

## COMPARATIVE STUDY REGARDING THE SOCIO-ECONOMIC DEVELOPMENT POTENTIAL OF RURAL AREAS IN HUNEDOARA COUNTY

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### Abstract

*This paper aim to analyze and compare the socio-economic development potential of 17 territorial administrative units from the rural area of Hunedoara County, which have in their composition some of the most depopulated villages in the county. The commune's socio-economic status is analyzed from the perspective of five main indicators: endogenous potential, physical-geographical characteristics, economic activities, public infrastructure and human capital. From the interpretation and comparison of these indicators it results that at the level of the rural areas from Hunedoara County there are big differences between the territorial administrative units, especially in the case of the indicators of public infrastructure and economic activities. As expected, in the resulting hierarchy it can be seen that, the communes that are located at a considerable distance from the county's main urban centers and which are not crossed by main transit roads, have a low potential for socio-economic development. Even if some communes have a low score of this indicator, this does not mean that those communities have no chance of recovery. Public policies must be adapted to encourage the development of these communities through the implementation of the National Rural Development Program 20014-2020.*

**Key words:** socio-economic development, development potential, rural development, PNDR 2014-2020

### INTRODUCTION

An important aspect that should be mentioned is the fact that, except for Ilfov County, Hunedoara County is the most urbanized county in Romania, only 25% of population lives in the rural area [14].

The high share of people living in urban areas can be related with the process of mass industrialization that took place in the last century in Hunedoara County. This process happened due to the exploitation of the numerous gold, carboniferous and metalliferous deposits that can be found in the county [1].

Another cause of the small percentage of people living in the rural area is the high share of mountainous relief. Mountains occupies 68% of the county territory. The majority of depopulated communes are in the mountain area, at heights ranging from 300 m to 800 m. The rugged mountainous terrain and the lack

of infrastructure affect the mobility of the population, especially in winter [5].

The communes found in mountain areas are severely affected by deep socio-economic problems [8]. These problems are particularly acute in isolated communes, which do not have the public infrastructure necessary for a decent living, with difficulties in accessing education, health and communication services [23].

The numerous important tourist objectives found on the Hunedoara County territory, represents a great advantage for investors that want to set up agrotourism pensions in this County [3].

An essential role in solving rural area's problems in Hunedoara County is represented by the National Rural Development Program 2014-2020 [11]. This program objectives were set based on a series of analyzes carried out at the country level, on each territorial administrative unit [21]. In order to facilitate the implementation of the program and to ensure that European funds are used

efficiently, the Romanian state authorities evaluate all funding projects applicants based on predefined specific indicators. In this way, investments in areas with high development potential are encouraged [2].

## MATERIALS AND METHODS

Secondary data analysis means the reanalysis of previously collected data. As a data collection technique it is one of the broadly used in any type of research. If it is a reanalysis it means that the data was collected by other researchers, maybe with other research aim [19].

The sources of the secondary data could vary depending on the subject, from trade journals, references book, technical reports, or particular to this article, INS [20]. Lots of researchers use secondary data analysis because gathering primary data involves a higher costs, more efforts and more elaborate process. But at the same time, even if it is cheaper, may not be easy to access the data and its volume might overcome the researcher [12].

Secondary data analysis is very useful when it comes to longitudinal analysis which is not easy to be done because of the time and costs involved. In this case the data gathering is spread over a longer period of time. It is helpful when someone wants to measure different social changes because it shows patterns of change and even the causes behind them [18].

The first indicator taken into account for the realization of this comparative study was the indicator of tourism development potential. This indicator was calculated by state institutions to encourage the socio-economic development of territorial administrative units in rural areas that have high tourism potential. The indicators can be found in the annexes of the Government Emergency Ordinance no. 142/2008 amended and completed by Law no. 190/2009 as well as the subsequent amendments regarding the approval of the Plan of national territory planning Section VIII - areas with tourist resources [13].

According to the methodology for calculating these indicators, only the territorial administrative units that obtained over 14

points entered the list of communes with high tourist potential [10].

In order to be able to objectively compare communes socio-economic development indicator, we had to take into account the indicators for evaluating the socio-economic development potential of the territorial administrative units that was calculated in "Study on establishing the socio-economic potential of development of the rural areas" realized by the Academy of Economic Studies in Bucharest. The study mentioned above was conducted for the Government of Romania and provided "Technical assistance for the preparation of the programming period in the field of rural development 2014-2020" [21].

Within it, all the territorial administrative units in the rural areas of Romania were analyzed in the light of several indicators of socio-economic development.

## RESULTS AND DISCUSSIONS

There is a high risk that in Hunedoara County will occur the first case in which an entire commune will remain without inhabitants.

In support of this statement, an argument that can be considered is the situation of Bătrâna commune, in which, between 2002-2019, the population decreased from 175 inhabitants to 98, which represents a 44% decrease. If we refer to the situation of the two villages, Răchițaua and Piatra from Bătrâna commune, we find that during 2011-2019 the number of inhabitants decreased from 10 to 3 in the case of Răchițaua village and from 9 to no inhabitants in the case of the village of Piatra. Given that in just 17 years, the population of Bătrâna commune has decreased by 44%, it is possible that in the next 20 years, Bătrâna commune will become the first commune in Romania that has no inhabitants [22].

In addition to dramatic situation of Bătrâna commune, field analysis lead to the conclusion that all the communes analyzed are affected by the phenomena of depopulation and aging [4]. From the analysis regarding the structure of the population by age categories, it is found that in all 17 communes, more than half of the population falls in the over 50 years age category, and about 25% fall into the age group

over 70 years, a situation that illustrates a very high level of the aging phenomenon.

This situation is aggravated by the fact that the share of the population in the age range of 20-40 years is only approx. 20%, and that of the population up to 20 years old, is around 15% [22].

The aging population phenomena in the rural areas is manifested on the whole territory of Hunedoara county. Fig. 1 presents the evolution of the population median age, as a whole and on both sexes.

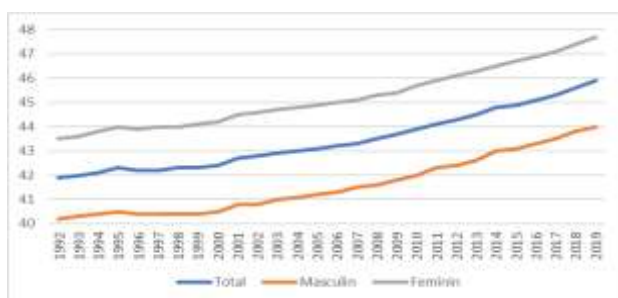


Fig.1. Evolution of rural population median age in Hunedoara county.

Source: Source: Authors' own design after NIS data.

The evolution of population average age in the rural area of Hunedoara County has an ascending trend. It can be observed that in the first half of the analyzed period (1992-2005) the average age of the population in the rural area of Hunedoara County increased by approximately one year, from 42 to 43 years. In the second half of the analyzed period (2006-2019) the average age of the population in the rural area of Hunedoara County increased by approximately 3 years, from 43 to almost 46 years [22].

One of the solutions that could help reduce the demographic decline is to encourage the development of touristic activities in rural areas in Hunedoara County [7]. Touristic activities development would lead to the creation of new jobs [3]. Also tourism would encourage at the same time the development of existing farms and the emergence of new farms [16].

Of the 17 communes analyzed in this paper, only four are not included on the list of zones with high tourist potential [9]. The presence on this list is important because the investors who will want to obtain financing from European Union by applying projects on measures 6.2

and 6.4 can obtain additional points if they make the investment in the communes that are on the list [7].

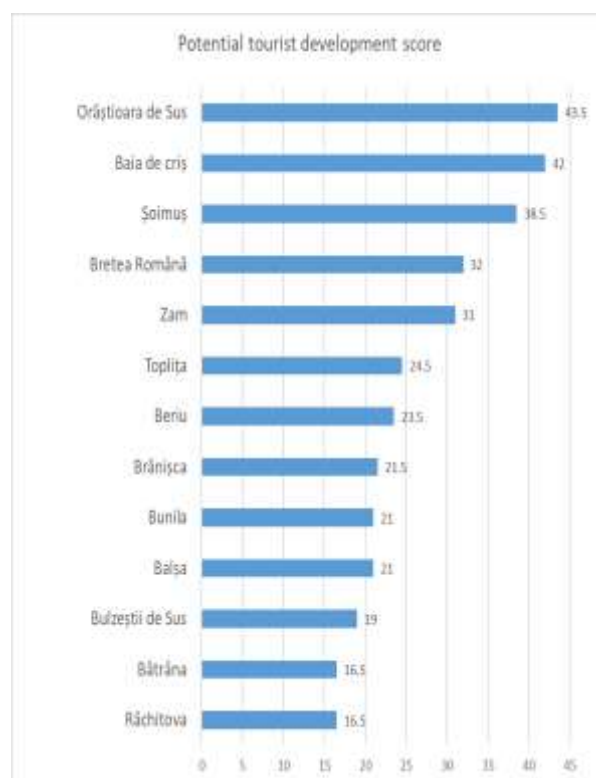


Fig. 2. Communes tourist development potential hierarchy

Source: Authors' own design based on the data from [9].

In Fig 2, we can observe that most of the analyzed communes have over 20 points on the tourist development potential scale. Only three communes have this indicator below the value of 20, these are: Bulzești de Sus with 19 points; Bătrâna and Răchitova each with 16.5 points,

The average value of this indicator is 26.9615. A large deviation from the average can be observed. The score of Bătrâna and Răchitova communes is almost 40% lower

than the average. At the opposite pole, the scores of Orăștioara de Sus, Baia de Criș and Șoimuș communes are over 40% higher than the average.

Figure 3 presents the socio-economic situation of the 17 communes from Hunedoara County where we can find the most depopulated 20 villages in Hunedoara County.

Each commune socio-economic status is analyzed from the perspective of five main indicators. Each of these main indicators is

calculated on the basis of secondary indicators specific to the analyzed aspects.

The endogenous potential indicator is calculated taking into account: the number of inhabitants, agricultural area, the number of animals expressed in UVM, forest area and the cultural heritage [6].

In this case, it can be observed that most of the analyzed communes have a good level of endogenous potential, only three communes have this indicator below the value of 0.4. These are Bunila, Bătrâna and Toplița. Of these, Bătrâna commune stands out negatively through a very low value of the indicator, of only 0.32, less than 60% of the general average of the other 17 analyzed communes. At the opposite pole, we can find the communes Beriu, Baia de Criș and Oraștioara de Sus whose endogenous potential exceeds the value of 0.6.

The physical-geographical indicator is calculated taking into account: the average altitude, fragmentation density, area of community importance sites and the share of the forest area in the UAT area.

In this case, we can observe that most of the analyzed communes have a good level of endogenous potential, only Răchitova commune have this indicator below the value of 0.4. The average value of this indicator is 0.4858 and the maximum and minimum values do not deviate from the average by more than 20%.

The economic activities indicator is calculated taking into account: the number of small and medium economic agents/1,000 inhabitants, the number of employed in small and medium companies/1,000 inhabitants, the number of arrivals in tourist units, the number of accommodation units, the share of farms over 5 ha in total farms, the share of the employed population in the secondary and tertiary sector in the total employed population and the share of farms over 5 ha. These indicators are very important in analyzing rural areas [15].

In this case, we can observe that most of the analyzed communes have the level of economic activities over 0.4.

The average value of this indicator is 0.4029 but a large deviation from the average can be observed, especially in the case of the four

communes that have this indicator below the 0.4 threshold. These communes are Bulzești de Sus, Bătrâna, Oraștioara de Sus and Toplița. Of these, Bulzești de Sus commune stands out negatively through a very low value of the indicator, of only 0.09, 23% less than the general average of the other 17 analyzed communes. Also, Bătrâna commune has a low value of this indicator, only 0.16, 40% less than the general average of the other 17 analyzed communes.

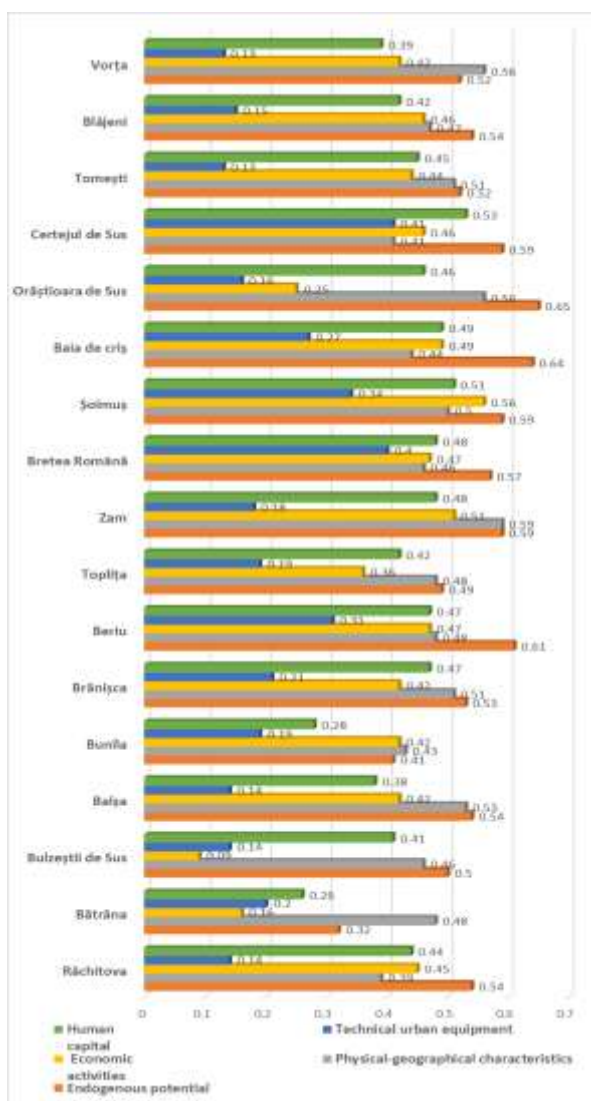


Fig. 3. Main indicators used for assessing the communes socio-economic development potential

Source: Own design based on the data from reference studies for the elaboration of PNDR 2014-2020 [21].

The technical urban equipment indicator is calculated taking into account: the share of public water-supplied dwellings in total conventional dwellings, the share of dwellings connected to the sewerage in total dwellings,

the share of dwellings connected to the gas network in total conventional dwellings and the public roads network density.

Unfortunately, regarding this indicator, the analyzed commune's circumstances are very poor. The average value of this indicator is only 0.217 and huge differences can be observed between the communes at the bottom of the ranking and those at the top. The communes can be divided into three categories: category under 0.2 with 10 communes, category 0.2-0.3 with 3 communes and category 0.3-0.41 with 4 communes. The human capital indicator is calculated taking into account: the population density, the share of people between the ages of 0-64 in the total population, the share of the population with secondary education (high school + professional) in the total population, no. of inhabitants/doctor, no. students/teacher and the share of population using internet in total population over the age of 66.

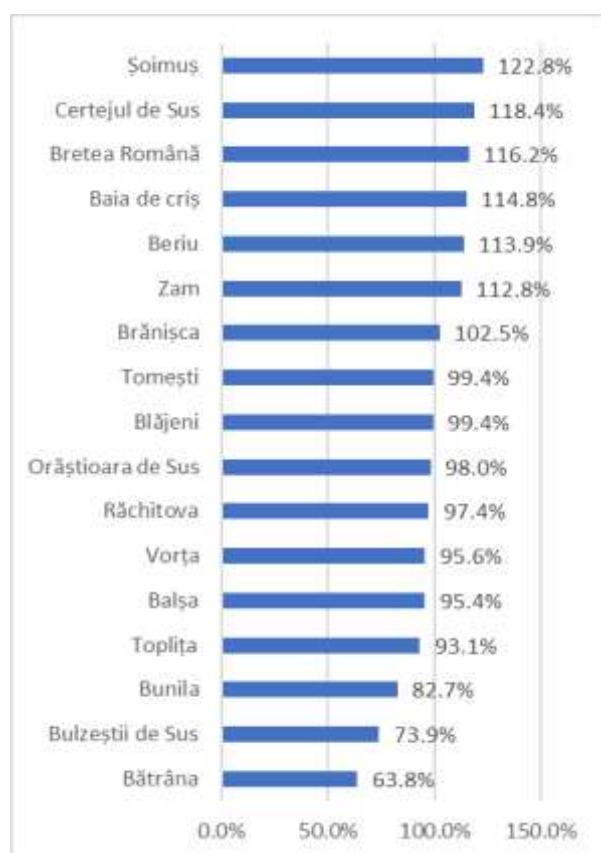


Fig. 4. Comparison of socio-economic development potential of analyzed communes depending on difference from the average value

Source: Authors' own calculation based on the data from reference studies for the elaboration of PNDR 2014-2020 [21].

This indicator average value is 0.4317 and we can observe a significant deviation from the average for some villages, especially in the minimum values. There are seven communes that are below average, and among them Bunila and Bătrâna communes indicator is lower than the average by 40% and 35% respectively. At the opposite pole, we can find the communes Șoimuș and Certejul de Sus whose human capital indicator exceeds the value of 0.5.

The arithmetic mean of these five indicators represents the general socio-economic development potential for each commune.

From the socio-economic situation of the 17 communes presented in Fig. 4 results the hierarchy of the analyzed communes according to the size of the indicators of socio-economic development potential. From this hierarchy it can be seen that most communes with high development potential are located near cities and major access roads.

Compared to the average socio-economic development potential of the seventeen analyzed communes, three categories can be formed. The first category contains communes with very high socio-economic development potential. There are six communes in this category, these are Șoimuș, Certejul de Sus, Bretea Română, Baia de Criș, Beriu and Zam. In the category of communes with medium socio-economic development potential, there are eight communes: Brănișca, Tomești, Blăjeni, Orăștioara de Sus, Răchitova, Vorța, Balșa and Toplița.

In the category of communes that have a low potential for socio-economic development, there are three communes. The potential of Bunila commune is 17.3% lower than the average of the analyzed communes. The potential of Bulzești de Sus commune is 26.1% lower than the average, and the potential of Bătrâna commune is 36.2% lower than the average of the socio-economic development potential of the analyzed communes

At present, the communes in the mountainous rural area of the county have important areas of agricultural land that is not used because farmers have difficulties in selling their products [17].

## CONCLUSIONS

In conclusion, the results of the analysis presented in this paper show that the rural area of Hunedoara County faces a serious demographic problem, the population is declining, the average age is rising rapidly and public infrastructure indicators in most communes studied are very low. It is disappointing that so many villages that have a high score of tourism potential have a low potential for socio-economic development.

If in the next 5 years, the agritourism potential will not be exploited, the existing farmers will not be supported and the necessary infrastructure will not be developed, there is a risk that over 30 years half of the communes analyzed in this study to reach the same tragic situation in which the Bătrâna commune is now, to have less than 100 inhabitants.

It can be said that there is a certain point that once exceeded leads to the appearance of a vicious circle that can no longer be stopped. Most of the young inhabitants leave the mountain area communes permanently because without public infrastructure, the living conditions are very difficult.

At the same time, as the population decreases and very few inhabitants remain, the state authorities can no longer justify the efficiency and opportunity of infrastructure investments that would benefit a very small number of people.

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