

## SYSTEMIC ANALYSIS OF THE DYNAMIC COMPONENTS OF THE EDUCATIONAL PROCESS FROM THE UNIVERSITY OF ORADEA

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**Abstract:** The efficiency of the educational process within an academic institution is given by the dynamic interaction between teachers and students. Each of the two components of the educational process relate with each other and interact in a real and efficient way. The professor shares knowledge depending on the particularities of the educational subjects in order to shape specialists that are capable of contributing to the development of the society. The students relate to the teachers intentions, to the clearly expressed requirements and they receive process and render the conveyed knowledge in a personal way. Therefore, these subjects are those that give an overview of the educational process developed within each university. In this regard, the present study focuses its attention on a systematic analysis of the two dynamic components of the educational process at the University of Oradea, thus allowing a better understanding of the functioning of the educational process conducted in this institution.

**Key words:** educational process, systemic analysis, teachers, students

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### INTRODUCTION

Universities are complex and diverse institutions offering a wide range of services. Users and providers of such services interact with each other and with the society in a unique way. Consequently, the value of universities for our economy and society is tangible as it can be quantified using a variety of conventional measures but it is also intangible as it can increase from a cultural, historical point of view etc. Universities are large institutions composed of many people but they also serve many people and they are directly and indirectly responsible for the economic prosperity of a region or country (Abreu et al, 2008; Swenson, 2012). Briefly, higher education has an important role in the economy of a country. Its contribution to economic prosperity through

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innovation and knowledge-sharing is considered vital for the economic growth and development. Worldwide, governments support the goals of any university: the development of new ideas, products and services, research, better education of citizens (Reichert, 2006; Kelly et al., 2009).

Universities enhance education, providing benefits to individuals and society. Their contribution to the local economy is represented by the satisfaction of the educational needs as students acquire the skills and abilities necessary to become more productive as a result of their education. Therefore, the importance of higher education in economics can be seen in the level of education of individuals and in the employment rate. The benefits of the education given in universities go far beyond the actual earnings of each individual as it also provides a workforce with a higher educational level, it helps young graduates to find a place in society, it eventually helps to decrease crime and increase productivity etc. (Bruner, 1999; Hoffman & Hill, 2009; Herman et al., 2012; Baias, 2012). An important element that determines the competitiveness of the Romanian economy is the level of preparation of the workforce. In this regard, teachers have an important role in training students in a formal education environment and with appropriate teaching technology. All these elements form the educational process in which the teachers and the students constitute the dynamic part. The systemic analysis of the two components (teachers and students) allows us to have an understanding of these components, of the functionality of the process and of the causes that induce certain distortions in their evolution etc. Thus, the present study analyzed between 2008 - 2013 the teachers and students from the three cycles of the University of Oradea in terms of: number, gender, age and area of origin.

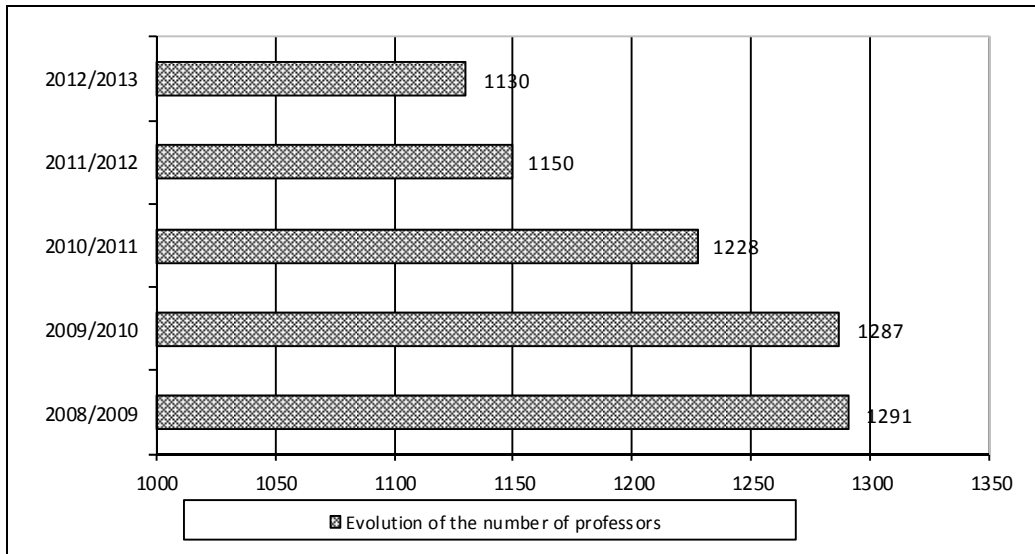
## **METHODOLOGY**

This study is based on results obtained using geographical research methods: the method of bibliographic documentation (Cocean, 2005; Armas, 2006), the statistical method (Khan, 1998; Petrea, 2005; Gomez & Jones, 2010;) used for processing data statistics on the number of teachers and students, on the structure of teachers and students in terms of gender, age and area of origin between 2008-2013; the analysis method - the obtained data on the two dynamic components of the educational process was included in the profile analysis (Cocean, 2005, Clifford et al., 2010), the mapping method – transforming the obtained information in cartographic representations using the GIS software (Petrea, 2005; Cope & Sarah; Elwood, 2009) and the synthesis method that resulted in drawing conclusions regarding teachers and students during the above mentioned period.

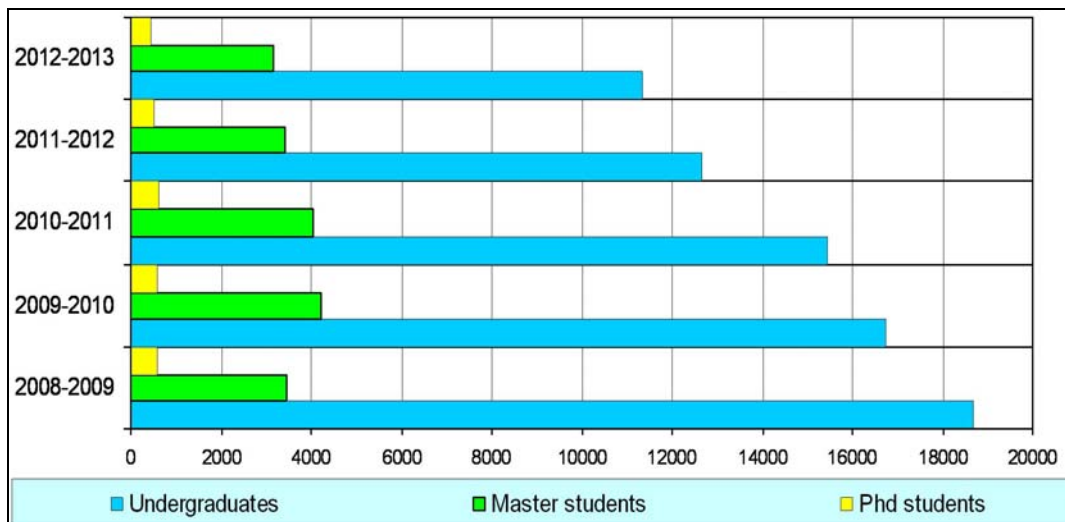
## **TEACHERS AND STUDENTS - THE DYNAMIC COMPONENTS OF THE EDUCATIONAL PROCESS**

The teaching activity is an important component in the functioning of a university. This sums up all forms of action aimed at the preparation of students as specialists in every field required by a continuously growing society. The quality of the training offered by each professor, his professional competence, his dedication towards students, etc., define the prestige of the university as an institution (Munteanu & Munteanu, 2004). The second part of the educational process of a university is represented by students. The relations between the two components are generally described by communication, the exchange of information between the transmitter (professor) and receiver (student) being frequent, aiming at providing the information needed for the result required by the society - specialists in various fields. Between 2008 and 2013 we conducted a systemic analysis of teachers and students enrolled in the three cycles of the University of Oradea, watching closely the following indicators: number, gender, age and area of origin. This analysis was aimed at knowing the two components of the educational process within the universities, the functionality of the educational process and the causes of the distortions in their development. During this time, the structure of teachers and students experienced a constant change as their number continued to decrease due to the restrictive factors (figures 1, 2): the hiring freeze in public companies (Government Emergency Ordinance no. 34/2009), the low number of students, the conditions imposed by the National Council for the Attestation of Academic Titles,

University Diplomas and Certificates to reach the didactic hierarchy etc. (in the case of teachers), the economic crisis, the reorganization of the higher education system under the Bologna process (the reduction of scholarships), the decreased birth rate at a national level etc., (in the case of students).



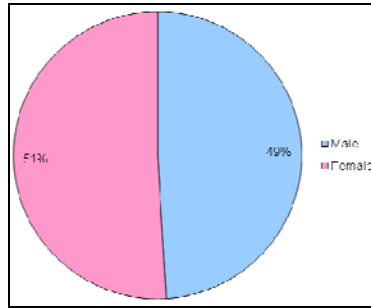
**Figure 1.** Evolution of the number of teachers at the University of Oradea, between 2008 - 2013  
(Data source: Human Resources Department, University of Oradea)



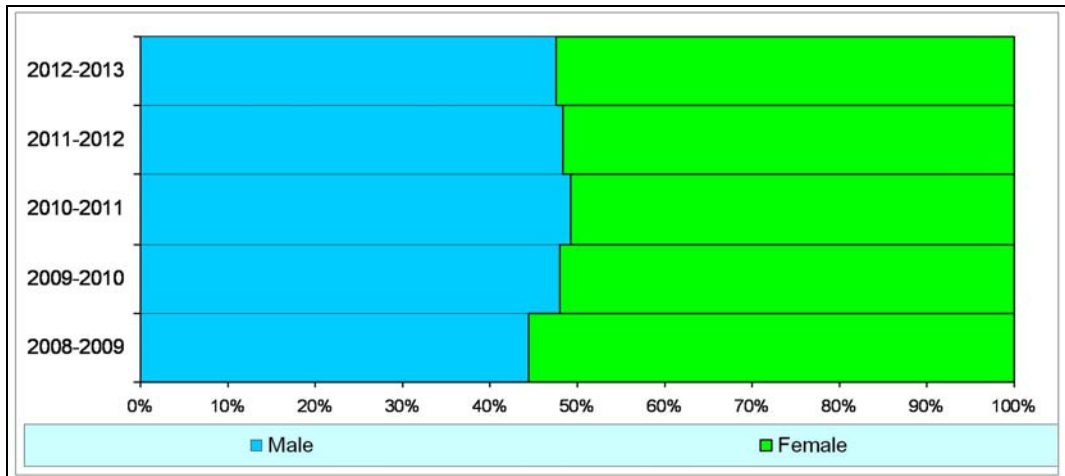
**Figure 2.** Evolution of the number of students enrolled in the three cycles at the University of Oradea 2008 - 2013  
(Data source: <https://uniweb.uoradea.ro>)

The analysis of the distribution of teachers and students by gender reveals that in the University of Oradea women predominate (51% female teachers, 52% female students) (figures 3, 4).

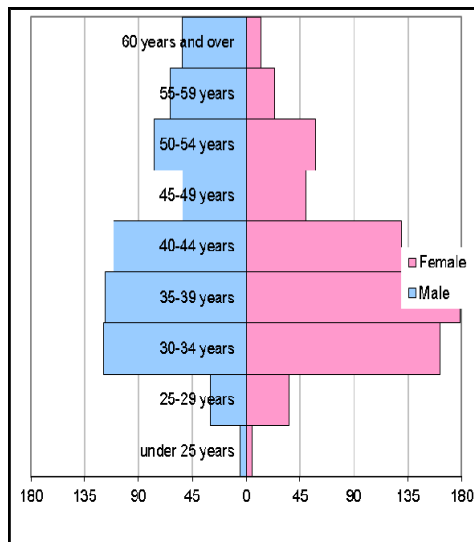
In what concerns the structure of teachers by age groups, we can observe that from the age group 25-29 years to the age group 50-54 years women predominate, whereas in the 55-59 years age group the male teachers predominate (figure 5).



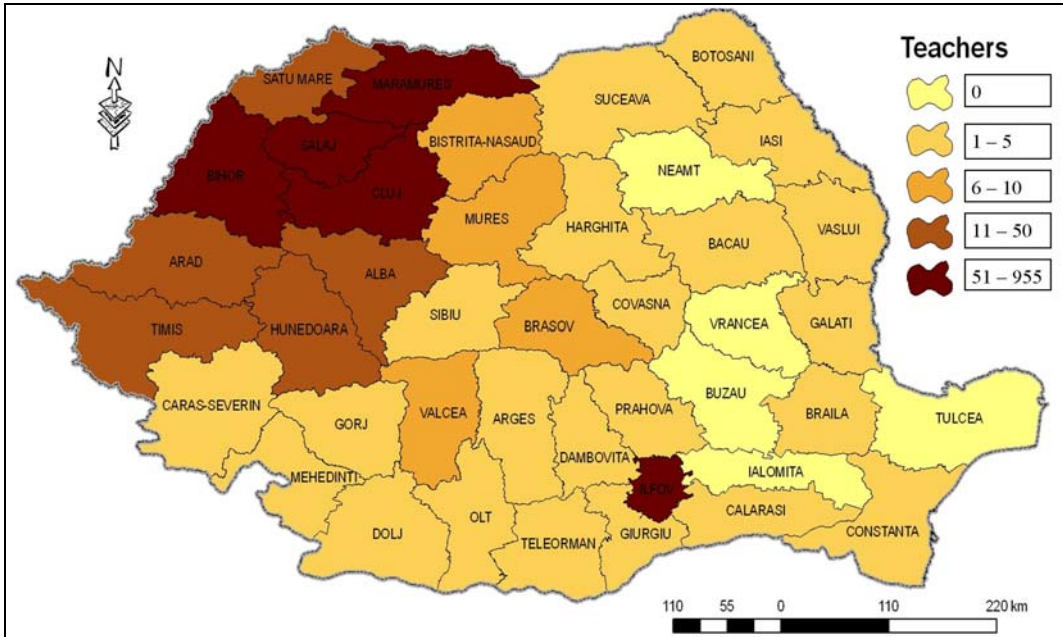
**Figure 3.** Percentage of the teachers from the University of Oradea by gender in the academic year 2010 - 2011  
(Data source: Human Resources Department, University of Oradea)



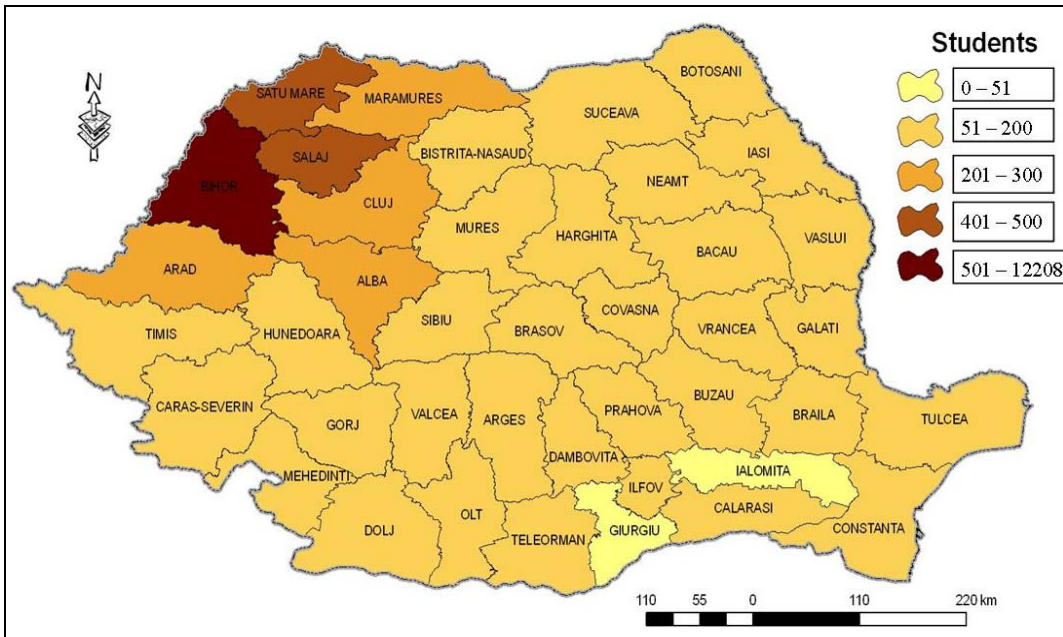
**Figure 4.** Percentage of the undergraduate, master students and phd students by gender in 2008 - 2013  
(Data source: <https://uniweb.uoradea.ro>)



**Figure 5.** The age pyramid for teachers in the academic year 2010 - 2011  
(Data source: Human Resources Department, University of Oradea)



**Figure 6.** The area of origin of the teaching staff of the University of Oradea, the 2010 - 2011 academic year

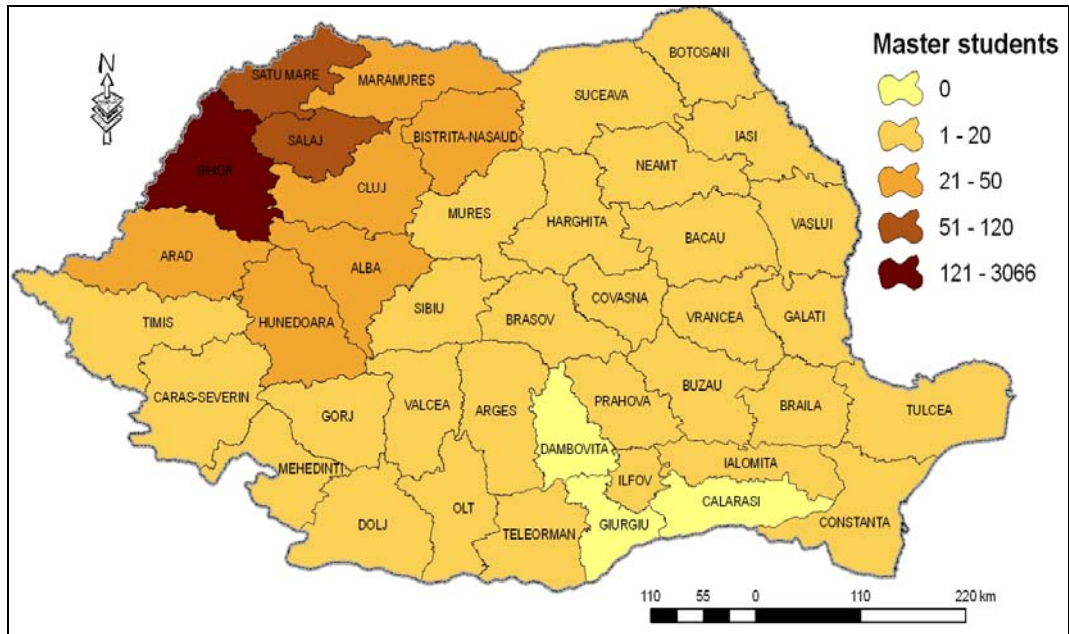


**Figure 7.** The area of origin of students of the University of Oradea, between 2008 - 2013

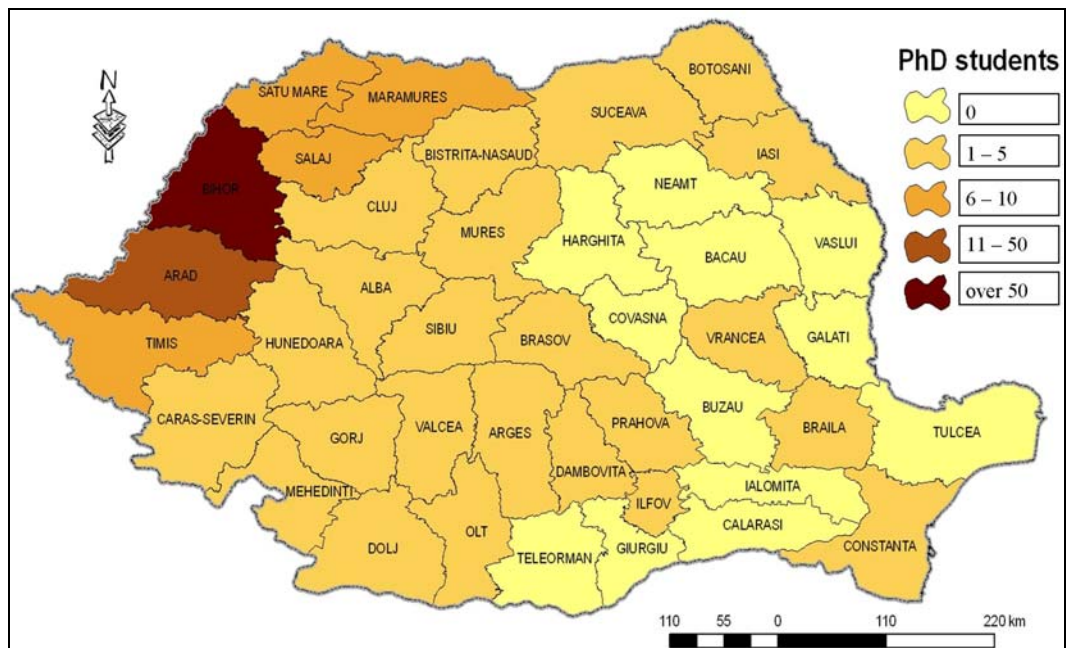
Most of the students enrolled in undergraduate academic studies have the age equivalent to the higher education level, ranging in the age group 18-24 years (70% of all students). Most students registered for master's degree studies are aged between 22 and 24 years, most of them being enrolled in the 2009-2010 academic year (2697-graduate students) due to the large number of graduates from the undergraduate studies. In what concerns the doctoral studies, most of the



doctoral students are over the age of 30 years. The University of Oradea has a wide range of recruitment for both teachers and students. Overall, the majority of teachers and students come from the North-Western region of the country (figures 6, 7, 8, 9), especially from the Bihor County. Most teachers come from the North-Western Region (Maramureş, Sălaj, Cluj and Bihor), Bucureşti-Ilfov, Western Region (Arad, Timiş, Hunedoara) and Central Region (Alba, Covasna, Mureş).



**Figure 8.** The area of origin of master students of the University of Oradea, between 2008 - 2013



**Figure 9.** The area of origin of PhD students of University of Oradea, between 2008 - 2013

Though the number of students in undergraduate academic studies has dropped between 2008-2013, their geographical origin continued to expand. Thus in Figure no.7 one can notice that students come from all regions of the country, most of them coming from the North-Western region, Bihor county hovering the first place (12 208 students). This is followed by the following counties: Satu Mare (525 students), Sălaj (489 students), Maramures (245 students), Alba (147 students), Cluj (143 students) and Arad (128 students). From the analysis of statistical data and in figure 8 is noticed that most master-students come from almost all counties of the country, except Dâmbovița, Călărași și Giurgiu. Bihor county ranks first with 3065 master-students, followed by the counties of Sălaj (118 master-students) and Satu Mare (107 master-students).

Regarding the origin of PhD students it appears that the attraction area of the University of Oradea extends in the counties of North-Western Region (Bihor, Bistrița-Năsăud, Cluj, Sălaj, Satu-Mare and Maramureș), North-Eastern Region (Suceava), Western Region (Arad, Caraș-Severin, Hunedoara and Timiș), South-Western Region (Dolj, Gorj, Mehedinți, Olt and Vâlcea), Central Region (Alba, Mureș and Sibiu), Southern Region (Argeș, Dâmbovița and Prahova), Ilfov Region and South-Eastern Region (Brăila, Constanța and Vrancea). From the analysis of figure 9 it is showed that most of the PhD students come from North-Western Region, Bihor county standing in first place with 416 PhD students. It is followed by Arad (29 PhD students), Satu Mare (14 PhD students) and Sălaj (11 PhD students).

## CONCLUSIONS

The teaching activity is an important component in the functioning of a university as it trains students to be specialists in every field required by a continuously growing society.

The quality of the training offered by each professor, his professional competence, his dedication towards students etc., defines the prestige of the university. In order to have an overview of the educational process that takes place within these institutions we conducted a systemic analysis of two dynamic components, teachers and students between 2008 and 2013, watching the following indicators: number, gender, age and area of origin.

The obtained results reveal a constant decrease in the number of teachers and students during the above mentioned period due to the following factors: the economic crisis, the reorganization of the higher education system, the hiring freeze in public companies, etc. The analysis also revealed that women predominate (51% female teachers and 52% female students). Moreover, most female teachers are in the age group 35-39 years while most students enrolled in undergraduate academic studies fall in the age group 18-24 years. The graduate students are aged between 22 and 24 years while the PhD students are aged over 30 years. Another aspect revealed is that the majority of the teachers and students come from the North-Western region of the country, especially from the Bihor County.

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