be characterized by the type of agriculture practiced: a modern or a subsistence economy. Livestock and crop farming are specific activities in Western Moldavia that can be integrated into a particular type of agriculture based on production and use of technical infrastructure specific to agriculture.

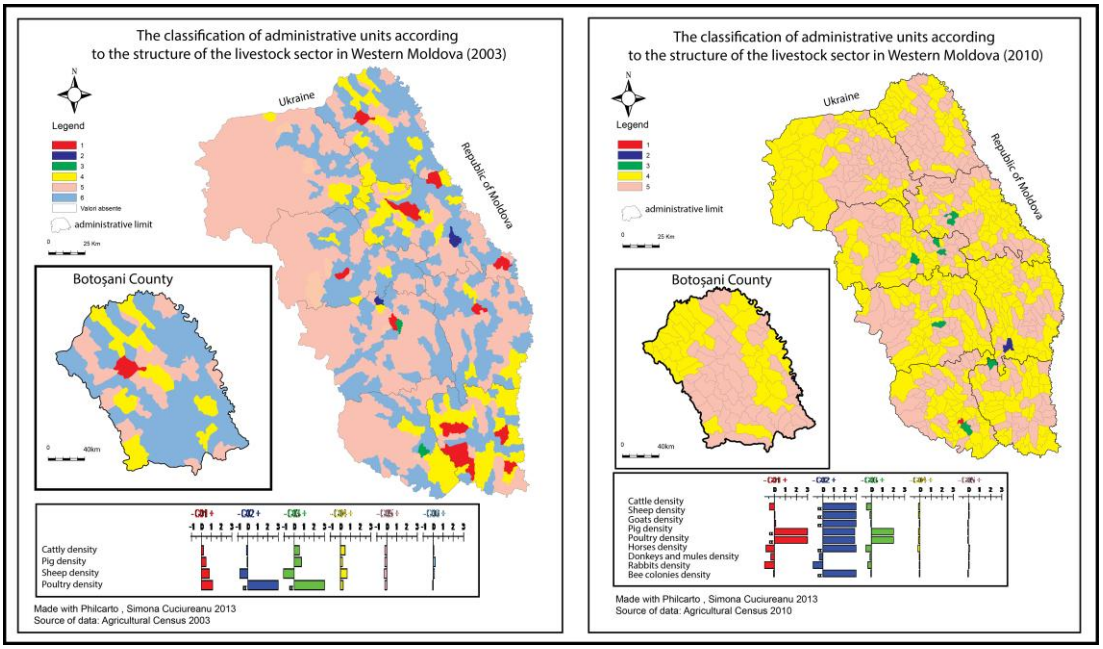

Fig.1. The classification of administrative units according to the structure of the livestock sector in Western Moldavia (in 2003 and 2010)

For the year 2010, the study shows that there was a low density of livestock in Western Moldavia, except for several administrative units in Iasi, Vaslui, Neamt, Bacău and Vrancea counties. Generally, the number of livestock is reduced because it is designed to provide products for each household and farmers rarely raise a specific category of animals, thus emphasizing their agriculture specialization. Despite the fact that there are numerous European funds which support the agricultural development by financing agricultural subsidies, the livestock specialisation as revealed in map 1 and figure 2 shows that there are major differences in Western Moldavia regarding animal breeding when comparing the production of 2003 to the livestock of 2010.

A positive aspect for the livestock category during 2003 and 2010 is represented by the animal breeding diversity and by the detailed census of livestock production during the

Agricultural Census of 2010. For example, in 2003, only the categories represented by cattle, pigs, sheep and poultry were included in the statistical evidence, while 2010 census also takes into consideration the categories represented by horses, goats, donkeys and mules, domestic rabbits and bee colonies.

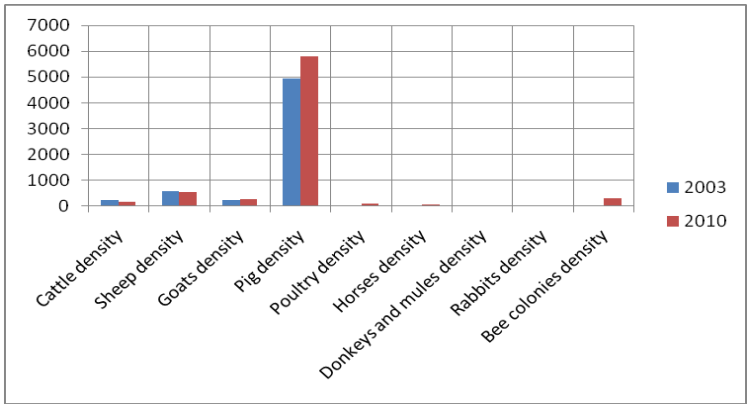

Fig.2. Livestock density in Western Moldavia in 2003 and 2010
(livestock – agricultural land (in hectares) ratio)

The diversification of the livestock sector is the result of the subsidies provided by the European Union for small farmers. In the year 2010, a predominance of poultry farming is obvious in Western Moldavia, especially in Bacău, Vaslui and Suceava counties, of sheep farming in Suceava and Vaslui counties and of beekeeping in Vaslui County. In Western Moldavia, higher livestock productions are recorded in Bacău, followed by Vaslui and Suceava counties. Botosani County stands out through poultry, sheep farming and a smaller number of cattle and pigs.

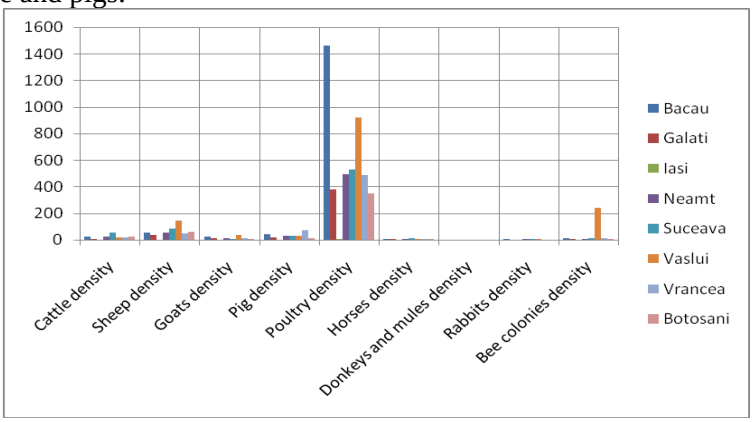

Fig.3. Livestock density in Western Moldavia in 2010
(livestock – agricultural land (in hectares) ratio)

The concentration and share of agricultural land show the fact that land is not used at its full capacity, the landform features having an important role in inducing the percentage of their usage. The landscape has a significant role in determining the share of agricultural land in Western Moldavia, so the west, north-west and central part of the study area have large deviations from the average share of agricultural land; these areas are located in the mountains and Sub-Carpathian regions, their usage being thus somewhat limited. In the eastern part of the area, in the plateaus and plains, the share of arable land registers major deviations from the average of Western Moldavia.

The identified clusters allow us to observe the land concentration in the area of study. Therefore, we can say that there is a low concentration of agricultural land, but smaller areas (subareas) that almost overlap the basic administrative units are characterized by the concentration of a particular type of farming. The southern part of Botosani County, the northern part of Iasi County and the south-east of Suceava County stand out through their concentration of land devoted to fruit growing, forming a micro-region that covers administrative units belonging to three counties. The central, northern and eastern parts of Vrancea, the southern part of Iasi and the northern part of Vaslui are traditionally devoted to wine–fruit growing. The general tendency of Western Moldavia is not remarkable for large concentrations of certain categories of crops but for their low shares.

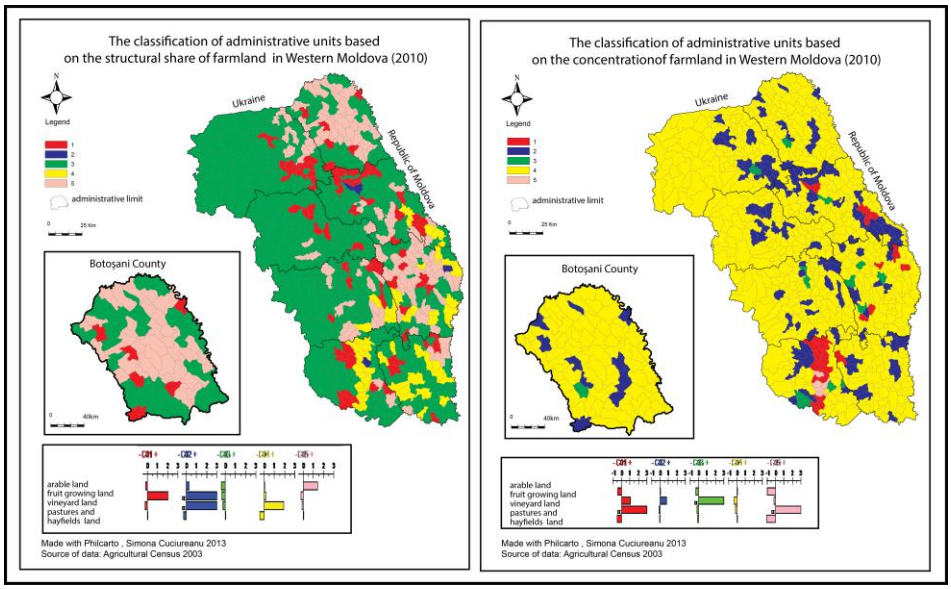

Fig.4. The classification of administrative units based on the structural share and concentration of farmland in Western Moldavia (2010)

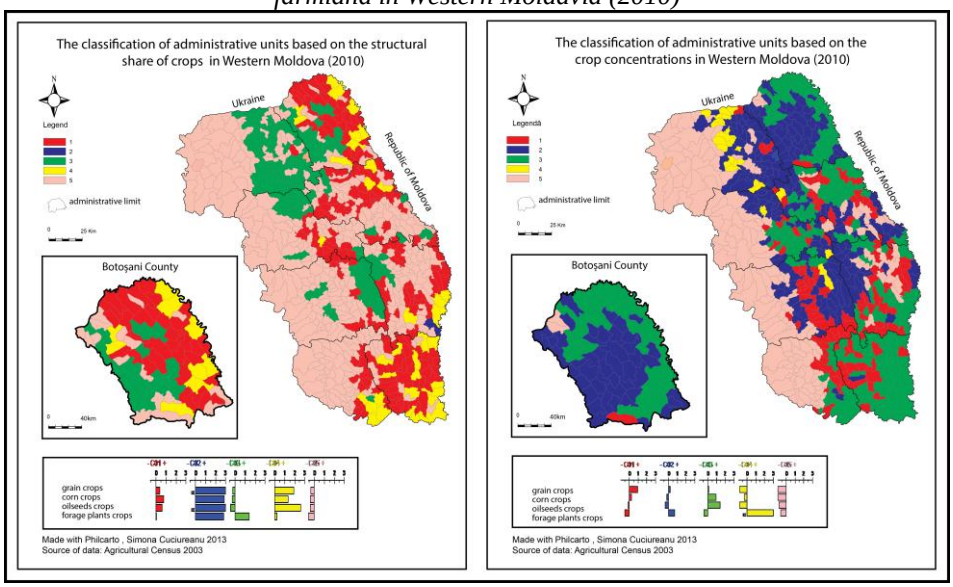

Fig.5. The classification of administrative units based on the structural share of crops and crop concentrations in Western Moldavia (2010)

The analysis of the structural percentages and crop concentrations supports the arguments aforementioned for agricultural lands. Thus, the values registered for the western, northern and central part of Western Moldavia are smaller than the regional average of crops due to physical geographic factors, while the eastern part is dominated by higher percentages of areas planted with corn and oilseeds. At the regional level, the following areas are remarkable for their crop concentration: the eastern part of Botosani County, the northern part of Iasi County, the central, southern and eastern parts of Galati – with large areas used for growing oilseeds (especially soybean and rapeseed) and the central, southern, western parts of Botosani and the western part of Vaslui – with large areas for forage plants.

In Moldavia, there is a tendency of an agricultural development based on the concentration of crops in the areas with the most suitable soils for them such as oilseed crop in Botosani, Vaslui and Galati, as well as on a zootechnic specialization, especially in Bacău.

In terms of crop concentration and livestock density (2010), it is noticeable that fodder crops and cattle herds predominate in Suceava, while the central part of Western Moldavia can be characterized by crops and poultry and pigs farming. In 2003, there was a homogenization of crops and livestock values at the regional level, within the regional average. The type of crop affects the predominant type of livestock.

An important aspect is represented by the comparison between the share and the concentration of agricultural land, respectively the crops recorded in 2003 and 2010, in order to observe the regional tendency in the development of agriculture and indirectly, in the exploitation of the agricultural potential. First, there is an influence of landform features on the share of crops based on soil suitability, and their concentration is achieved according to criteria such as soil quality, landform features, but also to the economic level of the population, labour force quality etc.

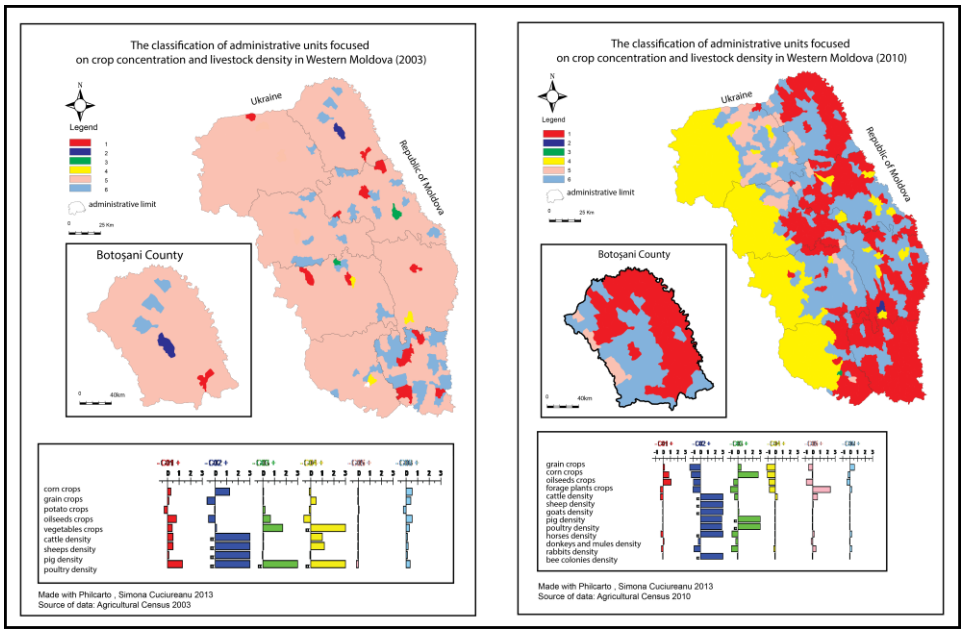

Fig. 6. The classification of administrative units focused on crop concentration and livestock density in Western Moldavia (2010)

Botosani County stands out through a high concentration of fodder plants, maize and oilseeds, while at the share level, on the same territory, we notice large areas of cereals, maize and oilseeds, but less of fodder plants, which shows a clear difference between these two indices.

It seems that the livestock specialization is less visible, the "homogeneity" in Western Moldavia is quite obvious in this regard. Normally, this observation is illustrated by the fact that the crop sector is not a decisive one in supporting the livestock sector. Pastures and meadows seem to represent, for the most part, the determinant key in supporting the livestock sector.

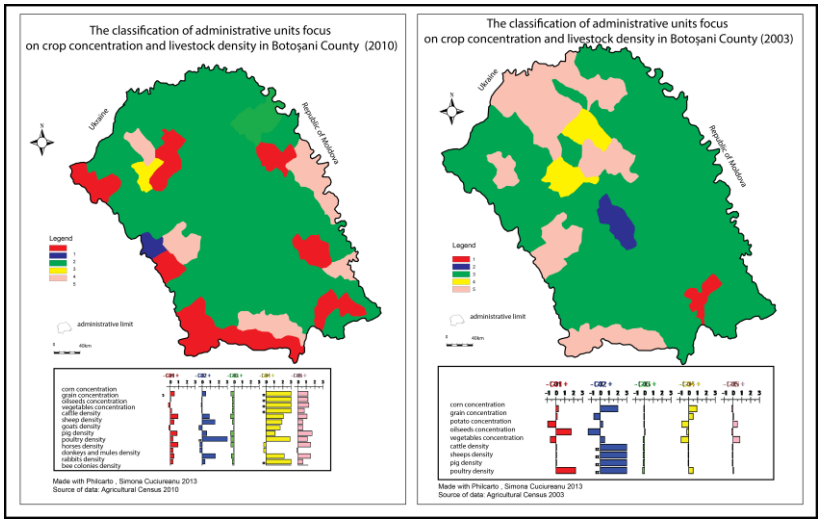

Fig.6. Classification of administrative units by crop concentration and livestock density in Botosani County (2010 and 2003)

The crop and livestock concentrations in 2003 and 2010 are a proof of the development level of agriculture, revealing the spatialization of the agricultural development in the south-western part of Botosani County in 2010.

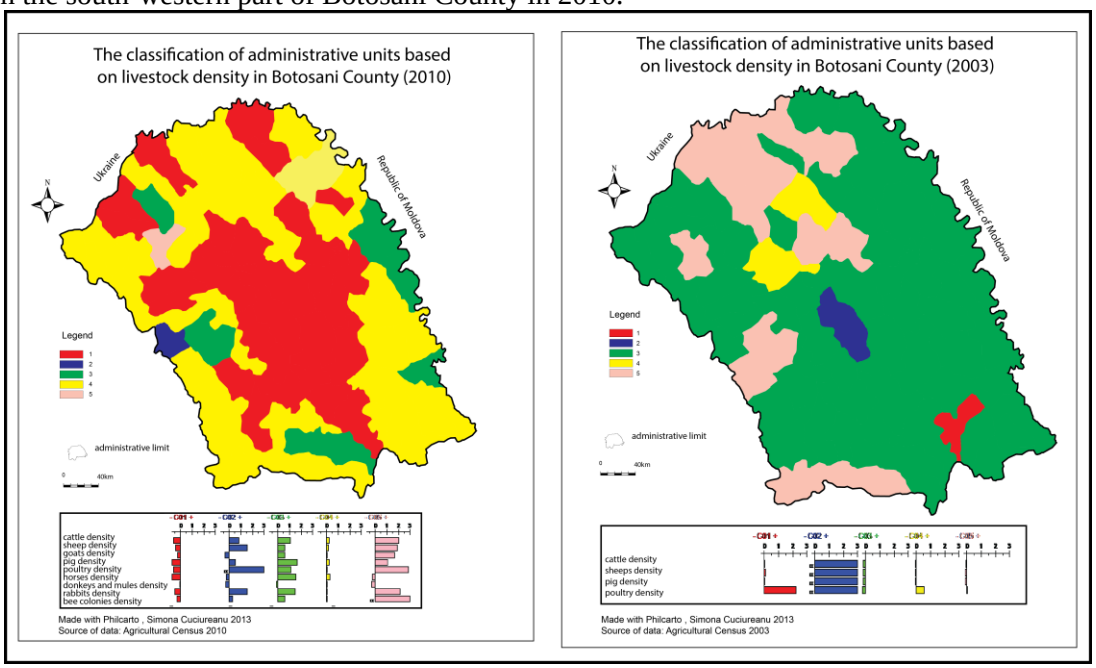

Fig.7. Classification of administrative units based on livestock density in Botosani County (2010 and 2003)

In the central area, the livestock number is smaller in 2010, while in the south-eastern, western and northern parts the livestock number is indeed higher, indicating a zootechnic specialization, adapted to the altitude and bio-pedo-climatic conditions. Compared to the year

2003, a zootechnic progress and development can be noticed because of a reduced number of animals, which means that now agriculture is being modernized, experiencing a transition from subsistence.

Another factor in respect of the evaluation of the agricultural development is represented by the subsidies provided for livestock farming and land cultivation, which is important for the development of agriculture and the establishment of small farms. For example, in Botosani, the decreasing tendency of funds is evident in the number of cattle (14,522 applications in 2012, only 7,518 in 2013), while there is an increasing tendency in the number of sheep (1,630 applications in 2012 and 1,681 in 2013) and goats (239 applications in 2012 and 322 in 2013). The number of applications for cattle decreased due to the conditions imposed and not to the lower number of livestock. Thus, according to the Agency of Payments and Intervention for Agriculture, the applicant is required to prove that he directly delivered or sold an amount of 3 tons of milk between 2012 and 2013, a condition that had not existed before. In addition, farmers entitled to subsidies must have a minimum of three adult cattle aged at least 16 months on 31st January 2013, as a reference date. Previously (starting with 31st January, 2008 as a reference date), a number of three cattle aged 6 months was requested.

The subsidies for the vegetable sector registered a drop compared to 2011, from 42,680 applications to 40,555 in 2012 and 38,980 in 2013. The motivation of the authorities consists in the slight tendency of landowners to compact the land, amid a visible demographic aging. A preliminary conclusion concerns the fact that these subsidies provided by the European Union tend to specialize and modernize the agriculture in Botosani depending on the conditions imposed in order to benefit from these funds, envisioning the development of the zootechnic sector with goats and sheep. This tendency also corresponds to the potential of this county.

4. Conclusions

We could identify several specificities of the agriculture in Western Moldavia such as:

- ✓ Agriculture is mostly influenced by physical and geographical factors;
- ✓ The share of agricultural lands and their concentration follow an East-West gradient, according to the altitudinal natural setting;
- ✓ There is a low correlation between livestock and concentration / share of agricultural land, meaning that the agricultural specialization has not yet been sufficiently settled;

As the agriculture is still at an early development stage, the period 2003 - 2010 highlights only several modest results, but it does present the "metamorphosis" of agriculture from subsistence to a modern stage.

The diversification of crops and of the livestock sector are two arguments that prove that the agriculture of Western Moldavia is still experiencing a developing process. Romania's integration in the European Union and the opportunity to access non-reimbursable funds for agriculture make it possible to continue the development of agriculture. Therefore, we can notice the specialization tendency of those counties that registered real progress: Bacău (livestock specialization), Botosani, Vaslui and Galati (oilseed crop and livestock specialization). All these improvements represent a transitional stage for the agriculture of Western Moldavia, a period of continuous searches, but whose main directions of development can already be identified.

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EVOLUTION OF THE NATURAL MOVEMENT OF THE POPULATION OF THE MEDIUM AND SMALL TOWNS IN THE REPUBLIC OF MOLDOVA DURING THE PERIOD 1950-2012

Vadim Cujbă[1]

Abstract: Dieser Artikel analysiert die Dynamik der natürlichen Bevölkerungsbewegung in kleineren und mittleren Städten in der Republik Moldau in der Zeit von 1950 bis 2012. Obwohl sinkende bis in die frühen 90er, die wichtigsten demografischen Indikatoren – Geburt, Tod und Kindersterblichkeit, erreichten gute Bevölkerungswachtumwerte. Aber mit der Verschlechterung der Wirtschaft in dem Land, kleine und mittlere Städte haben einen tiefen Bevölkerungsrückgang regestriert, durch die Reduzierung der Geburtenrate von 15,2 in 1990 bis 7,0‰ in 2006 und Wachstum des Todes von 5,6 in 1990 bis 11,3‰ in 2010. Der hohe Wert der Sterblichkeit ist durch Änderungen der Altersstruktur der Bevölkerung verursacht, aufgrund der reduzierten Anteil der jungen Bevölkerung und erhöhten Anteil der älteren Menschen. Ein Bevölkerungswachstum kann man merken in den letzten Jahren und nur für einige kleine und mittlere Städte in zentralen und südlichen Regionen, die eine positive natürliche Gleichgewicht regestriet haben.

Keywords: *natural movement, birth rate, death rate*

1. Introduction

The evolution of the main demographic phenomena - birth and death rates - of the population in small and medium-sized towns in the post-war period generally tended to decrease, but the rhythm of these demographic phenomena was different from one period to another. Even if they dropped until the beginning of the 90s, the main demographic indicators – birth rate, death rate and infant mortality - had values that were favourable to effective population growth. Once the economy slowed down, small and medium size towns registered a noticeable slump, revealed by the reduction in the birth rate from 15.3 in 1990 to 7.0‰ in 2006 and increase in the death rate from 5.6 in 1990 to 11.3‰ in 2010. The high death rate is due to the changes that happened in the age structure, as a result of the disproportion between young and old population. The situation, however, recovered during the last years and is to be noticed in some small and medium-sized towns in the Central and South areas, with a positive natural balance.

2. The dynamics of natural movement indicators

In 1950, the birth rate of the urban population reached its highest value: 29.7‰. By 1960, this indicator decreased correspondingly to 23.1 and 21.7‰. Over the next two decades (1960-1980), although the number of newborns increased more than 2 times, from 15,148 to 31,161, the relative value of this indicator decreased from 21.7 to 19.4 ‰ (Table 1).In 1985,

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the highest value of 20.7‰ was recorded in the urban areas, including small and medium towns (21.8 ‰). Values higher than the urban average occurred in small towns with a pronounced agrarian profile, some of these being decreed as urban settlements in the 60s and 70s of the twentieth century: Cantemir-38.7‰, Şoldaneşti-36‰, Pervomaisc-28.1‰, Cricova-27.3‰, Teleneşti-26.9 ‰, Ialoveni-26.8‰, Căuşeni-26.3‰, Nisporeni-26 ‰.

Lower values of birth rate were recorded in northern towns – Lipcani-11.5 ‰, Frunză-12.1‰ Costeşti-14.7‰, Mărculeşti-15 ‰, Cupcini-15.4‰, Otaci-17‰ and Camenca-18‰. From 1990 to 2000, the indicator of urban birth rate continuously declined, halving from 16.7 to 8.4‰. The decreasing birth rate in this period is due to the worsening financial situation of the population, leading to changes in the reproductive behaviour. After 2000, this indicator experienced a slight increase until 2010, when it reached 10.2‰, due to the fact that the generations born in the 80s reached their reproductive age, as well as to a certain social and economic stability.

At present, the relative value of this indicator is of about 10‰. During the period 2000-2005, the urban birth rate got smaller than the death rate, thus leading to a negative balance of about - 0.4 ‰ (- 0.8 ‰ in the case of in small and medium towns). Lower rates of the natural balance were recorded in towns like Bucovăţ-9.4‰, Vadul-lui-Vodă-6.4 ‰, Ocniţa-6‰, Iargara-5.6‰, Basarabeasca-5.4 ‰, Costeşti- 4.7‰, Lipcani-4.2‰. Positive values of this index were recorded in the urban areas at the south-east of Chisinau municipality: Căinari- 4.9‰, Ştefan-Vodă - 4.4‰, Anenii Noi-3.1‰, Ialoveni-2,8‰, Sângera-2.5‰, including some medium-sized towns such as Ungheni-1,8‰, Comrat-0.7‰ and Soroca- 0,2‰.

The decrease of the natural balance indicator is due to the increasing share of the elderly population, as well as to the emigration of the reproductive age population. Later, the birth rate indicator slightly recovered from 1.1‰ in 2010 to 1.4 ‰ in 2012.

The death rate is another demographic phenomenon which directly or indirectly influences the reproduction of the population. The urban death rate in 1950 had a value of 9.8‰, with a decreasing trend in mid 60s (to 6.1‰). The evolution of this demographic phenomenon in that period was due to some changes in the age structure of the population. In the 60s and 70s of the 20th century, this indicator varied between 6-8‰, while in the 80s-90s it recorded a downward trend, to a value of 7‰. In recent decades, this indicator ranged between 8.6 and 9.3‰. The highest value of the death rate was recorded in 2005, when it reached 9.5 ‰. Values higher than the urban average were recorded in towns like Căinari-16, 8 ‰, Corneşti-16.7 ‰, Bucovăţ-16.2‰, Lipcani-15.6 ‰, Iargara-13.7 ‰. Lower values were typical of Ştefan Voda-7.8‰, Costeşti-7.6‰, Biruinţa, 5.7‰, Frunză-5.6‰, Cantemir-4.3 ‰. One can easily notice that these are mainly small towns with a population of less than 5-6 thousand inhabitants, with a predominantly agrarian economy and a specific age structure.

A special role in the evolution of the population's death rate is played by infant mortality. This is an important demo-economic indicator reflecting the population's level of welfare, culture, social assistance, healthcare and environmental condition. In the case of the urban areas, it reached its highest level in 1950 (99‰). However, during the next decade (1950-1960), it decreased more than 2 times, this trend also continuing during the coming decades. The analysis of the infant mortality rate proves that after 90s this indicator had significant fluctuations, in recent years decreasing to 10.2 deaths per 1,000 live births. Despite this diminution, the present situation of infant mortality remains quite serious. At the territorial level, infant mortality recorded some differences: from 3-5‰ in Ceadâr-Lunga, Făleşti, Vulcăneşti, Căuşeni and Drochia, to 30.9-41.7‰ in Basarabeasca, Costeşti and Şoldaneşti.

Table 1: Natural movement rates of the urban population in the Republic of Moldova (‰)

Years	Live newborns	Deaths	Natural balance	Child deaths under 1 year
1950	29,7	9,8	19,9	99,0
1955	23,1	6,5	16,6	71,0
1960	21,7	5,8	15,9	43,1
1965	17,4	6,1	11,3	32,0
1970	18,5	6,6	11,9	21,0
1975	20,2	7,4	12,8	34,3
1980	19,4	8,1	11.3	29,6
1985	20,7	8	12,7	22,9
1990	16,7	7,4	9,3	17,0
1995	10,8	9,3	1,5	19,5
2000	8,4	8,8	-0,4	19,3
2005	9,1	9,5	-0,4	13,0
2010	10,2	9,1	1,1	10,1
2011	9,8	8,4	1,4	9,3
2012	10	8,6	1,4	8,3

Source: National Bureau of Statistics of the Republic of Moldova Data Bank; Note: beginning with 1997 the above data are without towns from Transnistria and municipality Tighina (Bender)

The evolution of the demographic indicators during the last two decades has led to the expansion of the "demographic crisis" in small and medium towns, characterized by a decreasing natural balance (Table 2). This trend began in the 90s, when this indicator decreased from 9.6‰ in 1990 to 0.9 ‰ in 1996. In 1998, the population natural balance recorded a negative value, and in 2000 it reached the value of -1.1 ‰. For a short period of time (2002-2004) the natural balance index increased from 0.9‰ to 2.8 ‰. In recent years, it has ranged from negative values (-1.5 ‰ in 2006, -3 ‰ in 2010) to positive ones (1.7 ‰ in 2012).

Table 2: Natural movement rates of the urban population of the Republic of Moldova (‰)

Years	The birth rate		The death rate		The natural balance	
	Big towns	Small towns	Big towns	Small towns	Big towns	Small towns
1990	16,1	15,2	7,2	5,6	8,9	9,6
1992	14	11,9	7,1	7,0	6,9	4,9
1994	10,9	11,2	8,6	7,6	2,3	3,6
1996	9	8,5	8,3	7,6	0,7	0,9
1998	8,8	7,8	8,3	8,0	0,5	-0,2
2000	8,2	7,9	8,2	9,0	0	-1,1
2002	8,3	7,2	8,2	6,3	0,1	0,9
2004	9,2	10,6	8,3	7,8	1	2,8
2006	8,7	7	8,3	8,5	0,4	-1,5
2008	9,3	8,2	8,3	9,3	1	-1,1
2010	9,6	8,3	8,2	11,3	1,4	-3
2012	9,4	8,6	7,8	6,9	1,6	1,7

Source: National Bureau of Statistics of the Republic of Moldova Data Bank; without towns from Transnistria. Note: Big towns are Chişinău (667,6 thousands/inhabitants) and Bălţi (144,3 thousands/ inhabitants); Medium towns- 20-50 thousands/inhabitants; Small towns- less than 20 thousands/inhabitants.

Comparing the demographic indicators of the major towns of the country to those of the small and medium towns, we can draw the following conclusions (Table 2):

- From 1990 to 2002, the birth rate decreased in small towns from 15.2‰ to 7.2‰, after 2006 having a slight upward trend. The same phenomenon can be noticed in the case of the big towns;

- During the period 1990-1998, in small towns there were lower rates of the death rate than in big towns, after 2000 these indicators recording higher values. In 2010 it was recorded the maximum value of 11.3‰, which decreased to 6.9 ‰ in 2012. Death rates in large towns had a more stable tendency than in small ones.
- Due to the reduction in the birth rate and to the increase in the death rate in 1990-2000, there is a downward trend of the natural balance. Over the next years, the rate of natural balance fluctuated from negative to positive values. Unlike small towns, in big towns, the rate of natural balance during the entire analyzed period recorded positive values.

The demographic indicators in the urban areas differ greatly from the regional point of view. According to the data in 2012, the urban birth rates vary from 5.3 to 17.3 ‰, having the lowest values in the small towns in the northern part of the country: Frunză (5.3‰) Otaci (7.3‰), Soroca (7.5‰). Higher values are recorded in the small and medium towns in Găgăuzia (Ceadâr-Lunga -12.4 ‰, Comrat-12.9‰, Vulcăneşti-13.3‰) and the Central Region-Străşeni (13.3‰) and Sângera (17.3 ‰). These differences are caused by the volume of the population of reproductive age, as well as by the traditions and lifestyle specific to each ethnic group.

Likewise, in urban settlements there is a difference regarding the population's death rates. However, the extreme values of the death rates in small towns do not always reflect the regional principle. Thus, the highest values are recorded in small towns – Bucovăţ (23.8 ‰), Lipcani (16.5‰), Basarabeasca (13.1‰) and Cupcini (12.8‰). Minimum values are recorded in Cantemir (2.8‰), Biruinţa (6.8‰), Criuleni (6.9‰) and Rezina (7‰). It is to be noted that the highest frequency of the localities that have experienced a highest death rate -10 ‰ is in the Northern region (10 urban areas), followed by the South (with 8 locations) and Central Region (4 urban settlements).The dynamic analysis of the demographic indicators in some small towns from different regions of the country, during the period 1990-2012, gives us the opportunity to make the following deductions;

- For all indicated towns there is a slow decrease in the birth rate during the period1990-2005, followed by a slight increase or a stabilization of this indicator. In the small towns in the Administrative Territorial Unit of Transnistria, the index of birth rate in 2012 was 10-15 times lower than in 1990;
- In some towns, the values of the death rate during the years 1990-2005 had a tendency to slow down its growth, particularly in the Northern Region (Donduşeni, Edineţ), in the South (Căuşeni, Leova, Vulcăneşti) and Transnistria (Camenca, Grigoriopol, Slobozia). In 2012 the values of the death rate decreased compared to 2005 for all small towns, except for Transnistria. While the average death rate in small towns declined in this period from 18.5‰ to 14.3 ‰ and 4.2 percentage points, then in the above mentioned towns this decrease was much smaller: in Rezina, Nisporeni, Căuşeni from 2 to 2.4 percentage points and in Donduşeni, Leova and Edineţ from 0.3 to 0.7 percentage points.
- The natural balance indicator in the period 1990-2005 was characterized in most small towns by negative values. At present, it records a slight upward trend, reaching positive values only in Călăraşi (0, 1 ‰), Grigoriopol (0.5‰), Căuşeni (1.5‰), Rezina (-1.3‰), Căuşeni (1.5‰), Hânceşti (1.9‰) and Vulcaneşti (2.6 ‰);

3. Conclusions

During the post-war period, the small and medium-sized towns in Moldova were characterized by certain tendencies of the demographic phenomena. Until the early 90s, the main demographic indicators, birth and death rates, reached values which induced a numeric population growth. Together with the worsening economic situation of the country and bankrupting businesses in small towns, the demographic situation has entered into a deep decline. These types of settlements proved to be more vulnerable than larger towns or rural areas, following a narrow economic specialization linked to the population activity. Thus, during the last two decades, the demographic situation in small towns has recorded different changes in terms of its intensity and disproportions under the influence of certain regional factors. During the period 1990-2012, the rhythm of the demographic phenomena was characterized by a reducing birth rate, an increased death rate and changes in the age structure of the population. Meanwhile, territorial disparities of the population natural movement can be explained through the influence of the complexity of the social, economic and demographic factors. One of the factors that determined the presence of these discrepancies can be the unstable political and economic situation on the left bank of Dniester, which led to the worsening of the social protection system. This region is characterized by a complicated demographic situation as a result of the emigration of the young population and of the increased number of elderly people.

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