

Studies Regarding the Evolution of Human Resources in the Mountainous and Sub Mountainous Zones of the Oriental Carpathians in Romania

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Abstract. Human resources represent the main factor that ensures the economic development of a society. The economic projects for the mountainous and sub mountainous zones were neglected till the 90's. This aspect had a negative impact on the development of infrastructure, economic activities and professional training of human resources. Moreover, the situation worsened demographically, as a depopulation process took place in these areas. After the 90's, as a consequence of the political changes, there appeared the hope of an improvement of the situation. Incorrect economic and social policies led to a process of involution at all levels generating a large process of migration of the population to other areas with deficit of unqualified labour force (Greece, Spain, Italy, Great Britain). The principal aim of the paper is the investigation of the existing human resources by diagnosing their conditions as regards age, gender, qualification level, demographic index (birth and death rate), school infrastructure and living standard. Also, on the basis of the evolution of the population, during a significant period of time, we determined the evolution tendencies for 2020, if the parameters of economic development are the same. By consulting the local factors (population, administrative board, specialists) we identified the strategic line meant to ensure the economic development of the mountainous and sub-mountainous zone which will maintain the population number and the increase of the living standard. The methods used for the elaboration of the paper consisted in the consulting of the official statistic documents as well as the use of some questionnaires which included both factual questions and opinionated questions meant to identify the factors with impact on development of the population. The undergone study established: the present state of the human resources in the mountainous and sub-mountainous zones of the Oriental Carpathians, their evolution tendencies, factors of influence. We also identified the measures to be implemented so as to stop the migration and the economic and social development of the region.

Keywords: human resources, mountainous and sub-mountainous zones, Oriental Carpathians

1. Introduction

The mountainous and sub-mountainous zone of Moldova Province is quite important both for agriculture and tourism, as well as for natural environmental preservation.

But what makes it different from other geographical zones are the peculiarities represented by the human factor.

Situated at the border of two historical provinces, Moldavia and Transylvania, the inhabitants of this area have been the beneficiaries of various cultural, historical and social interferences that have modelled their character and personality.

The mountainous and sub-mountainous zone in the eastern part of the Oriental Carpathians was a region of human stronghold since ancient times. The natural, historical and ecological conditions created a distinctive type of human settlements, characterized by a certain typology and dynamics, an economic and social-cultural infrastructure specific through dimensions, behaviourist and functional characteristics.

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2. Results and discussions

Administratively, these zones are included in four counties: Suceava, Neamt, Bacău and Vrancea.

An overview of the two natural zones shows that a large number of communes and villages hold a high weight within the counties. Thus, the mountainous zone of Moldova covers the area of 97 communes and 487 villages, representing 25.2% of the total of communes and 31.5% of the total villages from the four counties. The sub-mountainous zone includes 60 communes and 263 villages, representing 15.6% and 16.8% respectively, of the counties' area, more exactly 2/3 of the mountainous zone. (Table 1).

Table 1. Density of human settlements in the mountainous and sub-mountainous zones.

Nr. crt.	County	Zone	Communes and towns			Villages		
			nr.	% of total county	% of total zone	nr.	% of total county	% of total zone
1.	Bacău	Mountainous	17	16.2	17.5	79	16.1	16.2
		sub-mountainous	22	20.9	36.7	109	22.2	41.4
2.	Neamt	Mountainous	20	23.0	20.6	99	28.5	20.3
		sub-mountainous	6	8.5	10.0	27	7.8	10.3
3.	Suceava	Mountainous	38	32.9	39.2	159	40.2	32.7
		sub-mountainous	12	10.5	20.0	40	10.1	15.2
4.	Vrancea	Mountainous	22	27.8	22.7	150	45.3	30.8
		sub-mountainous	20	25.3	33.3	87	26.3	33.1
	TOTAL	Mountainous	97	25.2	100.0	487	31.5	100.0
		sub-mountainous	60	15.6	100.0	263	16.8	100.0

Of the total mountainous zone, the most human settlements are to be found in Suceava county – 32.2% of the number of communes and 32.7% of the number of villages, followed by Vrancea county (22.7 of the number of communes and 30.8% of the number of villages), Neamt (20.6% and 20.3% respectively) and on the last place is Bacău County with about 17% both of the number of communes and villages.

There are differences among the geographical zones (mountainous and sub-mountainous) regarding the number of localities. The mountainous zone is more populated than the sub-mountainous zone, the number of communes being higher with 61.7%.

The 487 villages of the mountainous zone and the 263 in the sub-mountainous zone are basic organizational units of the rural area, being the expression of the geographic diversity of the mountainous and sub-mountainous zone, of the historical conditions of forming and organizing the social and economic relations.

The average size of a village in the mountainous zone is of 1100 inhabitants and of 1650 inhabitants in the sub-mountainous zone.

As regards the density of the villages, there is an average of 14 to 100 km² agricultural land in the mountainous zone and of 13 villages to 100 km² agricultural land in the sub-mountainous zone.

The average size of a commune is of 5510 inhabitants in the mountainous zone and of 7222 inhabitants in the sub-mountainous zone.

The weaknesses of the human settlements in the mountainous and sub-mountainous zones in Moldova are: poor equipment of the houses refers mainly to low degree of technical utilitarian equipment, improperly quality and quantity of social infrastructures and services, little diversified economic activities and few non-agricultural jobs.

Another negative aspect is represented by the phenomenon of population decrease, together with its demographic aging. The largest part of the agricultural activities has the role of ensuring the family subsistence. The activities from the non-agricultural domain, exclusively based on the practice of different jobs of local interest or for specific services, are little developed.

Within the mountainous and sub-mountainous settlements there is a specific philosophy, attitude and conception regarding social life and labour which is not found other geographical areas. We noticed that the

inhabitants of these zones want to take advantage of the progress of modern life. The most seducing solution in order it bring the villages to life is to introduce them in large tourist tours.

2.1. The structure on gender of the total population

Both in the mountainous and sub-mountainous zone, the number of women is with 1.6%, 1.9% respectively higher than that of men. One exception is present in Suceava County, in the mountainous zone, where the proportion is the other way round.

Excepting the mountainous zone of Bacau county, where there is the highest difference between persons of different genders, generally both in the mountainous and sub-mountainous zones the differences are insignificant.

Nevertheless, the fact that the unemployment of women is almost twice as large as men creates social problems in both zones.

2.2. The density of population on administrative units

2.2.1. Number of inhabitants in a commune

In the entire studied area, the average number of inhabitants in a commune is of 6164 persons (*Table 2*). Zonally, the average is 5510 for the mountainous area and 7222 for the sub-mountainous one.

Table 2. Number of inhabitants at commune level on counties and geographical zones

Nr. crt.	County	Total mountainous and sub-mountainous zone		Mountainous zone		Sub-mountainous zone	
		Number	% in comparison with the average total	Number	% in comparison with the average total	Number	% in comparison with the average total
1.	Bacău	8290	134.5	9465	171.8	7382	102.2
2.	Neamt	5008	81.2	4855	88.1	5518	76.4
3.	Suceava	5404	87.7	5274	95.7	5815	80.5
4.	Vrancea	5811	94.3	3456	62.7	8400	116.3
	Total zone	6164	100.0	5510	100.0	7222	100.0

Within the counties, the differences are significant. The highest concentration in the mountainous zone is registered in Bacau County – 9465 persons, and the lowest in Vrancea County – 3456 persons. As regards the sub-mountainous zone, Vrancea County has the highest concentration – 8400 persons, together with Bacau county with 7382 persons.

Table 3. Number of inhabitants of villages, on counties and geographical zones

Nr. crt.	County	Total mountainous and sub-mountainous zone		Mountainous zone		Sub-mountainous zone	
		Number	% in comparison with the average total	Number	Number	% in comparison with the average total	Number
1.	Bacău	1719	133.2	2037	185.5	1490	90.4
2.	Neamt	1033	80.0	981	89.3	1226	74.4
3.	Suceava	1358	105.3	1261	114.8	1745	105.9
4.	Vrancea	1030	79.8	507	46.2	1931	117.2
	Total zones	1290	100.0	1098	100.0	1648	100.0

2.2.2. The professional structure of population, on counties (*Table 4*)

Within the counties (*Table 4*), the situation is different, although the zone is naturally homogenous.

Table 4. Structure of employed population, on professions

Nr. crt.	Specification	Mountainous zone				Sub-mountainous zone			
		Suceava	Neamt	Bacău	Vrancea	Suceava	Neamt	Bacău	Vrancea
1.	Farmers	34.9	37.3	16.5	36.0	50.0	38.3	27.3	27.5
2.	Artisans	1.4	0.5	7.5	3.4	0.6	0.6	9.2	0.5
3.	Employees	26.9	54.9	50.3	27.3	14.8	52.6	35.1	41.6
4.	Pensioners	36.8	7.3	27.2	33.3	32.6	8.5	28.4	16.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Thus, in Bacau County, in the mountainous zone, of the total population, only 16.5% are farmers, but in Neamt and Vrancea counties, zones which are naturally quite similar, the population employed in agriculture is of 36-37%. As for the sub-mountainous zone, the percentage varies between 27.3 in Bacau and Vrancea Counties and 50 in Suceava County.

The existence of the industrial branches in Bacau and Vrancea Counties determined a large number of inhabitants to get a job in enterprises and institutions, commutation being a conspicuous characteristic.

Of all the counties, Neamt County stands out for the number of pensioners which is only of 7.3% of the employed population, in comparison with the other counties where the percentage is about 30.

2.2.3 The structure of population on categories of age

Generally, the population of the two zones is quite balanced on categories of age. Thus, the segment of population, 18-50 years, the highest physically potential, represents 40% in the mountainous zone and 43% in the sub-mountainous zone (Table 5). The other categories of age hold a quarter of the total population each. Referring to the life expectation, the number of those who are over 70 is reduced in both zones, the percentage being 8.2 and 8.7.

Table 5. Structure of population on categories of age on geographical zones

Nr. crt.	Specification	Mountainous zone		Sub-mountainous zone	
		number	%	number	%
1.	0-17 years	161823	30.5	88670	24.8
2.	18-30 years	103498	19.3	75773	21.2
3.	31-50 years	113142	21.2	78051	21.8
4.	51-70 years	111593	20.8	83813	23.5
5.	Over 70 years	44440	8.2	30986	8.7
	Total	534496	100.0	357293	100.0

We will further present the evolution of the population of two representative counties, Suceava and Vrancea, which belong to the analyzed zones. The evolution comprises the 2005-2010 period.

Table 6. Evolution of population in the mountainous and sub-mountainous zones in Suceava and Vrancea Counties

Years	Suceava County		Vrancea County	
	Number	%	Number	%
2005	35593	100.0	35480	100.0
2006	32461	91.2	31182	87.8
2007	30574	85.9	31119	87.7
2008	30681	86.2	29550	83.2
2009	30681	86.2	29336	82.6
2010	31208	87.0	29165	82.2

As regards the Suceava county, during the analyzed period a decrease of the population with 13% was registered. Till 2007, this drop was higher with 14.1%, and starting with 2008 it started slowly to grow with 1.1%. In Vrancea County, the drop of the population was drastic, 26.5% in 7 years. In both counties, a wave of migrations was registered in 2002, which did not reach the same level in the following years.

By using the calculation of mathematical regression, having as basis the year 2005, we made an extrapolation of the number of inhabitants for 2015-2020. Maintaining the same average rate of decrease, the calculations show that in 2020, the population of Suceava County will diminish with 4069 persons (12.5%), while in Vrancea county the decrease will be of 21.0%.

As regards the structure of population on main categories of age, established for the mountainous and sub-mountainous zones of Vrancea county, we noticed a slight imbalance between 0 and 19 years and older than 60 years, the smaller being the younger, which might cause some problems for the demographic equilibrium in the future, as well as some social and economic problems.

Table 7. Structure on categories of age in the mountainous and sub-mountainous zones in Vrancea County

Specification	UM	Category of age			
		0-19 years	20-59 years	≥ 60 years	TOTAL
Total, of which:	No.	7326	14279	7560	29165
	%	25.1	49.0	25.9	100.0
Male	No.	3820	7638	3414	14872
	%	25.7	52.3	22.0	100.0
Female	No.	3506	6641	4146	14293
	%	24.5	53.5	29.0	100.0

What is worrying that the natural increase between 2005 and 2010 had negative values.

These values increased from 1.54% in 2005 to 3.87 in 2010, determining a decrease of population in the mountainous and sub-mountainous zones of the Eastern Carpathians.

The study showed the necessity of promoting professional reconversion programmes for the young people.

3. Conclusions

As a consequence of the political changes in the last two decades, the human resources in the mountainous and sub-mountainous zones of the Eastern Carpathians from Romania have undergone profound mutations in the numerical evolution, structure and degree of employment.

After 2000 we have noticed a phenomenon of demographic drop characterized by the numeric decrease of the population determined by the abroad migration because of economic reasons. At the same time, we could notice a drop of the weight of the young segment, decrease of births, and the natural increase has registered higher negative values.

In order to slow down the depopulation process of the territory, after analysing the content of the questionnaires and the economic prognoses we came to the conclusion that it is imperative to initiate various programmes so as to attract non-refundable European funds for the economic revival of the region through the development of agritourism.

4. References

- [1] Ciurea, I. V. et al., *The area of agricultural exploitation from Bacău county – tendency and realisation ways*. Iași: Scientific Papers USAMV, Faculty of Agriculture, 2002, **45**: 275-283
- [2] Cole, G. A.. *Managementul personalului. Resurse umane, Strategii economice*. București: Editura Codecs, 2000 [in Romanian].
- [3] Milkovich, G., Boudreau, J. *Personnel/Human Resource Management a Diagnostic Approach*. Texas: Business Publications Inc Plano, 1988.
- [4] Werther, W. B. Jr., Davis, K. *Human Resources and Personnel Management*. Texas: 5th ed Mc Graw-Hil Series in Management, 1996.