

GEOGRAPHIA

STUDIA
UNIVERSITATIS BABEȘ-BOLYAI
GEOGRAPHIA

1/2016

EDITORIAL BOARD OF STUDIA UNIVERSITATIS BABEȘ-BOLYAI GEOGRAPHIA

EDITORIAL OFFICE: Clinicilor no. 5-7, 400006 Cluj-Napoca, Romania,
Phone +40 264 591807, geogr@geografie.ubbcluj.ro;
http://www.studia.ubbcluj.ro/serii/geographia/index_en.html

EDITOR-IN-CHIEF:

Professor Dănuț PETREA, PhD, Babeș-Bolyai University, Cluj-Napoca, România

EXECUTIVE EDITORS:

Senior Lecturer Raularian RUSU, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania,
E-mail: rusu@geografie.ubbcluj.ro

Lecturer Ștefan BILAȘCO, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania,
E-mail: sbilasco@geografie.ubbcluj.ro

Senior Lecturer Titus MAN, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania,
E-mail: tman@geografie.ubbcluj.ro

EDITORIAL BOARD:

Professor Dan BĂLTEANU, Romanian Academy Member, PhD, University of Bucharest, Romania
Professor Alexandru UNGUREANU, Romanian Academy Member, PhD, „Al. I. Cuza” University,
Iași, Romania

Professor Jozsef BENEDEK, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania

Professor Nicolae CIANGĂ, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania

Professor Pompei COCEAN, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania

Professor Ionel HAIDU, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania

Professor Ioan Aurel IRIMUȘ, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania

Professor Gavril PANDI, PhD, Babeș-Bolyai University, Cluj-Napoca, Romania

Professor Valerio AGNESI, PhD, Palermo University, Italy

Professor Doriano CASTALDINI, PhD, Modena University, Italy

Professor Walter LEIMGRUBER, PhD, Université de Fribourg, Suisse

Professor János MIKA, PhD, The National Meteorological Institute, Budapest, Hungary

Professor Jean-Claude THOURET, PhD, Univ. Blaise Pascal, Clermont-Ferrand, France

Professor Marina TODOROVIĆ, PhD, Beograd University, Serbia

Professor Dragoș ȘIMANDAN, PhD, Brock University, Ontario, Canada

Professor Christoph WAACK, PhD, Regional Geography Institute, Leipzig, Germany

Professor Jan WENDT, PhD, Gdansk University, Poland

Professor Zoltán NAGY, PhD, University of Miskolc, Hungary

Professor Ioan IANOȘ, PhD, Bucharest University, Romania

Professor Ionel MUNTELE, PhD, „Al. I. Cuza” University, Iași, Romania

Professor Constantin Viorel RUSU, PhD, „Al. I. Cuza” University, Iași, Romania

Professor Alexandru ILIEȘ, PhD, University of Oradea, Romania

Professor Rodica PETREA, PhD, University of Oradea, Romania

Professor Petre GÂȘTESCU, PhD, Hyperion University, București, Romania

Professor Nicolae POPA, PhD, West University, Timișoara, Romania

Professor Petru URDEA, PhD, West University, Timișoara, Romania

Professor Maria RĂDOANE, PhD, „Ștefan cel Mare” University, Suceava, Romania

YEAR
MONTH
ISSUE

Volume 61 (LXI) 2016
APRIL
1

S T U D I A
UNIVERSITATIS BABEŞ-BOLYAI
GEOGRAPHIA

1

STUDIA UBB EDITORIAL OFFICE: B.P. Hasdeu no. 51, 400371 Cluj-Napoca, Romania,
Phone + 40 264 405352

CUPRINS - CONTENT - SOMMAIRE - INHALT

J. B. TÓTH, J. FEKETE, T. TÓTH, S. SZEGEDI, I. LÁZÁR, Measuring the Energy Potential of Biomass for Firing Purposes by Statistical and Geographical Methods in the Case of a Hungarian Settlement.....	5
NICOLA GALLUZZO, Analysis of Financial Subsidies Allocated by the Common Agricultural Policy to European Farms in Reducing Economic-Territorial Inequalities by Indexes of Concentration.....	27
L. NICOARĂ, S. FILIP, Geodemographic Structures in Satu Mare County. Sex and Age Structures of the Population.....	39
DINO BURTINI, Anthropological Summary of Migration Romanian Mobility, Between Studies and Reality.....	51
VERESS NÓRA-CSILLA, Romania's Youngest Towns - How Urban are They?...67	
CHHABI LAL CHIDI, Determinants of Cultivated Land Abandonment in the Hills of Western Nepal.....	89
G. B. TOFAN, A. NIŢĂ, C. NIMARĂ, B. N. PĂCURAR, The Exploitation of the Tulgheş-Grinţieş Uranium Deposit. Between Benefits and Controversy....	105
DANIELA-LIVIA GHEORGHIEŞ, Accommodation Infrastructure and Tourism Flows on Feleacu Hill (Cluj County).....	115

LAURA ANDREEA LAZĂR, The Sustainable Development of Tourism in the Land of Beiuș through Recreational Activities and Tourist Animation	127
SIMONA-MONICA CHITA, The District of Codru – District or Land?	135
SILVIA IRIMIEA, English as a Foreign Language. What Challenges do Teachers of English Face?	145
ALEXANDRU PĂCURAR, Reading Notes	159

R E V I E W

LAURENT CHRZANOVSKI, <i>De Prométhée à la Fée Electricité. Pour une sociologie de l'éclairage à travers les âges, les croyances et les continents</i> , Préface par l'académicien Ioan-Aurel Pop, Cluj-Napoca, Académie Roumaine, Centre d'Études Transylvaines et Argonaut, 2013. (ALEXANDRU PĂCURAR)	167
---	-----

MEASURING THE ENERGY POTENTIAL OF BIOMASS FOR FIRING PURPOSES BY STATISTICAL AND GEOGRAPHICAL METHODS IN THE CASE OF A HUNGARIAN SETTLEMENT

J. B. TÓTH¹, J. FEKETE², T. TÓTH¹, S. SZEGEDI¹, I. LÁZÁR¹

ABSTRACT. – **Measuring the Energy Potential of Biomass for Firing Purposes by Statistical and Geographical Methods in the Case of a Hungarian Settlement.** During our research we developed a method allowing to survey easily and quickly the herbaceous and woody biomass potential of any settlement in Hungary based on statistical and geographical data. Derived from the data, which can be obtained from the Hungarian Central Statistical Office, it could be easy to calculate the assumable energy requirements of a given settlement. On the grounds of the method, one can recognize the settlements in a short period of time which may be suitable for the establishment of sustainable biomass-based cogeneration units on the long-term. The method can be applied in other countries as well, if the relevant national statistical database is available. During the research the town of Ibrány, which is lying in the north-eastern part of Hungary (fig. 1), was analysed in detail from multiple aspects. Furthermore, the suitability of Ibrány was analysed in order to find out whether potential bio-energy investments could be implemented in the town or not. In pursuance of the research, based on the Hungarian literature, Ibrány was found to be capable of the implementation of a bio-energy investment.

Keywords: *biomass, bioenergy, agriculture, rural development.*

1. INTRODUCTION

The Ibrány-Nagyhalász statistical micro-region is located in the north-western corner of Szabolcs-Szatmár-Bereg County in Hungary. The micro-region consists of 17 settlements. Having an area of 521 km², the micro-region makes up

¹ University of Debrecen, Department of Meteorology, Egyetem tér 1, Debrecen H-4032, Hungary, e-mails: toth.jozsef.barnabas@gmail.com, tamas.toth1@gmail.com, szegedi.sandor@science.unideb, lazar.istvan@science.unideb.hu

² University of Debrecen, Department of Social Geography and Regional Development Planning, Egyetem tér 1, Debrecen H-4032, Hungary, e-mail: jozseffekete1988@gmail.com

8.7% of the county. The centre of the micro-region is Ibrány (fig. 1), onto which the research focuses.

Based on preliminary research results the town has favourable social and economic features compared to other settlements of the micro-region. However, these settlements have a disadvantaged status, their populations are continuously declining and most of them live in extreme poverty.

All over Europe there are hundreds of heating plants using biomass which are able to cover 100% of the energy needs for a given settlement (Schmuck *et al.*, 2013). These village heating systems play an important role in the development of settlements which are lagging behind since both raw material production and consumption offer job opportunities for the local population (Johannes, 2013). Another important aspect is that the huge amount of the money spent on energy supply does not flow to foreign energy producing companies, but remain in the region since the energy is produced by energy sources of the local environment.

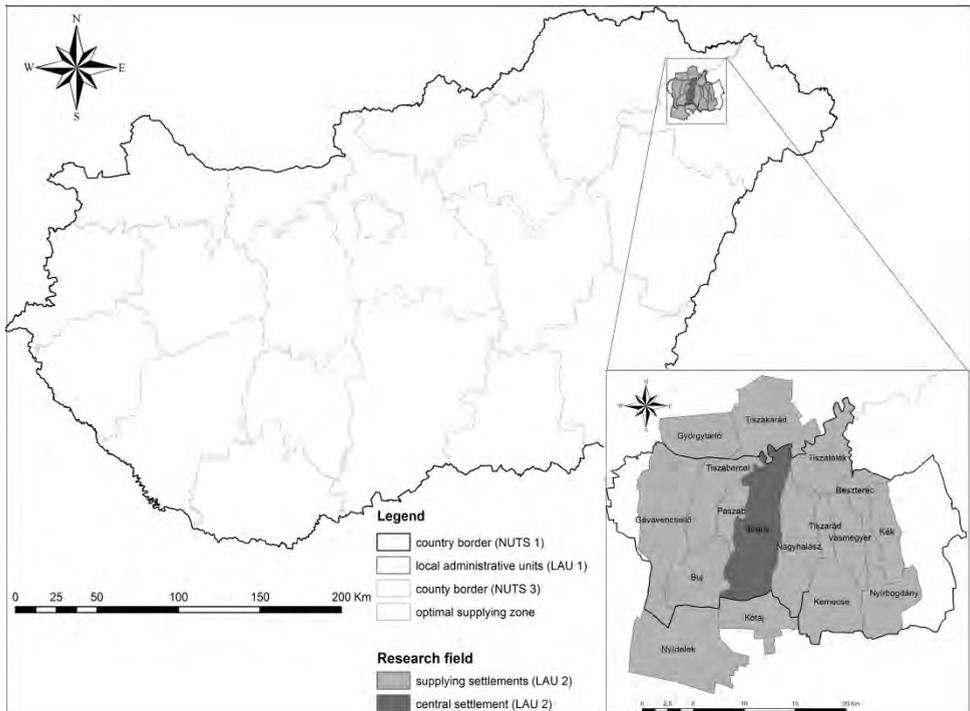


Fig. 1. The geographical location of the town of Ibrány

The study is divided into four parts:

- First, using statistical and geographical methods, a suitable supply zone was delimited, in which the biomass fuels can be produced for the town.
- Second, the energy potential of the agricultural by-products and the woody biomass in the delimited area was measured.
- Third, the annual energy needs of the town were estimated.
- Finally, the question of whether the environment of the settlement is suitable to serve the energy needs on the long-term was answered.

2. MATERIALS AND METHODS

The research results of Pintér (2012), further own calculations and estimates were used in order to delimit the suitable area fulfilling the biomass fuel needs of the studied settlement. Additionally, the impoundment of the suitable supply zone was created by using ArcGIS software.

The delimited area was studied from the aspects of land cover and spatial distribution of biomass on the basis of CLC (Corine Land Cover) 2006 raster data and seamless vector data. The smallest surfaces mapped (minimum mapping units) correspond to 25 hectares. Linear features less than 100 m in width (e.g. road, river) are not considered. The scale of the output product was fixed at 1:100,000. Thus, the location precision of the CLC database is 100 m, so it is not suitable for exact measurements. However, it illustrates the real geographical distribution of the biomass based on numeric data resources used in the research. CLC has 44 classes organised hierarchically in three levels, from which the areas with energy potentials and with other utilization potentials were separated into an individual class. The results were mapped using ArcGIS software.

Measuring the biomass potential based on agricultural by-products of the area delimited around Ibrány ($r = 10.58$ km) was derived from the MR-STAR 2013 (Regional statistical database system) and the ÁMÖ 2010 (Agricultural census) of the Hungarian Central Statistical Office.

According to the Agricultural census, the spatial distributions of forests, orchards, arable lands and vineyards of the delimited area's settlements were defined separately. In Hungary there is no such database that would make possible to estimate precisely the yields of agricultural products and by-products at municipal level, therefore the annually produced amount of herbaceous biomass in the region was estimated by a unique method in this paper. While estimating the potential, the agricultural land structure of the settlements was revealed by using the data of MR-STAR (2013) on Szabolcs-Szatmár-Bereg County. However,

these data do not give an accurate description of the studied area since considering soil and weather conditions in the different parts of the county, the agricultural land structure may differ significantly from year to year. Nonetheless, due to the absence of municipal level data, only the above mentioned unique method could provide an accurate report on the agriculture land structure of the settlements.

After determining the agricultural land structure of the delimited area, the estimations of the specific yields per hectare of the agricultural by-products were based on the average values of the Hungarian Research Institute of Agricultural Economics (AKI) and the Hungarian literature. Of course, it was not possible to calculate with standard data from year to year since the weather, the genus of the cultivated plant and the cultivation techniques are changing constantly in each year. Therefore, the calculations were made by applying the average yields of the past five years, which were determined by AKI and the Hungarian literature.

To estimate the woody biomass potential of the settlement, the data of WWF Hungary and NÉBIH (Hungarian National Food Chain Safety Office – formerly the Hungarian Central Agricultural Office) were used.

In order to estimate the heat and electricity needs of the settlement and to separate the needs of the households, the industrial users and the local government, the five-year average data of T-STAR 2013 (Settlement statistical database system) of the Hungarian Central Statistical Office were analysed. The database manages separately the amount of gas and electricity used for heating in the given year by the households and the total amount of gas supplied. The energy needs of the industrial facilities and the buildings operated by the local government can be calculated only in one way, if the amount provided to households is subtracted from the total demand for gas and electricity. This step makes possible to manage separately the residential, the industrial and the municipal energy needs. For further breakdown, the energy consumption data of the local government is essential. Unfortunately, due to the absence of cooperation with the local government this process could not be made. Therefore, the energy calculations and estimates were based on the expert opinion of SINERGY Energy Service, Investment and Consulting Ltd.

3. RESULTS AND DISCUSSIONS

3.1 The Impoundment of the Supply Zone Suitable for Producing Biomass Fuels

As both the international and the Hungarian literature emphasizes, **while planning biomass-based cogeneration units it is important to consider whether the possible investment location – from the aspect of procurable and producible biomass fuels – is capable to provide sustainable operation.**

Efforts should be made to carry out the production and the procurement as near as possible to the location of the consumption (Bai, 2012; Dobos *et al.*, 2006; Pintér *et al.*, 2009). The transportation of biomass fuels can be economical within a certain distance, so it is important during the planning process to delimit the radius in which the energy producing units can be supplied.

The economic transportation distance depends on many factors such as the cost of fuel, the amount of raw materials delivered, their quantity and price, the toll rate and the means and methods of transportation. Changes in the above mentioned factors may modify the area suitable to supply on a monthly or even on a weekly basis. Therefore, to make a precise and permanent definition is a must.

Despite the fact that the geographical and infrastructure capabilities of Ibrány (fig. 2) make possible river, rail and road transportation, during the research only the road transportation was considered since on the section of the Tisza River near the settlement there is no such cargo port which offers the possibility of water transportation and shipment. To build a cargo port in the framework of a potential bioenergy project would obviously make impossible to reach a reasonable return on investment in the foreseeable future. The town has also rail connection, but it is not an option since the town does not have a freight yard.

Pintér (2012) took economic aspects into consideration in his PhD dissertation and determined on which distance it is optimal to transport biomass fuels for energy producing purposes on public roads in Hungary. According to his calculation, the economic radius of transportation is 14.3 km in the case of herbaceous biomass and 43.38 km in the case of woody biomass since it has a higher density. It is evident that the straight line distance between two geographical locations is not equal to the distance on public road. Pintér (2012) found that 1 km distance on public road is equivalent to 0.74 km distance in straight line on the average in Hungary. It means that 1 km distance in straight line is equal to 1.3514 km on public road. **Consequently, the supply of herbaceous biomass can be economical within 10.58 km, while in the case of woody biomass the distance is 32.1 km in Hungary.**

In this paper the areas capable to produce firing raw materials were delimited by considering and applying the results of Pintér (2012) and cartographic data. By ArcGIS software two zones were delimited. One with a 10.58 km radius and one with 32.1 km radius, in the centre of which the municipal building of Ibrány is in both cases (fig. 2). Hereafter, the potential of agricultural by-products within the 10.58 km zone is presented, since considering economic aspects these areas can be suitable to provide enough raw materials to the town.

3.2. Evaluating the Transport Infrastructure of the Town

Following the delimitation of the area the evaluation of the transport infrastructure was done. Regarding the road network capabilities of the town (fig. 2) it can be stated in terms of supply that the capabilities cannot be considered as ideal ones since the town has no direct motorway connection and lies in the periphery in this respect. For this reason the long distance transportation can be carried out economically just in a few cases.

From the northern areas of the supply zone Ibrány can be reached on road after a long detour. This is caused by the fact that there are only 2 bridges and 3 ferry crossings on the nearby section of the Tisza River. Therefore, it is not economically efficient to supply from the settlements of Bodrogköz, Taktaköz and Hegyalja due to the long detours. Although, there is no need for a major detour if the ferry crossings are used, but trucks having gross vehicle weight over 5 tons are expected to pay 3.2 euros for every crossing. Depending on the type, quantity, quality and on the price of the transported material, the economic transportation distance may vary. Therefore, to avoid the miscalculation of the economically transportable biomass potential, settlements lying north from the Tisza River were not considered in the analysis.

In Hungary there is no database that would make possible to estimate precisely the yields of agricultural products and by-products at municipal level, therefore during the research, the annually produced amount of herbaceous biomass in the region was estimated by a unique method.

3.3. Estimating the Energy Potential of Agricultural By-Products Produced in the Studied Area

While doing the potential estimation, the agricultural land structure of the settlements was concluded from the Hungarian Central Statistical Office's Regional statistical database system (MR-STAR 2013) on Szabolcs-Szatmár-Bereg County. Still, these data do not give an accurate description on the studied area since considering soil and weather conditions in the different parts of the county, the agricultural land structure may differ significantly from year-to-year. Nevertheless, due to the missing data on every single settlement, only the above mentioned unique method may provide an accurate picture on the settlement's agriculture structure. The distribution varies from year to year as a result of the changing crop rotation, climatic conditions and crop prices, so it is obvious that calculating with the values of a single year is not enough. In consequence, the agricultural land structure's model in delimited area was made on the basis of the averages of 2009-2013 (fig. 3).

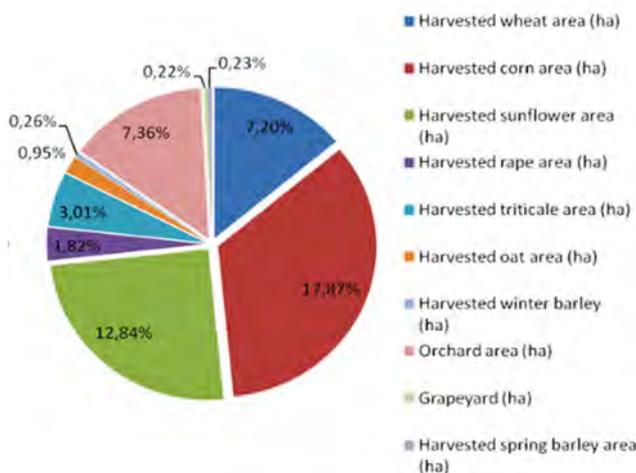


Fig. 3. General agricultural land structure of Szabolcs-Szatmár-Bereg County between 2009 and 2013 (Calculated by the authors based on KSH-MRSTAR 2013)

Following the determination of the agricultural land structure in the delimited area, estimations were made on the specific yields per hectare of the agricultural by-products on the basis of the average values demonstrated by the Hungarian Research Institute of Agricultural Economics (AKI) and the Hungarian literature (table 1). However it is important to mention that it was not possible to calculate with standard data from year to year, because the weather, the genus of the cultivated plant and the cultivation techniques are changing constantly in every year. Therefore, the calculations were made by involving the past five years' values on average yields, which were detected by the above mentioned sources (table 1).

Table 1.

Key features of the by-products taken into account

Type of agricultural by-product	Harvestable volume (t/ha/year)	Heating value (at 20% moisture content) (GJ/t)
Straw (wheat, triticale, barley, oat)	3	12
Rape straw	2.5	13
Corn stalk and cob	5.5	11
Sunflower stalk and husk	2	13
Vine-branch	2.5	14
Fruit-tree loppings	1.5	14

(Source: edited by the authors based on Bai, 1998; Marosvölgyi, 2002; Juhász, 2006; Barkóczy and Ivelics, 2008; Fábíán, 2008; Popp, 2011; Pintér, 2012; Torben, 2011; Bai, 2016.)

In accordance with the average yields and heating value of agricultural by-products, moreover considering the agricultural land structure of the delimited areas, our estimates show that the agricultural by-products produced annually in the countryside of Ibrány have approximately 643,591.83 GJ energy content (table 2).

Table 2.**The annual yield of agricultural by-products generated around Ibrány**

Type of agricultural by-product	Potential herbaceous plant crop lands based on the county average	Potential herbaceous biomass based on the county average	Inferential energy content of the potential herbaceous biomass
	(ha/year)	(t/year)	(GJ/year)
Straw (wheat, triticale, barley, oat)	3,687.16	10,499.90	125,998.77
Rape straw	574.49	1,436.22	18,670.88
Corn stalk and cob	5,652.41	31,088.24	341,970.65
Sunflower stalk and husk	4,063.03	8,126.06	105,638.77
Vine-branch	69.78	174.46	2,442.46
Fruit-tree loppings	2,327.16	3,490.73	48,870.29
Total	16,374.03	54,815.62	643,591.83
Could be mechanized/transported			155,896.34
The amount can be used for energy purposes			115,805.50

(Source: calculated by the authors)

However, the spatial distribution of theoretical potential originating in agricultural by-products is far from equipartition. As reported by Agricultural census 2010 (ÁMÖ) of the Hungarian Central Statistical Office there are significant differences in the total crop lands and the land use of the settlements. Gávavencsellő (4451 ha), Nagyhalász (3891 ha), Tiszakarád (3605 ha) and Ibrány (3311 ha) have the largest crop lands in the bounded zone. 48.23% of the crop lands are related to the above mentioned settlements (table 3).

Table 3.

Crop lands of the bounded zone by settlements

Györgyarló	0.26%	Vasmegyer	3.44%	Kótaj	9.50%
Beszterec	0.56%	Buj	5.13%	Ibrány	10.47%
Tiszarád	0.64%	Tiszabercel	5.61%	Tiszakarád	11.40%
Paszab	0.78%	Nyírbogdány	6.81%	Nagyhalász	12.30%
Tiszatelek	1.84%	Kemecse	7.19%	Gávavencsellő	14.07%
Kék	2.71%	Nyírtelek	7.30%	TOTAL:	31 636 ha

(Source: calculated by the authors)

If the spatial distribution of crop lands, the land use and the yields of agricultural by-products are compared (fig. 4), one may find that Ibrány has a favourable potential regarding the potentials of agricultural by-products, since the majority of herbaceous biomass for firing purposes is concentrated in the core areas of the favourable supply zone.

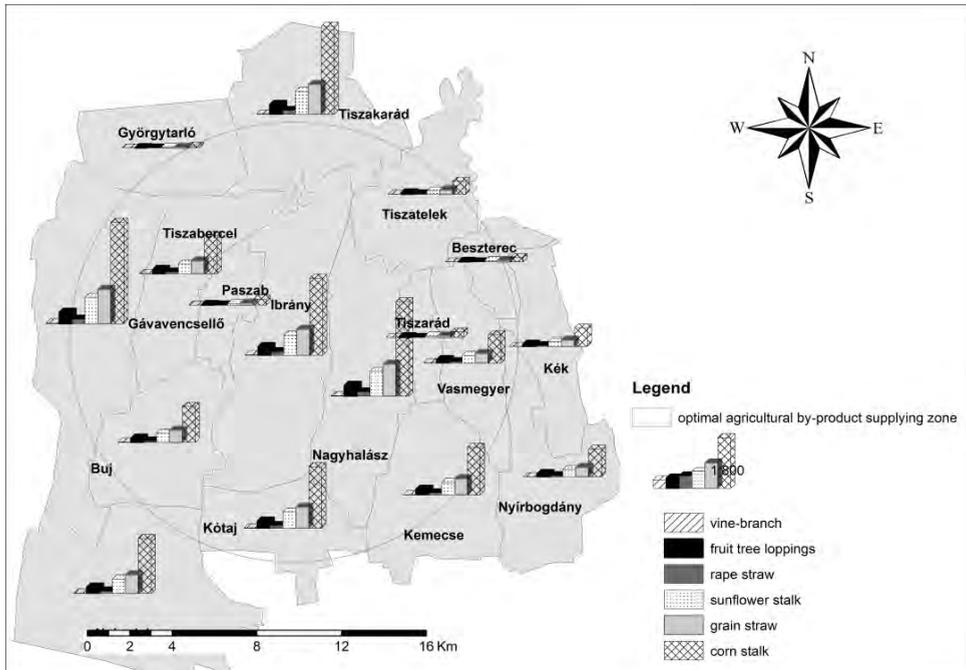


Fig. 4. Quantitative distribution of the annually produced potential agricultural by-products by settlements (t)

(Source: edited by the authors based on KSH-MRSTAR 2013; KSH ÁMÖ 2010; AKI 2013)

Although the amount of the herbaceous biomass's theoretical potential is enormous, its energetic utilization is more limited than in the case of woody biomass. Because the agricultural products basically have nutritional and feeding purposes, while the by-products are mainly used for soil nutrient replenishment and they are partly used for animal husbandry (as bedding) (Bai, 1998; Juhász, 2006; Pintér, 2012). So it is important to estimate the actual amount of agricultural by-products which can be used for energy purposes apart from determining theoretical biomass potential.

While corn and sunflower stalks are produced in the biggest amount in the studied area, yet energy utilization is a question, because there is no appropriate technology available to transport them from the crop lands and to store them. Therefore these by-products were not included into further calculations.

In the case of cereal straw it is difficult to define the amount of agricultural by-products which can be used in energy production. Weiser *et al.*, (2013) found for Germany that 24% of the harvestable cereal straw production is used for livestock husbandry and insignificant amounts used for energy purposes. On the European Union level, Scarlet *et al.* (2010) found that between 1/5 to 1/3 of harvestable crop residues are used for livestock and little for energy. Similar assumptions (1/3 of harvestable residues used for livestock) were made by Ericsson *et al.*, (2006). Denmark is one of few exceptions considering the use of agricultural residues in advanced energy supply (Scarlet *et al.*, 2010, Ericsson *et al.*, 2006), with 20-40% of the crop residues from cereal production used for energy. Still, only up to 60% of the total residue production is harvested and used for livestock or energy purposes (Denmark statistik, 2012). For the US, the 'Billion ton annual supply study' (Perlack *et al.*, 2005) and its update (Perlack *et al.*, 2011) report an annual crop residue production of 550 million metric tons dry matter; a more recent study report the annual production to 518 Tg (L million metric tons) dry matter (Chatterjee, 2013). 5.6 million metric tons corn stover is used for energy corresponding to 1% of the total production. The amount used for other purposes is not reported but the 'billion ton annual supply study' indicates use rates well below 20% of the total agricultural residue production Bentsen *et al.*, 2014).

A number of studies estimated the potential of different biomass residues available for energy conversion, some for the EU as a whole and some looking at individual Member States. The technical potential of straw is in the range of 50 and 110 million tonnes of straw dry matter per year (or between 674 to 1,829 PJ) (Kretschmer *et al.*, 2012).

The straw yield is typically about three tons per hectare, but it depends on course rotation, yield level and weather (Torben, 2011).

According to the Hungarian literature, 20-50% of cereal straw is rotated to the soil during ploughing, while the other 30-50% is used for animal bedding (Bai *et al.*, 2016). As far as we are concerned, the latter (approximately 40%)

cannot be considered for energy purposes since it is essential for livestock production systems and animal husbandry. Therefore approx. 40% of the straw (wheat, triticale, barley and oat) which can be used for livestock purposes was subtracted before making further calculations.

Our calculations show that after subtracting corn and sunflower stalks and straw used by livestock from the total amount, the agricultural by-products produced in the 10.58 km radius around Ibrány have **approximately 135,850 GJ/year** energy content which could be used for producing energy by firing (fig. 5).

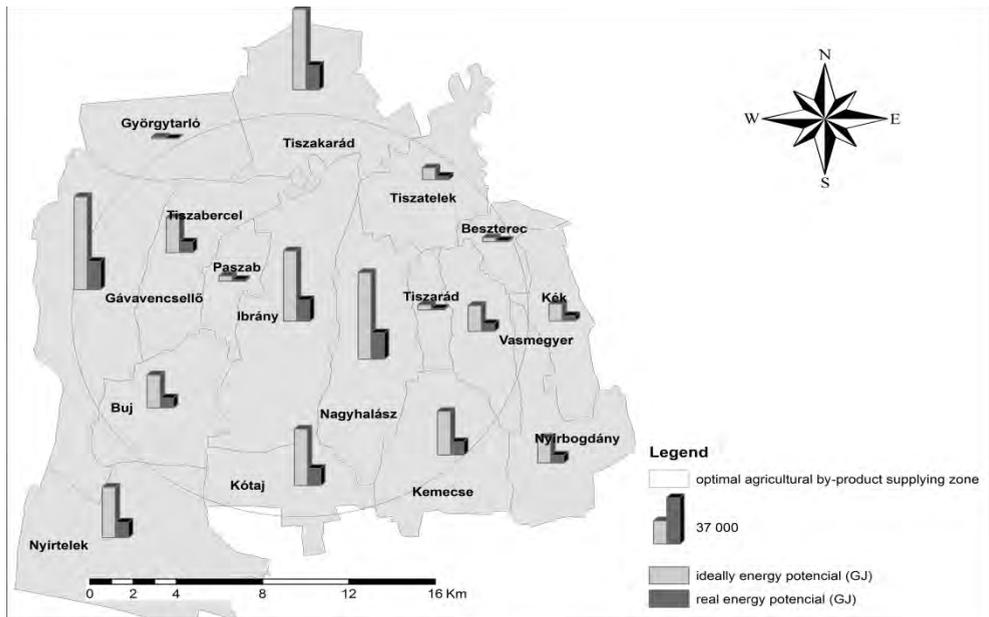


Fig. 5. Theoretical and real energy potential of agricultural by-products by settlements

3.4. Estimating the Energy Potential of Woody Biomass Produced in the Studied Area

During the second step of measuring the biomass potential of the bounded area, the estimation of the amount of woody biomass, which can be used for producing energy, was put through. The necessary data was gained from the database of WWF Hungary, which is concerned with the forest biomass potential of Hungary at micro-regional-level.

Regarding the evaluation of the transport infrastructure of Ibrány (see Section 3.2), it can be stated that the woody biomass potential can be reached entirely in the micro-regions of Ibrány-Nagyhalász and Nyíregyháza, and partially in

Baktalórántháza, Kisvárda and Tiszavasvári micro-regions with respect to the favourable supply zone. Based on the micro-regional-level database prepared by WWF Hungary (table 4), the public and private sector may produce 105,045 t_{atro} (1174 TJ/year) forest biomass in these micro-regions during the forest cycle of 2015-2019.

Table 4.
Total woody biomass potential of the micro-regions of the favourable supply zones in each forest cycles (tons/years/cycle)

	Values: Tonnes (per year / per cycle)	Public and private sector			
		2010- 2014	2015- 2019	2010- 2014	2015- 2019
Ibrány- Nagyhalász micro-region	Hardwood	12,958	17,092	2,592	3,418
	Softwood	27,966	63,601	5,593	12,720
	Pine	1,110	832	222	166
	Total:	42,034	81,525	8,407	16,304
Nyíregyháza micro-region	Hardwood	39,763	42,223	7,953	8,445
	Softwood	8,051	27,846	1,610	5,569
	Pine	3,200	3,135	640	627
	Total:	51,014	73,204	10,203	14,641
	TOTAL:	93,048	154,729	18,610	30,945
Baktalórántháza micro-region	Hardwood	90,634	146,247	18,127	29,249
	Softwood	22,249	64,441	4,450	12,888
	Pine	10,920	11,702	2,184	2,340
	Total:	123,803	222,390	24,761	44,477
Kisvárda micro- region	Hardwood	34,728	55,138	6,946	11,028
	Softwood	30,216	50,713	6,043	10,143
	Pine	2,832	2,618	566	524
	Total:	67,776	108,469	13,555	21,695
Tiszavasvári micro-region	Hardwood	11,699	13,784	2,340	2,757
	Softwood	20,655	25,638	4,131	5,128
	Pine	274	214	55	43
	Total:	32,628	39,636	6,526	7,928
	TOTAL:	224,207	370,495	44,842	74,100
	Available total potential:	317,255	525,224	63,452	105,045

(Source: calculated by the authors based on the data of WWF on Hungary)

However, one has to take into consideration the fact that three of the concerned micro-regions have only certain parts within the area, which was bounded using an economic viewpoint. Therefore, it was defined by using ArcGIS 10 software, what are the certain areas of the partially concerned micro-regions, from which the raw materials could be supplied economically. The results show that in the case of Ibrány-Nagyhalász and Nyíregyháza micro-regions 100% of the total area can be taken into account, while the values of Baktalórántháza, Kisvárd and Tiszavasvári are 87%, 76% and 69% respectively (fig. 7). Despite the fact that the delineating stripe affects the micro-regions of Nagykálló and Hajdúböszörmény, these areas were not involved into the analysis since CLC maps show that they do not significant amount of woody biomass.

Considering the WWF database on woody biomass potential of micro-regions and cartographic analyses, one can state that bounded zone around Ibrány has **~91 599 t_{atro} /year (~1024 TJ/year)** woody biomass potential for the 2015-2019 forest cycle.

During the micro-regional level analysis, misleading results may occur in relation to the areas, where only partial potential was included into the calculations. It may take place that the favourable areas are lying outside the zone, which causes overestimation. Conversely, there is a risk for underestimation. So it is important to plan the biomass-based cogeneration units with regard to a scenario, in which the amount of biomass fuels is underestimated, in order to secure supply.

For the sake of studying the spatial distribution of woody biomass and agricultural by-products, a map was made based on the database of Corine Land Cover (CLC) 2006, on which the land cover features and road network of the bonded area are presented³ (fig. 6).

Based on the map, results show that essentially cultivated lands can be found in the close proximity of the town, while areas not suitable for forest and agricultural cultivation (built-up areas, natural grasslands and pastures) are also common.

The majority of woody vegetation is located in the peripheral regions, especially in the south-eastern and north-western parts of the area. A significant amount of biomass is expected to be found in the floodplain of Tisza. However, the majority of it is a nature conservation area, as can be seen on figure 6.

³ **Green colour:** areas covered by deciduous forests, woody coppice,

Yellowish colour: cultivated lands,

Shades of grey: areas not suitable to produce bioenergy (built-up areas, natural grasslands, pastures and marshlands)

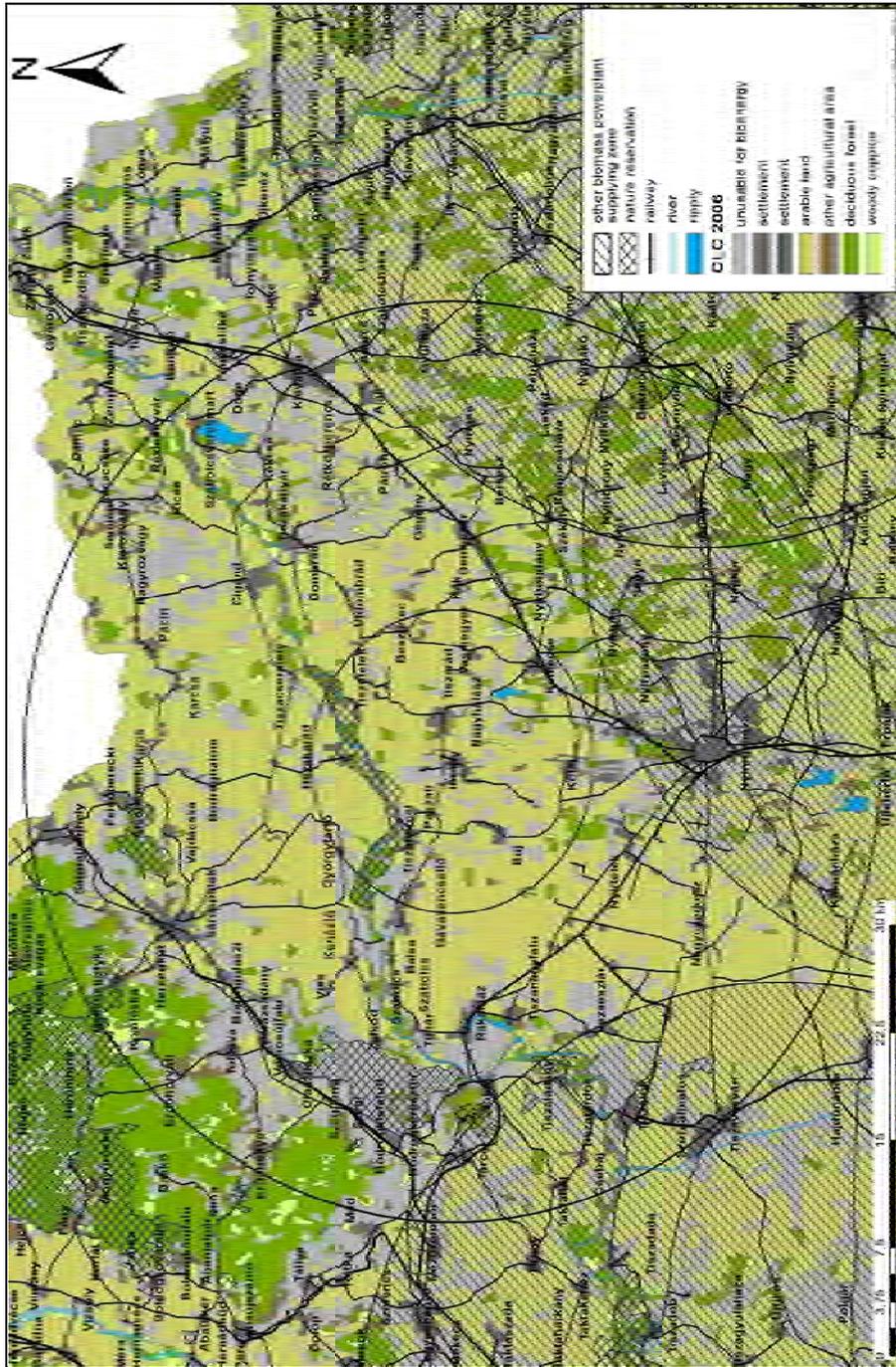


Fig 6. The studied area's land cover (CLC 2006), road network and the hypothetical optimum supplying zones of the surrounding biomass power plants (Source: Edited by the Authors based on EEA, Institute of Geodesy, Cartography and Remote Sensing (FÖMI), Hungarian Ministry of Rural Development (KvVM) 2009)

3.5. Spatial Analysis of the Bounded Zone Concerning Biomass Potential

Hungary has currently three regularly operating (in Mátészalka, Tiszaújváros) or periodically operating (in Szakoly) woody biomass applying cogeneration units, which may affect the supply security of the settlement studied in the paper. The annual woody biomass need for the heating plant in Mátészalka is 6,000 tons per year. The heating plant of Szakoly has a need for 180,000 tons per year. In Tiszaújváros a 500 kWth fluidised bed heating plant was opened in 2013, the specific parameters of which are still unknown. The optimal supply zones of the three facilities partially overlap the raw material base of Ibrány (see the hatched areas on Figure 7). The supply zones of the above mentioned bioenergy producing facilities affect the southern, south-eastern and eastern parts of studied area. According to the analysis of the CLC land cover map and micro-regional database of WWF (fig. 7) it can be concluded that a significant proportion of Ibrány's woody biomass potential is concentrated in the same zone.

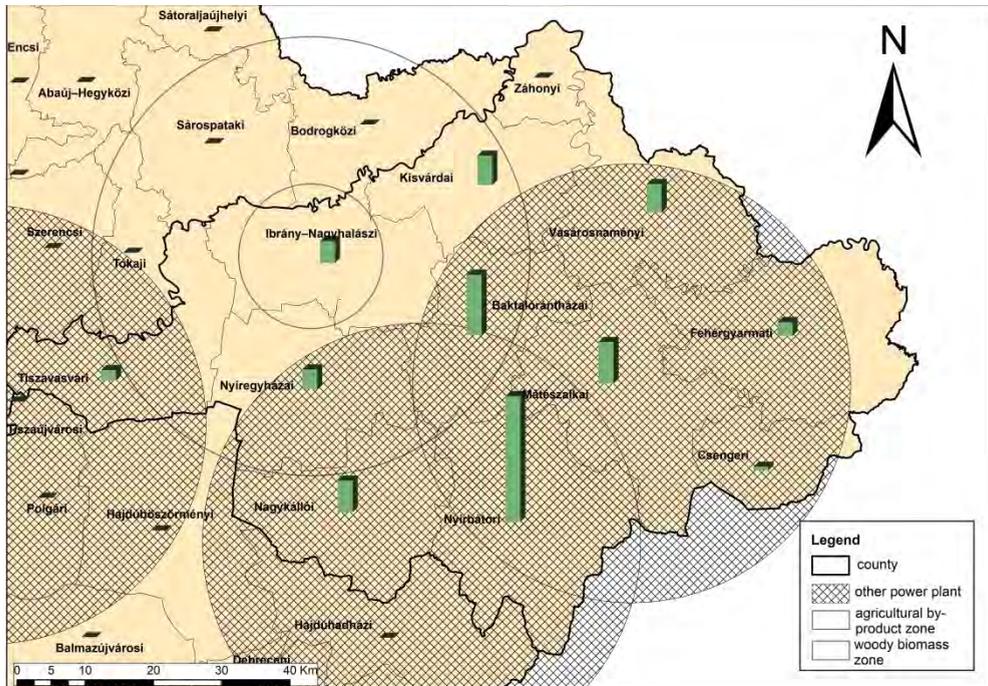


Fig. 7. The results map of the potential woody biomass survey at micro-region-level performed by WWF Hungary (t). The figured is concerned with the results related to Szabolcs-Szatmár-Bereg County (edited by the authors based on WWF database)

Cartographic analyses show that a significant amount of the woody biomass potential can be found far from the place of consumption or it is rather located in a natural reserve in the studied area. There is a considerable amount of potential which is located in the sphere of interest of other energy producers. This fact can lead to the increase of demand for firewood in the overlapping zones. For these reasons it would be important to study the potential of cultivating short rotation woody energy crops (SRWCs).

3.6. Surveying the Heat Energy Needs of the Town of Ibrány

In order to estimate the heat and electricity needs of the households, the industrial users and the local government, calculations were made with data of the period 2010-2013 based on the Settlement statistical database system of the Hungarian Central Statistical Office (T-STAR 2013). Due to the absence of worthy cooperation with the local government, the energy needs of buildings operated by the local government were calculated on the basis of estimates made by experts and literature.

The total heat energy need of the total was calculated from the quantitative data of piped gas provided. In this case the result equals to the total heat energy produced from gas, which means that the amount of gas used for heating and the amount of gas used for e.g. cooking or other purposes are not separated from each other. But this calculation provides a good approximation regarding the total demand for heat energy of the town. The total electricity demand of the town was based on the data provided by the Hungarian Central Statistical Office.

Between 2010 and 2013 (table 5), the town used 2,828,200 m³ gas on average, which corresponds to about 154,742 GJ actual demand for **heat energy**, if the boiler efficiency is considered to be 80% on average. The town's heat energy demand was the highest in 2010, when the total demand may have been approximately 154,742 GJ. The **total electric power** consumption of the town is regarded as balanced since minimum disparities can be found amongst the data of the given years.

The data of the Hungarian Central Statistical Office is not split to different levels regarding the households, the industrial users and the local government. Just the total amount of consumption and the consumption of the households are differed. Therefore in order to estimate the energy needs of the industrial users and the local government, the amount of energy provided to the households was subtracted from the total amount. In pursuance of further breakdown, to differ the energy consumption of the industrial users and the local government, energy calculations and estimates were based on the expert opinion since there is no cooperation with the local government.

Table 5.

The amount of gas and electricity provided to the settlement between 2010 and 2013

Year	The total amount of piped gas provided (1000 m ³)	The total amount of piped gas provided (GJ)	Presumed energy demand (at 80% boiler efficiency) (GJ)	The total amount of electricity provided (1000 kWh)
2010	3,792.70	128,951.80	154,742.16	10,939.00
2011	2,646.90	89,994.60	107,993.52	11,633.00
2012	2,432.50	82,705.00	99,246.00	10,637.00
2013	2,440.70	82,983.80	99,580.56	10,407.00
AVERAGE	2,828.20	96,158.80	115,390.56	10,904.00

(Source: Edited by the Authors based on KSH-TSTAR 2010-2013)

After separating the energy consumption regarding the households, the industrial users and the local government (table 6), it can be stated that the householders are considered to be the largest consumers, since they consume 58.45% of the heat energy and 61.33% of the electricity.

Table 6.

The quantitative distribution among the consumers of the amount of gas and electricity provided to the settlement between 2010 and 2013

Year	The amount of electricity provided to households (1000 kWh)	Presumed thermal energy need of households (at 80% boiler efficiency) (GJ)	The amount of electricity provided to industrial users and local government (1000 kWh)	Presumed energy need of industrial users and local government (at 80% boiler efficiency) (GJ)
2010	6,645.00	80,832.96	4,294.00	73,909.20
2011	6,719.00	74,366.16	4,914.00	33,627.36
2012	6,163.00	62,391.36	4,474.00	36,854.64
2013	5,970.00	65,508.48	4,437.00	34,072.08
AVERAGE	6,374.25	70,774.74	4,529.75	44,615.82
RATIO	58.46%	61.33%	41.54%	38.67%

(Source: edited by the authors based on KSH-TSTAR 2010-2013)

In terms of the electricity needs in each year, it can be assessed that there are no significant fluctuations in the electric power consumption of the different users. However, meaningful changes can be observed considering the annual heat energy demand. In the case of households, it is caused by the seasonal changes in temperature.

More significant fluctuations can be experienced in the case of the industrial users and the local government than in the case of the households. On the other hand this is caused by the changing heating needs of the offices and it can also be explained by the changing capacities from year to year, which are more responsible for the fluctuations. The biggest changes may occur due to the working intensity changes of the crop drying plant located in the town, because its utilization and so the energy needs of the plant are determined by the annual crop yields and by the moisture content at the time of the harvest. The end of the winter and the springtime in 2010 were extremely wet. As a result the farmers were able to sow the spring-sown crops just with a lag. This event led to high harvest moisture content. Presumably, this is why the industrial and the municipal gas consumptions were exceptionally high in 2010.

Based on the analysis of the three-year data set it can be concluded that the estimated yields of the annual biomass potential, **135,850 GJ/year from agricultural by-products and 998,000 GJ/year from woody biomass**, can fully cover the total electricity and heat energy needs of the town even in the most energy-intensive years.

However, the electric energy consumption of Ibrány (1,245 kWh/h) fails to reach the minimum production volume (approx. 2,500 kWh/h), at which the electricity production could be economically efficient. Therefore, the idea to invest in a biomass-based energy producing unit has to be rejected.

A heating plant serving the heating needs of the residents, the industrial users and the local government could be an economically profitable investment. The length of gas pipeline network in Ibrány is 57.55 km suggesting that if all the households will be connected to district-heating network then approximately the same length of district-heating pipes should be installed. This would increase the costs of the investment to the extent that even in the case of having 90% aid intensity, the investment would not be cost-effective. In addition, it may happen that a significant proportion of the households will not join the district-heating network, which would further increase the losses of the investment.

Concerning the industrial users and the local government a joint heating plant would be beneficial. However, due to the extreme capacity needs of the industry (see the year 2010), a boiler with more horsepower should be installed which is not worthwhile. Not to mention that an approximately 1 km long heating

pipe is needed to be built between the buildings operated by the government and the industrial park of the town, which would increase the costs of the investment as it can be seen in the case of the households, therefore to make an investment like that is not profitable.

So in the case of Ibrány, an investment aiming to construct district-heating for the households, the industrial users and the local government would be possible, if the construction of the projected district-heating infrastructure will be supported by EU funds.

As far as we are concerned, it would be an economical investment for the local government to build a district-heating plant fulfilling the energy needs of the buildings operated by the local government. In our future research economic analyses will be made to support the idea.

4. CONCLUSION

The paper aimed to present the method in the case of Ibrány, which allows to survey easily and quickly the herbaceous and woody biomass potential of any settlement in Hungary based on statistical and geographical data. Derived from the data of the Hungarian Central Statistical Office, the energy needs of the given settlement were calculated.

By using the above mentioned method, one can recognize in a short period of time the settlements which may be suitable for the establishment of sustainable biomass-based cogeneration units on the long-term.

The method can be applied not just in Hungary, but also in other countries, if the relevant national statistical database is available.

REFERENCES

1. Bai A. (1998), *A mezőgazdasági és élelmiszeripari melléktermékek energetikai hasznosításának gazdasági összefüggései*, PhD. thesis, Vállalatgazdaságtani Tanszék, Debreceni Agrártudományi Egyetem.
2. Bai A. (2012), *Az energetikai célú biomassza hasznosításának társadalmi-gazdasági kérdései a Hernád-völgyben.* – In. Lázár I. (Eds.): *A megújuló energiaforrások hasznosításának természeti, társadalmi és gazdasági lehetőségei a Hernád-völgyben.* Debreceni Egyetem Meteorológiai Tanszék, Debrecen, pp. 47-60.
3. Bai A., Durkó E., Tar K., Tóth J. B., Lázár I., Kapocska L., Kircsi A., Bartók B., Vass R., Péntes J., Tóth T. (2016), *Social and economic possibilities for the energy utilization of fitomass in the valley of the river Hernád*, *Renewable Energy*, Volume 85, pp 777-789.

4. Barkóczy Zs., Ivelics R. (2008), *Energetikai célú ültetvények*, Erdészeti Kisfűzetek, Nyugat-Magyarországi Egyetem, Sopron, pp. 1-88.
5. Bentsen S.N., Felby C., Thorsen J.B. (2014), *Agricultural residue production and potentials for energy and materials services*, Progress in Energy and Combustion Science, 40, pp. 59-73.
6. Chatterjee A. (2013), *Annual crop residue production and nutrient replacement costs for bioenergy feedstock production in United States*, Agronomy Journal, 105 (03), pp. 685-695.
7. Danmarks Statistik (2012), *Statistikbanken.dk*. Copenhagen, DK: Danmarks Statistik.
8. Dobos A., Megyes A., Sulyok D. (2006), *Fásszárú növények energetikai célú hasznosításának lehetőségei a Nyírbátori kistérségben*, Debrecen, 6-30 p.
9. Ericsson K., Nilsson L. (2006), *Assessment of the potential biomass supply in Europe using a resource-focused approach*, Biomass and Bioenergy, 30, pp. 1-15.
10. Fábrián Cs. (2008), *A kukoricaszár ipari hasznosítása*, 2008.
11. Johannes M. (2013), *The Sustainability of Decentralized Bioenergy Production, - Case Study: The 'Bioenergy Village' Bollewick*, Master's Thesis, Uppsala University, Department of Earth Sciences, Uppsala, pp. 14-23.
12. Juhász Gy. (2006), *A régióra jellemző mezőgazdasági hulladékok és melléktermékek tüzeléstechnikai alkalmazása*, PhD. thesis, Géptani Tanszék, Debreceni Egyetem, 2006.
13. Kretschmer B., Allen B., Hart K. (2012), *Mobilising cereal straw in the EU to feed advanced biofuel production*, Institute for European Environmental Policy, London.
14. Marosvölgyi B. (2002), *Új igények és lehetőségek a fa energetikai hasznosításában*, X. Wood-Tech Erdészeti Szakmai Konferencia, Budapest, 2002.
15. Perlack R.D., Wright L.L., Turhollow A.F., Graham R.L., Stokes B.J., Erbach D.C. (2005), *Biomass as feedstock for a bioenergy and bioproducts industry: the technical feasibility of a billion-ton annual supply*, Oak Ridge National Laboratory, Springfield.
16. Pintér G. (2012), *Egyes mezőgazdasági melléktermékek energetikai hasznosításának lehetőségei Magyarországon*, Ph.D thesis, Pannon Egyetem, Keszthely, pp. 50-82.
17. Pintér G., Németh K., Kis-Simon T. (2009), *A szőlővenyige és a fanyesedék biomasszaerőművi beszállításának elemzése*, Gazdálkodás, 53 (4), 357 p.
18. Popp J. (2011), *A biomassza energetikai célú termelése Magyarországon*, Agrárgazdasági Könyvek, Budapest, pp. 1-156.
19. Scarlet N., Martinov M., Dallemand J. F. (2010), *Assessment of the availability of agricultural crop residues in the European Union: potential and limitations for bioenergy use*, Waste Manage, 30 (10), pp. 1889-1897.
20. Schmuck P., Eigner-Thiel S., Karpenstein-Machan M., Sauer B., Hans R., Girschner W., Roland F. (2013), *Bioenergy Villages in Germany: Applying the Göttingen Approach of Sustainability Science to Promote Sustainable Bioenergy Projects* In: Hans R., Martin K., Jens I. (eds.), Sustainable Bioenergy Production - An Integrated Approach, pp. 37-71.
21. Torben S. (2011), *Innovation network for biomass, Straw to energy – Status, Technologies and Innovation in Denmark*, Agro Business Park A/S, Tjele.

22. U.S. Department of Energy (2011), in Perlack R. D., Stokes B. J. (eds.), *U.S. billion-ton update: biomass supply for a bioenergy and bioproducts industry*, Oak Ridge National Laboratory, Tennessee, 227 p.
23. Weiser C., Zeller V., Reinicke F., Wagner B., Majer S., Vetter A., Thraen D. (2013), *Integrated assessment of sustainable cereal straw potential and different straw-based energy applications in Germany*, *Applied Energy*, 114, pp. 749-762.

ANALYSIS OF FINANCIAL SUBSIDIES ALLOCATED BY THE COMMON AGRICULTURAL POLICY TO EUROPEAN FARMS IN REDUCING ECONOMIC-TERRITORIAL INEQUALITIES BY INDEXES OF CONCENTRATION

NICOLA GALLUZZO¹

ABSTRACT. – **Analysis of Financial Subsidies Allocated by the Common Agricultural Policy in European Farms in Reducing Economic-Territorial Inequalities by Indexes of Concentration.** As a consequence of the European Union (EU) enlargement in 2004 there has been a reshaping of funds allocated by the EU both in favour of an endogenous rural development, part of Pillar 2 of the Common Agricultural Policy (CAP), and also in terms of direct payments towards ag-commodities financed by Pillar 1 of the CAP. The European Commission, in order to evaluate the impact, role and function of the CAP, has set up an annual survey on a sample of European farms belonging to the Farm Accountancy Data Network (FADN). By using the FADN dataset for the period 2004-2012 in 25 EU Member States, this paper has assessed by indexes of concentration whether funds allocated by Pillars 1 and 2 of the CAP have reduced economic disparities in some EU Member States. Findings have shown that there has been a drop of inequality distribution in terms of financial subsidies in European farms allocated to strengthen the rural development. Focusing the attention on financial supports to disadvantaged rural areas, territorial disparities appear quite diversified among EU Member States.

Keywords: *Gini Index, Rural Development Plan, Farm Accountancy Data Network, Sen poverty index.*

1. INTRODUCTION

Many scholars in agricultural policy have pinpointed that in general big farms have received financial agricultural payments and subsidies disproportionately compared to small farms, generating situations of disequilibrium that have impacted on levels of investment, productivity and economic efficiency of farms

¹ *Association of Economic and Geographical Studies of Rural Areas (ASGEAR), Via Salaria per L'Aquila 76 scala A Rieti, Italy, asgear@libero.it*

(Mishra *et al.*, 2009; Galluzzo, 2013; 2015). These authors have argued that financial supports allocated by a central administration have reduced inequalities in terms of agricultural income improving economic and technical efficiency of farms. In contrast, other scholars have pointed out a negative impact of financial subsidies to small farmers, generating a distorted effect in term of efficiency and productivity, which has incited policy makers into doing significant changes in Agricultural Policy (Ciaian and Swinnen, 2006; Ciaian *et al.*, 2014; Rizov *et al.*, 2013). Previous studies using a quantitative approach based on the Gini Index have demonstrated, before the enforcement of Agenda 2000 and also as a result of the MacSharry reform, a greater impact of direct payments paid by Pillar 1 of the Common Agricultural Policy (CAP) on the gross agricultural revenue and on the farmer's net income with several positive effects on the income distribution (Keeney, 2000; Frawley and Keeney, 2000). By contrast, other scholars have argued the new challenges that the Common Agricultural Policy have to bring about, due to WTO constraints, in order to reduce income supports and the negative impact of CAP subsidies have had towards farm efficiency in few European countries, even if financial decoupled aids have acted positively in reducing over production in many European farms (Swinbank, 2008; Zhu and Lansink, 2010; Rude, 2008).

Von Witze and Noleppa (2007) have pointed out that direct payments allocated by the CAP in Germany have had an unequal distribution hence some limitations in allocation of subsidies did not have any effects on smaller farms. Although the vast majority of the population does not know deeply the role and importance of contributions paid by the EU in agriculture, Von Witze and Noleppa (2007) have demonstrated the importance of subsidies in favour of disadvantaged rural areas or Less Favoured Areas (LFA) in causing a fair development in the primary sector by the multifunctionality in agriculture. A shift of payments from the Pillar 1 to the Pillar 2 of the CAP, planned on a regional basis rather than on a historical basis, could have a greater impact on reducing farm income imbalances (Severini and Tantari, 2014). Recent studies have shown, through a quantitative methodology, that financial aids allocated by Pillar 2 have had a better effect towards urban areas (Camaioni *et al.*, 2013). In contrast, other authors have investigated as there is a weak nexus between financial supports provided by the CAP to rural areas development (Shucksmith *et al.*, 2005, Crescenzi and Rodriguez-Pose, 2011).

The purpose of this study has been addressed mainly to assess the role and function of subsidies allocated by Pillars 1 and 2 in limiting imbalances between rural areas in several European Union (EU) Member States; in particular, the paper has investigated the role of financial subsidies allocated by the Pillar 2 as a factor in reducing territorial imbalances, because of in literature this aspect

has not been particularly investigated. In fact, many scholars have predominately focused their attention on the role of subsidies provided by Pillar 1 of the CAP in reducing farm income inequalities and income distribution (El Benni and Finger, 2012; Severini and Tantari, 2014) rather than investigating Pillar 2, whose funds allocated by the EU should be addressed to strengthening agri-environmental payments and supporting disadvantaged rural areas by LFA aids. (Shucksmith *et al.*, 2005).

El Benni and Finger (2013) have assessed via FADN dataset in the medium term the elasticity of the Gini Index and the income inequalities in farms, focusing their research on the impact of direct payments allocated to farmers by national governments. The analysis of farm income inequalities using the Gini Index elasticity had already highlighted in several agricultural countries that direct payments had a pivotal role in reducing the disparities between farms (El Benni *et al.*, 2012). Schmid *et al.* (2006) carried out a study in Germany on the role of financial subsidies allocated by the Pillar 2 as less favoured areas aids in reducing income inequality. Other scholars have investigated the role of agri-environment subsidies in reducing income imbalances in farms (Von Witzke and Noleppa, 2007). In Germany, quantitative studies with the application of the Gini Index have shown that the CAP has been an important tool in reducing territorial and economic imbalances, particularly after the reunification of these two states (Depperman *et al.*, 2013). In contrast, researches carried out in Europe by Knigma and Oskam (1987) and by Von Witzke (1979) and in the U.S. by Mishara *et al.* (2009) have argued as direct payments in supporting farmers had a limited effect in reducing imbalances in farms.

2. AIM OF THE RESEARCH

The European Agricultural Fund for Rural Development has highlighted in the period 2007-2013 a considerable heterogeneity in its own distribution of financial funds among European rural areas in terms of aid distributed to each annual work unit. This has strengthened the hypothesis that there is a directionality north-south in disbursed financial aids allocated by the CAP (Camaioni *et al.*, 2013).

The European Commission, in order to evaluate the impact, role and function of the CAP, has set up an annual survey in a sample of European farms belonging to the Farm Accountancy Data Network (FADN). This latter is an annual survey which covers approximately 80,000 farms and about 5,000,000 farmers located in the EU, able to cover 90 per cent of usable agricultural area

(UAA) representing approximately 90 per cent of the total European agricultural production (European Commission, 2014).

The main question in this paper was to assess whether financial contributions and aids paid by the Pillar 1 and by the Pillar 2 of the Common Agricultural Policy have lessened economic and territorial disparities, focusing also the analysis on specific measures financed by the Pillar 2 such as Less Favoured Areas payments. By using the FADN dataset over the period 2004-2012 in 25 EU Member States, the purpose of this analysis has been focused in assessing by a quantitative approach if funds allocated by Pillars 1 and 2 have reduced farmer's income disparities in EU Member States and in European farms. In order to investigate economic-territorial disparities we have used some indexes of concentration aimed at estimating territorial inequalities, such as the Gini Index, the poverty index elaborated by Sen in 1976 and the entropy index.

3. MATERIALS AND METHODS

The quantitative analysis in this paper has defined an indicator able to estimate the concentration by the Gini Index, which by its own nature assumes values between 0 (equal distribution) and 1 in the case of maximum distribution and imbalance in two investigated variables such as distribution of funds disbursed by the CAP (Pillars 1, 2 and financial supports in favour of disadvantaged rural areas) and farm net income. In mathematical terms the Gini Index can be defined as (Farris, 2001):

$$G = \left[1 - \sum_{i=1}^{N-1} (p_i - p_{i-1})(q_i + q_{i-1}) \right]$$

In order to assess the impact of a 1 per cent of financial subsidies fluctuations disbursed by the CAP and the sensitivity of farm net income one has used the elasticity (Severini and Tanteri, 2014; Pyatt *et al.*, 1980).

The Sen Index has been calculated using the following formulation (Sen, 1976):

$$S = HCR * [IGR + (1 - IGR) * Gp]$$

where IGR (Income Gap Ratio) is a measure of average deviation percentage, Gp is the Gini Index of the calculated values of financial contributions allocated by Pillar 2 in terms of average value. HCR (Capable Headcount Ratio) is able to assess the proportion of people whose value of the financial aids paid is lower or equal to the minimum established threshold. This index has the advantage of taking into account fluctuations occurring in the transfer of funds between Member States.

In order to compare different EU Member States assessing the allocation over time of funds disbursed by the CAP, another index of concentration, estimated in terms of Index of Entropy proposed by Theil in 1967 has been used:

$$T = \left[\sum_i \frac{A_i}{A} \lg N_i \frac{A}{A_i} \right]$$

In this case the T index assumes the minimum value zero (maximum entropy) when all units have the same mode. The Entropy Index of Theil has the advantage of being a standardised index and it decreases for increasing changes in all analysed variables.

4. RESULTS AND DISCUSSION

Denmark and Slovakia have pointed out the highest values of Gini Index in terms of Farm Net Income assessed as an average assessed in different years (Table 1). In term of elasticity the highest values have been detected in Greece and Italy which are two Member States more sensitive than the Czech Republic in terms of fluctuations of farmer's income. Focusing the attention on the average value of financial subsidies allocated by the Pillar 1, United Kingdom, Germany and Ireland have shown the highest values of Gini Index compared to other EU States such as Portugal and Finland which have recorded steady values in terms of financial subsidies allocated by Pillar 1 (Table 1).

For other sources of financial support provided by Pillar 2, Cyprus and Malta as well as several Eastern EU Member States have highlighted a greater stability over time in terms of total contributions allocated exclusively by the Pillar 2; on the contrary, Finland and Spain have shown a totally different situation. With regard to the financial contributions disbursed by the CAP in favour of disadvantaged rural areas, findings have pointed out as the Netherlands and Hungary have had a stability over the time of the analysis while Luxembourg, Portugal and Austria have highlighted a significant variability considering the variable financial aids paid in favour of stayed behind rural areas by the LFA subsidies (Table 1). The financial supports to disadvantaged rural areas have highlighted in two Member States of the European Union, such as the Netherlands and Hungary, the highest Gini Index of the variable LFA aids, corroborating some conclusions proposed by Shucksmith *et al.* in 2005, according to which the larger is the agricultural areas the higher are the financial support allocated by LFA payments. Summing up, findings of Gini Index assessed on the total subsidies paid by the Pillars 1 and 2 of the CAP have highlighted in Denmark and Greece values higher than in Portugal and Austria (Table 1). Findings have also pointed

out a shifting of subsidies paid by the Pillar 2 from a geographical direction north-south, as analysed by Camaioni *et al.* in 2013, to an east-west direction with the consequence of emphasising a new geographical dichotomy east-west nations instead of north-south states in terms of allocation and the incidence of contributions paid by the CAP.

Table 1.

Average results in the Gini Index and elasticity in all investigated European Union Member States assessed using the FADN dataset

(Source: http://ec.europa.eu/agriculture/ricaprod/database/database_en.cfm)

Country	Farm Net Income		Subsidies CAP Pillar 1		Subsidies CAP Pillar 2		Less Favoured Areas (LFA) payments		Total CAP subsidies	
	Gini	Elasticity	Gini	Elasticity	Gini	Elasticity	Gini	Elasticity	Gini	Elasticity
Austria	0.075	0.403	0.426	0.277	0.353	0.018	0.018	-0.038	0.086	0.421
Belgium	0.087	0.134	0.230	0.078	0.233	0.019	0.116	0.002	0.113	0.037
Cyprus	0.151	0.987	0.402	0.938	0.748	0.558	0.227	0.087	0.153	0.571
Czech Rep.	0.268	0.281	0.581	0.176	0.527	0.027	0.060	0.034	0.129	-0.012
Denmark	0.474	0.416	0.713	0.073	0.352	0.003	0.243	< 0.0002	0.427	0.059
Estonia	0.172	0.020	0.358	0.064	0.377	0.095	0.100	-0.012	0.151	-0.041
Finland	0.089	0.090	0.148	0.166	0.177	0.037	0.057	-0.074	0.049	-0.379
France	0.158	0.316	0.420	0.377	0.228	0.018	0.045	-0.008	0.241	0.276
Germany	0.141	0.287	0.852	0.224	0.248	0.001	0.040	-0.008	0.231	0.177
Greece	0.048	-0.646	0.505	-0.002	0.501	0.000	0.273	-0.006	0.378	-0.001
Hungary	0.285	0.350	0.327	0.074	0.526	0.065	0.502	0.004	0.148	-0.026
Ireland	0.080	-0.076	0.945	0.257	0.666	0.014	0.045	-0.035	0.110	-0.006
Italy	0.037	-0.582	0.577	0.952	0.344	0.349	0.211	0.246	0.207	1.800
Lithuania	0.184	-0.127	0.289	0.016	0.410	0.040	0.091	-0.033	0.111	-0.167
Latvia	0.119	0.032	0.239	0.147	0.361	0.196	0.048	-0.043	0.113	0.017
Luxemburg	0.132	0.242	0.160	0.155	0.732	0.173	0.023	-0.068	0.090	0.068
Malta	0.178	0.129	0.410	0.310	0.743	0.050	0.078	-0.024	0.329	0.438
Netherlands	0.194	0.202	0.619	0.109	0.207	0.007	0.916	< 0.0001	0.177	0.041
Poland	0.144	0.123	0.656	0.026	0.238	0.077	0.201	0.010	0.187	0.117
Portugal	0.097	0.426	0.138	0.060	0.700	0.021	0.078	0.019	0.060	-0.054
Slovenia	0.126	0.177	0.522	0.274	0.621	0.092	0.023	-0.066	0.096	0.028
Spain	0.073	-0.096	0.321	0.286	0.187	0.011	0.173	0.021	0.189	0.207
Swedish	0.310	0.405	0.464	0.154	0.464	0.007	0.134	0.008	0.096	-0.071
Slovakia	0.651	0.448	0.399	0.127	0.534	0.094	0.094	-0.068	0.178	0.026
United Kingdom	0.151	0.302	0.959	0.187	0.324	0.020	0.129	0.009	0.182	0.077

ANALYSIS OF FINANCIAL SUBSIDIES ALLOCATED BY THE COMMON AGRICULTURAL POLICY

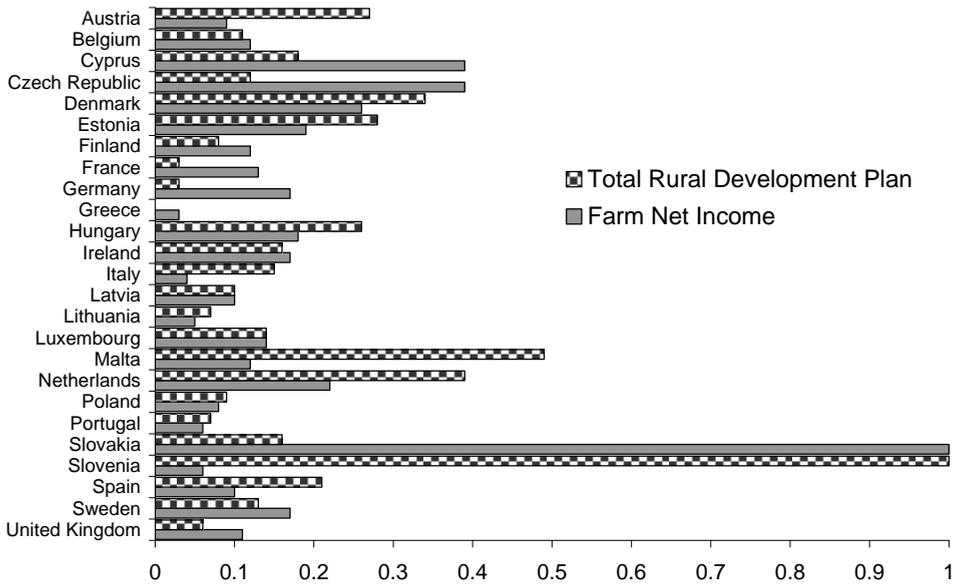


Figure 1. Main results in the Sen Poverty Index in different analysed European countries
 (Source: http://ec.europa.eu/agriculture/ricaprod/database/database_en.cfm)

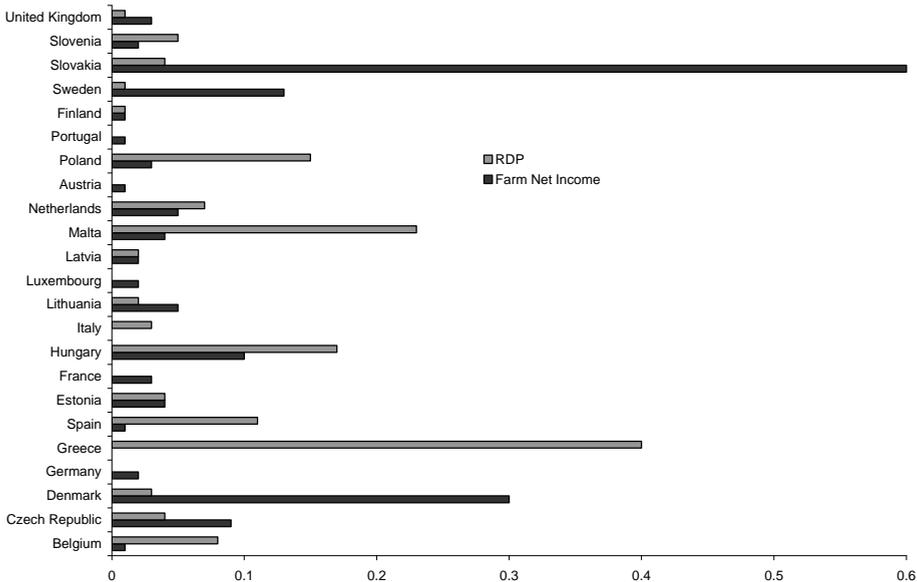


Figure 2. Main results in the Entropy Index considering different variables
 (Source: http://ec.europa.eu/agriculture/ricaprod/database/database_en.cfm)

The main results of the Sen poverty index, calculated as an average value in the eight year time 2004-2012, have pointed out as the major territorial discrepancies has affected the variable farmer's net income (Fig. 1). Findings have pointed out also significant differences in the variable total amount of aids paid by the Rural Development Plan in the 'new' EU Member States such as Slovenia and Malta. For the future, the main priority for policy-makers is to implement financial supports allocated by the National Rural Development Plan, whose purpose is to stabilise farmer's net income by investments able to increase economic efficiency by multifunctionality and diversification in farm activities.

The analysis of the Entropy Index, assessed as an average value in the eight year time 2004-2012, has pointed an uneven distribution among European Countries corroborating the hypothesis of a spatial and geographical dichotomy among different clusters of European States, as argued in previous studies (Camaioni *et al.*, 2003). In fact, findings in United Kingdom, Austria and Germany compared to the newcomer states have highlighted the lowest values of variability in investigated variables such as payments allocated by the Rural Development Plan and Farmer's Net Income (Fig. 2).

The analysis of Gini Index, in terms of average value in all EU Member States, has shown that the farm net income is placed at 35.4 per cent with a situation of inequity in the distribution of farmer's profits (Table 2); analysing the allocation of less favoured areas supports the average value of Gini Index is equal to 71.3 per cent which has implied a fairly unbalanced distribution of financial supports among Member States.

Table 2.

Main results in the Gini and Sen Index in all investigated European countries

(Source: http://ec.europa.eu/agriculture/ricaprod/database/database_en.cfm)

Variable	Gini Index	Sen Index
Farm net income	0.354	0.260
Total asset in farms	0.478	0.230
Less favoured areas support (LFA)	0.713	0.110
CAP Pillar I subsidies	0.649	0.160
CAP Pillar II subsidies	0.606	0.190

Comparing the results of this study to those of previously published researches, it has emerged that the Gini Index of Pillar 1 is very close to the values identified in other countries such as Canada but lower than results found in the United States (Moreddu, 2011). Comparing our results of the Gini Index on financial subsidies allocated by the Pillars 1 and 2 to findings of other scholars in France (Boulanger, 2011) and Italy over the period 2003-2007 (Severini and Tantari, 2014), it emerges that our values for Italy (0.24) and France (0.27) are lower than those previously estimated (0.52 and 0.95). All this corroborates the theoretical hypothesis, according to which, the effect of the admission of New Member States to the EU has implied a reshaping and a redistribution of financial resources within Member States and among different financial measures of rural development, aimed at limiting economic and spatial inequalities in different rural areas. The average value of the Gini Index assessed in all Member States has been in line with findings from non-EU countries (El Benni *et al.*, 2012; Mishra *et al.*, 2009).

Findings in terms of Gini Index assessed in the variable financial subsidies allocated by the Pillars 1 and 2 have corroborated previous conclusions and studies which have assigned to the CAP a positive role in generating territorial cohesion and in reducing social and economic imbalances (Shucksmith *et al.*, 2005). Nevertheless, the average value of the Gini Index, considering the total payments disbursed by the CAP equal to 0.45, has pointed out an attenuated effect of the CAP payments in reducing socio-economic and territorial disparities compared to other researches carried out both in other European countries and also in outside the European Union (Boulanger, 2010; El Benni *et al.*, 2012; 2013; Moreddu, 2011).

5. CONCLUSIONS

In the current programming period (2014-2020) the EU has addressed its efforts to the specific objective of reducing regional disparities, especially acting on Pillar 1, through a mixed system of financial supports and aids, with the aim of satisfying needs and priorities in all European countries aimed at strengthening an homogeneous and steady rural development. New EU Member States, led by Greece, appear to require a greater growth of EU funds aimed at supporting productive diversification. This analysis has pointed out, in fact, a shifting to east of contributions paid by the EU in favour of disadvantaged rural areas.

Summing up, the size of farm and farmer's profitability have demonstrated their close nexus as well as the importance of the financial contributions allocated by the CAP by Pillar 2 in order to reduce regional imbalances; therefore, it would be desirable as auspicated by the European Commission encouraging agricultural

activities by an exogenous financial support allocated by the European Investment Bank throughout specific contributions, necessary to increase farm size in terms of land capital. All this would stimulate investments and an efficient use of other innovative financial tools useful in increasing technical and economic efficiency through a rise of agricultural land and a more level of investments in terms of capital and technology.

REFERENCES

1. Boulanger, P. (2010), *Distribution of Agricultural Support: Selected French Evidences*. OECD Workshop on the Disaggregated Impacts of CAP Reform, Paris, 10-11 March, 2010.
2. Camaioni, B., Esposti, R., Pagliacci, F., Sotte, F. (2013), *Quanto è "rurale" la Politica di sviluppo rurale?*, *Agriregionieuropa*, 9(34).
3. Ciaian, P. and Swinnen, J.F. (2006), *Land market imperfections and agricultural policy impacts in the new EU member states: a partial equilibrium analysis*, *American Journal of Agricultural Economics*, 88 (4), 799-815.
4. Ciaian, P., Kancs, D.A. and Swinnen, J. (2014), *The impact of the 2013 reform of the common agricultural policy on land capitalization in the European Union*, *Applied Economic Perspectives and Policy* 1, 1-31.
5. Crescenzi, R. and Rodríguez-Pose, A. (2011), *Innovation and regional growth in the European Union*, New York: Springer Science & Business Media.
6. Depperman, A., Grethe, H. and Offermann, F. (2013), *Distributional effects of CAP liberalization on western German farm incomes: an ex-ante analysis*, *European Review of Agricultural Economics*, 41(4), 605-626.
7. El Benni, N., Finger, R., Mann, S. and Lehmann, B. (2012), *The distributional effects of agricultural policy reforms in Switzerland*, *Agricultural Economics Czech*, 58, 510-519.
8. El Benni, N. and Finger, R. (2013), *The effect of agricultural policy reforms on income inequality in Swiss agriculture - An analysis for valley, hill and mountain regions*, *Journal of Policy Modelling*, 35 (4), 638-651.
9. European Commission Agriculture and Rural Development (2014), *Concept of FADN*. Available at www.ec.europa.eu/agriculture/rica/concept_en.cfm (accessed June 2014).
10. Farris, F.A. (2010), *The Gini Index and Measures of Inequality*, *The American Mathematical Monthly*, 117(10), 851-964.
11. Frawley, J.P. and Keeney, M. (2000), *The Impact of Direct Payments on Farm Income Distribution*, Project Report (Project No. 4656), Dublin.

12. Galluzzo, N. (2013), *Farm dimension and efficiency in Italian agriculture: a quantitative approach*, American Journal of Rural Development, 1 (2), 26-32.
13. Galluzzo, N. (2015), *Role and effect of agroforestry subsidies allocated by the Common Agricultural Policy in Italian farms*, International Journal of Food and Agricultural Economics, 3(1), 19-31.
14. Keeney, M. (2000), *The Distributional Impact of Direct Payments on Irish Farm Incomes*, Journal of Agricultural Economics, 51, 252-265.
15. Knigma, D. and Oskam, A. (1987), *Measuring income disparities between and within farm households and non-farm household by means of the individual welfare function of income*, in Y. Leon and L. Mahe (eds.), *Income disparities among farm households and agricultural policy*, Kiel: Wissenschaftsverlag Vauk Kiel.
16. Mishra, A., El-Osta, H. and Gillespie, J.M. (2009), *Effect of agricultural policy on regional income inequality among farm households*, Journal of Policy Modelling, 31, 325-340.
17. Moreddu, C. (2011), *Distribution of support and income in agriculture*. OECD Food, Agriculture and Fisheries Working Paper, n. 46, OECD Publishing, Paris; on the website <http://dx.doi.org/10.1787/kgch21wkmbx-en>.
18. Pyatt, G., Chen, C. and Fei, J. (1980), *The distribution of income by factor components*, Quarterly Journal of Economics, 95, 451-473.
19. Rizov, M., Pokrivcak, J. and Ciaian, P. (2013), *CAP subsidies and productivity of the EU farms*, Journal of Agricultural Economics, 64 (3), 537-557.
20. Rude, J. (2008), *Production effects of the European Union's single farm payment*, Canadian Journal of Agricultural Economics / Revue canadienne d'agroeconomie, 56(4), 457-471.
21. Schmid, E., Sinabell, F. and Hofreither, M.F. (2006), *Direct payments of the CAP-distribution across farm holdings in the EU and effects on farm household incomes in Austria*, Univ. für Bodenkultur Wien, Department für Wirtschafts-und Sozialwiss, Inst. für Nachhaltige Wirtschaftsentwicklung.
22. Sen, A. (1976), *Poverty: an ordinal approach to measurement*, Econometrica: Journal of the Econometric Society, 44 (2), 219-231.
23. Severini, S. and Tantari, A. (2014), *The contribution of different off-farm income sources and the government payments to regional income inequality among farm households in Italy*, Bio-based and Applied Economics, 3(2), 119-135.
24. Shucksmith, M., Thomson, K. and Roberts, D. (2005), *The CAP and the regions: The territorial impact of the Common Agricultural Policy*, Wallingford, Oxfordshire: CABI.
25. Swinbank, A. (2008), *Potential WTO Challenges to the CAP*, Canadian Journal of Agricultural Economics / Revue canadienne d'agroeconomie, 56 (4), 445-456.
26. Theil, H. (1967), *Economics and information theory (vol. 7)*, Amsterdam: North-Holland.
27. Von Witzke, H. (1979), *Prices, common agricultural price policy and personal distribution of income in West Germany agriculture*, European Review of Agricultural Economics, 6 (1), 61-80.

28. Von Witzke, H. and Noleppa S. (2007), *Agricultural and trade policy reform and inequality: the distribution effects of the direct payments to German farmers under the EU's new common agricultural policy*, Working paper no. 79/2007.
29. Zhu, X., and Lansink, A. O. (2010), *Impact of CAP subsidies on technical efficiency of crop farms in Germany, the Netherlands and Sweden*, *Journal of Agricultural Economics*, 61(3), 545-564.

GEODEMOGRAPHIC STRUCTURES IN SATU MARE COUNTY. SEX AND AGE STRUCTURES OF THE POPULATION

L. NICOARĂ¹, S. FILIP²

ABSTRACT. – Satu Mare County. Geodemographic Structures. Sex and Age Structures of the Population. During the past century, at the level of Satu Mare County, the ratio of the female population increased constantly, however with considerable variations between the censuses of 1977 (50.4 %) and 2011 (51.7 %). As far as the age group structures are concerned, two main tendencies are to be observed: the significant decrease of the ratio of the younger population, on the one hand, and the increase of the ratio of the elderly and adult populations, on the other hand. The population structure reveals complex qualitative aspects, differentiated by a series of criteria: sex, age, ethnicity, religion, habitual environments, socio-professional distribution, level of education, marital status.

Keywords: *geodemographic structures, evolution, femininity, aging, Satu Mare County.*

INTRODUCTION

Satu Mare County lies in the northwestern extremity of Romania, on the border with Hungary and Ukraine. The marginal type position, even peripheral, during the communist regime, received a positive connotation within the context of the admission of Romania to the European Union, facilitating the bonds with the central and Western European countries, especially in terms of the migratory waves of the population, with implications upon many geodemographic aspects (Cocean, 2004; Pop, 2005).

THE SEX STRUCTURE OF THE POPULATION

After examining this type of structure according to the data registered at the censuses (INSSE, 2015), it results that during the past century, at the level of Satu Mare County, the ratio of the female population was consistently more increased,

¹ Babeş-Bolyai University, Faculty of Geography, Clinicilor, 5-7, Cluj-Napoca,
email: lnicoara@geografie.ubbcluj.ro

² Babeş-Bolyai University, Faculty of Geography, Clinicilor, 5-7, Cluj-Napoca,
email: sfilip@geografie.ubbcluj.ro

however with considerable variations between 1977 (5th of January) – 50.4 % – and 2011 (31st of October) – 51.7 %. The situation since the last census is not very different from the preceding one, in 2002 (51.6 %). The more consistent representation of the males at the end of the 1970s (49.6% in 1977) is explained by the highly increased birth rate beginning with the year of 1967, according to the known fact that at birth, the number of boys is higher than the number of girls (the average ratio is considered 105-106 born males per 100 born females).

Subsequently, an increase of the ratio fluctuation occurred in the favor of the females due to two following opposite phenomena: male higher mortality at more advanced ages and the more significant increase of the average life expectancy of the female population.

Table 1.

**The sex structure of the population of Satu Mare County
at the censuses during 1966-2011**

Years	1966	%	1977	%	1992	%	2011	%
Total	359,393	100.0	393,840	100.0	400,789	100.0	344,360	100.0
Male	176,997	49.2	195,160	49.6	197,980	49.4	166,344	48.3
Female	182,396	50.8	198,680	50.4	202,809	50.6	178,016	51.7
URBAN	107,625	100.0	149,915	100.0	185,406	100.0	157,025	100.0
Male	53,370	49.6	74,003	49.4	90,431	48.8	74,106	47.2
Female	54,255	50.4	75,912	50.6	94,975	51.2	82,919	52.8
RURAL	251,768	100.0	243,925	100.0	215,383	100.0	187,335	100.0
Male	123,627	49.1	121,157	49.7	107,549	49.9	92,238	49.2
Female	128,141	50.9	122,768	50.3	107,834	50.1	95,097	50.8

The analysis regarding the *types of habitats* reveals the existence of certainly more similar values between the two sexes within the urban area in the year of 1966, with a slight dominance of the females (50.4%), therefore before the emerging of the massive (extensive) industrialization, and in the rural area in 1992, with a weight of 49.9% of the males. After 1977, the proportion of the ratio among the sexes has deteriorated in the urban area, the male population decreasing to 47.2% at the census of October 2011, however the same phenomenon, much more reduced, took place in the rural area as well after 1992 (49.2% male population in 2011).

An important aspect is *the evolution of the ratio* among the two sexes *according to age*. After analyzing the rates on age subgroups divided on 5 years each, it is determined that until the age of 50, the male population predominates, quite obviously between 5-29 years (51.9% for the 5-9 and 20-24 years subgroups). The numeric and percentage preponderance of the female sex begins with the

50-54 years subgroup (51.9%), as opposed to the situation presented on the national level, where the change occurs at the previous subgroup, of 45-49 years (50.5 %). The disparity amplifies rapidly, along with the age, especially over the ages of 65 and 70: 62% female population in the 70-74 years subgroup and 71.5% for ages above 85 years. The two causes of this situation, also mentioned previously (male higher mortality and the more accelerated growth of the female life expectancy) are in fact effects of certain complex conditioning of socio-economic and even of biological (psychic and physiological) nature.

Edifying, and frequently used, is *the masculinity ratio*, which shows the number of male individuals per 100 female individuals, *according to age*. The graphic representation of this is *the masculinity curve*.

Table 2.

Satu Mare County. Population ratio for the sexes and masculinity ratio, studied on subgroups of 5 years

Total stable population	Both sexes No. individuals	Male population (%)	Female population (%)	Masculinity ratio (no. male individuals./100 female individuals)
Age	344,360	48.3	51.7	93.4
Under 5 years	19,682	50.6	49.4	102.3
5-9 years	20,293	51.9	48.1	107.7
10-14 years	19,930	50.8	49.2	103.3
15-19 years	19,971	51.5	48.5	106.3
20-24 years	23,200	51.9	48.1	107.9
25-29 years	23,419	51.3	48.7	105.3
30-34 years	26,879	50.6	49.4	102.5
35-39 years	28,086	51.1	48.9	104.4
40-44 years	28,652	50.8	49.2	103.1
45-49 years	20,720	50.4	49.6	101.5
50-54 years	23,288	48.1	51.9	92.8
55-59 years	23,906	46.1	53.9	85.5
60-64 years	20,365	45.1	54.9	82.1
65-69 years	15,340	41.3	58.7	70.3
70-74 years	12,731	38.0	62.0	61.4
75-79 years	9,384	34.5	65.5	52.6
80-84 years	5,573	32.4	67.6	48.0
85 years and over	2,941	28.5	71.5	39.9

The above mentioned index clearly shows the fault produced between the sexes, under the numerical aspect, at approximately the age of 50. The highest rates of the masculinity ratio are found between the ages of 5-10 years

(over 107 boys per 100 girls). As the age advances, the number of males decreases more rapidly, in comparison to the number of females: 70 men/100 women between 65-70 years, then it decreases to half between 75-85 years and reaches to only 40 men/ 100 women at the ages over 85 years.

Due to the predominance of the female sex regarding the overall total population (of all ages, but in the territorial profile as well), the estimation of the reversed ratio to the masculinity ratio is more relevant, and namely *the femininity index ratio*. This suggestively expresses the differentiations found on the levels of the lower-ranked administrative-territorial units and habitual environments.

Provided that on the level of the entire county, the ratio is quite trenchant – 107 female individuals/100 male individuals – the discrepancies are even more pronounced between the two types of habitat: 111.9/100 in the urban area and 103.1/100 in the rural area respectively. This situation is surprising in terms of the more pronounced tendency of feminization in the rural area, as a consequence of the rural-urban migrations during the 1970s and the first half of the 1980s. However, during the past decades a slight process of remigration occurred, that included a predominantly male population. It can be however foreseen that the femininity ratio is going to develop within the rural areas of the county in the future.

The map of the femininity index at the level of the administrative-territorial units (municipalities), in 2011, allows the shaping of certain areas or micro areas with relatively similar values.

The polarized area of Carei registers the most remarkable differences between the sexes, a municipality that adds to itself the communes located in the west, north and south of it. Foieni commune holds the record value of the femininity index – 123.5 females / 100 men, followed by Petrești (118.7), Urziceni and Cămin (112.2), as well as Sanislău, Tireanu, Berveni and Ciumești. Carei has the highest rate among the urban centers (113.1).

The second area, with less significant differences between the sexes, which however holds a third of the county population, is grafted on Satu Mare municipality, that has a femininity index of 112.5/100. The administrative urban unit Arduș is also added (108.5) to this category, as well as several other communes, among which Viile Satu Mare (109.7).

The central and north-eastern regions of Oaș Land represent the most homogenous areas as being an exception from the general rule, where the male population is most numerous. Târșolț commune presents the most reduced femininity index in the county (89.8/100), while Cămărzana, Certeze, Bixad, Călinești-Oaș and Gherța Mică communes record rates between 95.8 and 97.0. In the western area of Oaș, Batarci commune is added as well. Hereinafter, in the western part of the county, Halmeu, Lazuri and Dorolț communes register almost a

tied numeric and percentage balance among the sexes, with a slight predominance of the male sex. The other three communes with a more reduced or equal femininity index to 100, are located in the southern side of the county: Socond (97.2/100) – with a high ratio of the Roma ethnic population –, Căuș and Cehal.

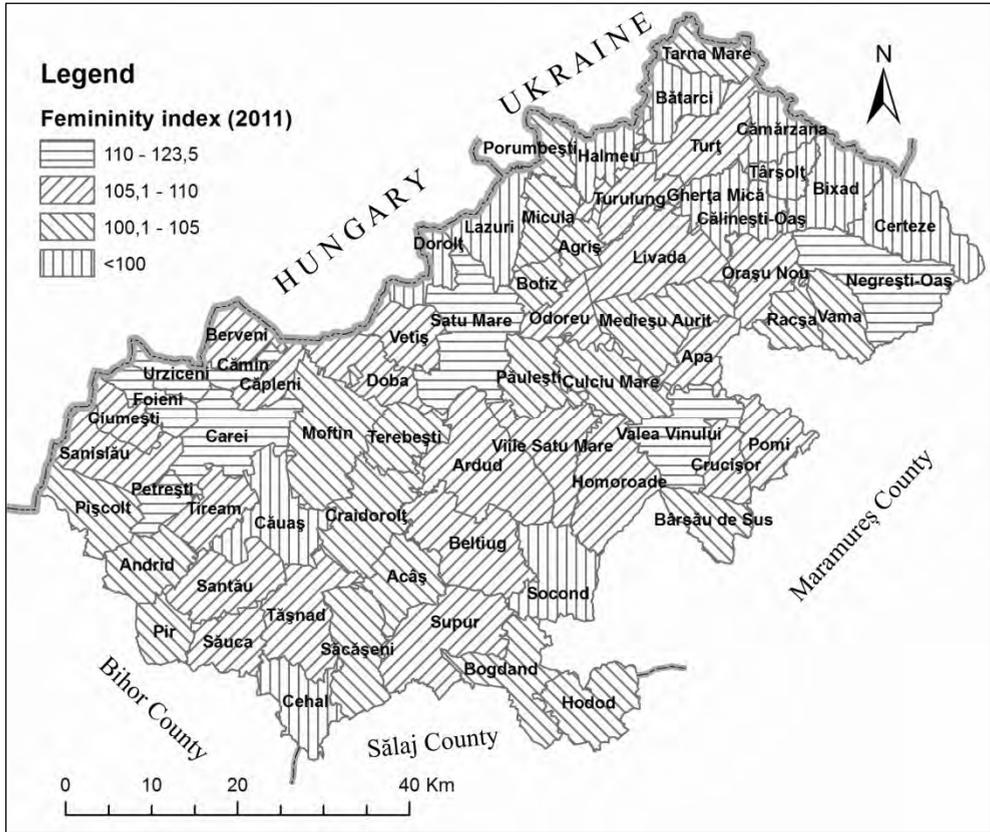


Fig. 1. The femininity index in Satu Mare County, 2011

From the spatial point of view, also in the southern area, there are a series of communes with rates belonging to the class of 100.1-105.0 female individuals/100 male individuals: Pișcolț, Andrid, Pir, Moftin, Terebești, Craidorolț, Acăș, Săcășeni, Hodod, Bogdand, as well as others located in the central and northern regions – Păulești, Culciu, Medieșu Aurit, Micula, Vama, Tarna Mare. On the whole, this particular category encloses almost one third (21) of the administrative units, however none of them of the urban type.

The class with a femininity index oscillating around the mean rate on the level of the county (105.1-110.0) comprises the most numerous administrative units - 23 (35.4 % of the total) – including the smallest urban units, in terms of population: Ardud, Livada and Tășnad, with many villages belonging to these units.

The extreme categories hold together a third of the municipalities, the one with the lower rates 20% (only communes), and the class with the highest rates (over 110/100), the eighth part (12.3 %), where the most noticeable are Satu Mare and Carei cities, as well as Negrești-Oaș town.

THE AGE STRUCTURE OF THE POPULATION

Due to the demographic and socio-economic implications and significance, this qualitative aspect is of major importance within the geodemographic structures. The age structure of the population impacts on the current workforce potential of the population and in perspective, the specific weight of the active population; however, it also represents a socio-economic foundation of planning (the demand regarding the working places, of consumer goods, the quality of the educational system, health services, etc).

There is a strong interdependency between the distribution of the population on age groups and the dynamic indexes of the population (fertility, birth rate, mortality, migrations): the age structure of the population is, in a great measure, the result of the manifestation of these indexes over time, but, in its turn, it becomes a foundation of influence, enclosing their rates at that moment and their subsequent evolution (L. Nicoară, 1999). It is also influenced by other sociopolitical phenomena (wars, epidemics).

While bearing in mind the social and demographic aspects (especially the increase of the schooling duration and life expectancy at birth), regarding the situation of Satu Mare County (as well as on a national level) the setting out of the boundaries between the three main age groups (young, adult, elderly), at the age of 20 and at the age of 60 is more indicated.

Two main tendencies can be distinguished, especially during the past decades: the significant decrease of the ratio of the young population, on the one hand, and the increase of the ratio of the elderly and adult populations, on the other hand. In between the censuses from 1992 and 2011 only, the specific weight of the young group (0-19 years) decreased by 10.6 %, from 33.8%, to 23.2% (and numerically it decreased by 54,000 individuals, which would mean over 15% of the population of the county in 2011).

Alternatively, the adult group (20-59 years) increased with a ratio of 5.6 %, and the elderly one (≥ 60 years), by 4.6 %. There is, therefore, a process of relay transmission between the age groups, of the effects of modifying the natural

movement indicators (especially the birth rate), on the grounds of a slight increase of the life expectancy at birth.

If at the census from January 1992, there was a balance between the age groups, the young population being one third of the overall population, after two decades (November 2011) the ratio of the extreme groups tends to become similar: 23.2% (0-19 years) and 19.3% (≥ 60 years), in the conditions of the increase of the adult population ratio, to 57.5 %.

The differences between 1992 and 1977 are significantly lower, as a result of the enforced pronatalist policy of the Ceaușescu regime. However, the ratio of the younger group slightly decreased (from 36%, to 33.4%), and that of the elderly slightly increased (12.8% and 14.7 %).

Table 3.

**Main age groups of the population of Satu Mare,
at the censuses from the years of 1977, 1992 and 2011**

Years	Category	Total stated population	0-19 years	%	20-59 years	%	≥ 60 years	%
1977	County							
	Both sexes	391,930	141,180	36.0	200,676	51.2	50,074	12.8
	<i>Male</i>	194,189	71,965	37.0	99,933	51.5	22,291	11.5
	<i>Female</i>	197,741	69,215	35.0	100,743	51.0	27,783	14.0
	Urban							
	Both sexes	149,271	53,841	36.1	79,944	53.5	15,486	10.4
	<i>Male</i>	73,690	27,478	37.3	39,733	53.9	6,479	8.8
	<i>Female</i>	75,581	26,363	34.9	40,211	53.2	9,007	11.9
	Rural							
	Both sexes	242,659	87,339	36.00	120,732	49.7	34,588	14.3
	<i>Male</i>	120,499	44,487	36.9	60,200	50.0	15,812	13.1
	<i>Female</i>	122,160	42,852	35.1	60,532	49.5	18,776	15.4
1992	County							
	Both sexes	400,787	133,766	33.4	207,909	51.9	59,112	14.7
	<i>Male</i>	197,979	68,705	34.7	104,105	52.6	25,169	12.7
	<i>Female</i>	202,808	65,061	32.1	103,804	51.2	33,943	16.7
	Urban							
	Both sexes	185,406	62,708	33.8	102,522	55.3	20,175	10.9
	<i>Male</i>	90,431	32,042	35.4	50,088	55.4	8,301	9.2
	<i>Female</i>	94,975	30,666	32.3	52,434	55.2	11,874	12.5
	Rural							
	Both sexes	215,383	71,058	33.0	105,387	48.9	38,937	18.1
	<i>Male</i>	107,549	36,663	34.1	54,017	50.2	16,868	15.7
	<i>Female</i>	107,834	34,395	31.9	51,370	47.6	22,069	20.5

Years	Category	Total stated population	0-19 years	%	20-59 years	%	≥ 60 years	%
2011	County							
	Both sexes	344,360	79,876	23.2	198,150	57.5	66,334	19.3
	<i>Male</i>	166,344	40,895	24.6	99,211	59.6	26,238	15.8
	<i>Female</i>	178,016	38,981	21.9	98,939	55.6	40,096	22.5
	Urban							
	Both sexes	157,025	31,542	20.1	95,500	60.8	29,983	19.1
	<i>Male</i>	74,106	16,064	21.7	46,064	62.1	11,978	16.2
	<i>Female</i>	82,919	15,478	18.7	49,436	59.6	18,005	21.7
	Rural							
	Both sexes	187,335	48,334	25.8	102,650	54.8	36,351	19.4
	<i>Male</i>	92,238	24,831	26.9	53,147	57.6	14,260	15.5
	<i>Female</i>	95,097	23,503	24.7	49,503	52.1	22,091	23.2

After studying the age group structure of the population on a longer period of time (approximately one century), one quite clearly notices the influence of the political and social factors, especially of the two world wars and of the intervention of the deciding factors during the communist regime.

Analyzing, for example, the data of the 1977 census, a breach (a threshold) is distinguished at the 25-29 years subgroup, and especially between this one and the following, befitted in terms of birth to the year of 1947 and in general to the post-war years, with a highly reduced birth rate, as an effect of the misery caused by the Second World War.

The same phenomenon occurs at the 55-59 years old population, born at the end of the First World War and during the times following immediately after it, and, at a much more reduced level, even at the 65-69 years old group, in larger numbers than the previous subgroup, much younger (60-64 years), befitted in terms of birth to the time interval before the First World War (1907-1912), with a more problematic social situation.

During Ceaușescu's regime, the decree by which abortion was forbidden for all women left a considerable mark. The effect is clearly observed, based on the data of the same census (1977), the 5-9 years old population (born between 1967 and 1972) is by 32 % larger in number than the one from the later subgroup (10-14 years).

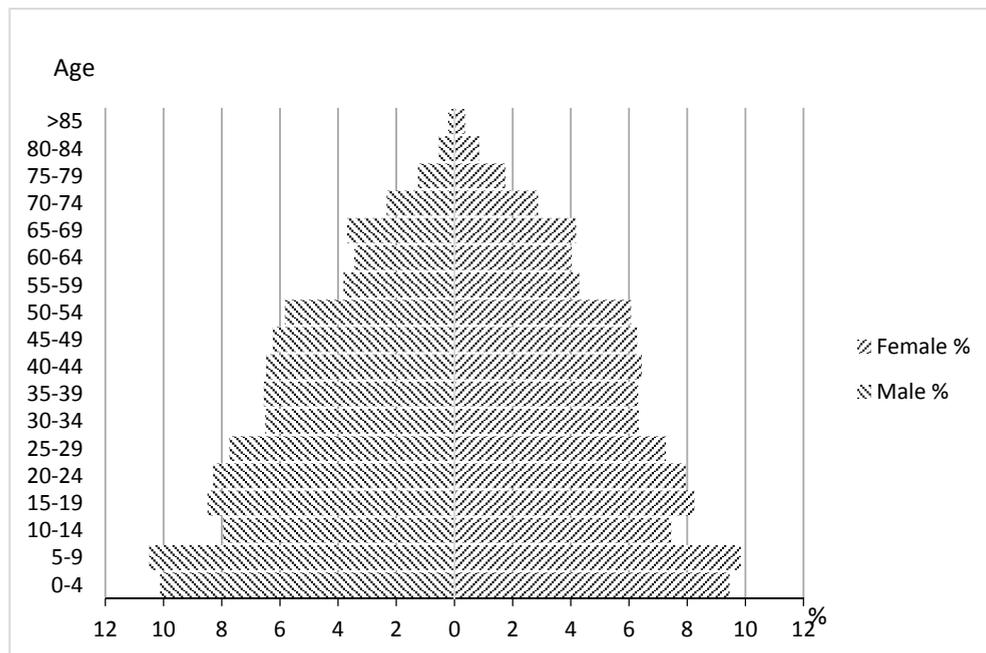


Fig. 2. Population pyramid of 1977

The discrepancies among the *habitual environments* regarding the age group structure are shaped during the 1970s, within the adult and elderly groups, and evolve significantly until the 1990s. At the 1992 census, in the urban area, the adult group held 55.3%, and in the rural area, 48.9%, while the fluctuation regarding the elderly group is even larger: 10.9 % in the urban area and 18.1%, in the rural one respectively. Until the end of the year 2011, over a period of two decades, the differences regarding the elderly group almost disappeared (19.1 % and 19.4% respectively), as a consequence of the notable aging of the urban population. The interesting point is the reversing of the ratio of the younger group, as a result of the drastic decrease of the birth rate in the urban environment, where it presents a ratio of 20.1 %, compared to the rural area with 25.8 %. A discrepancy of 6% is however maintained with the adult population in the favor of the urban area, amid the increase of its percentage in both habitual environments.

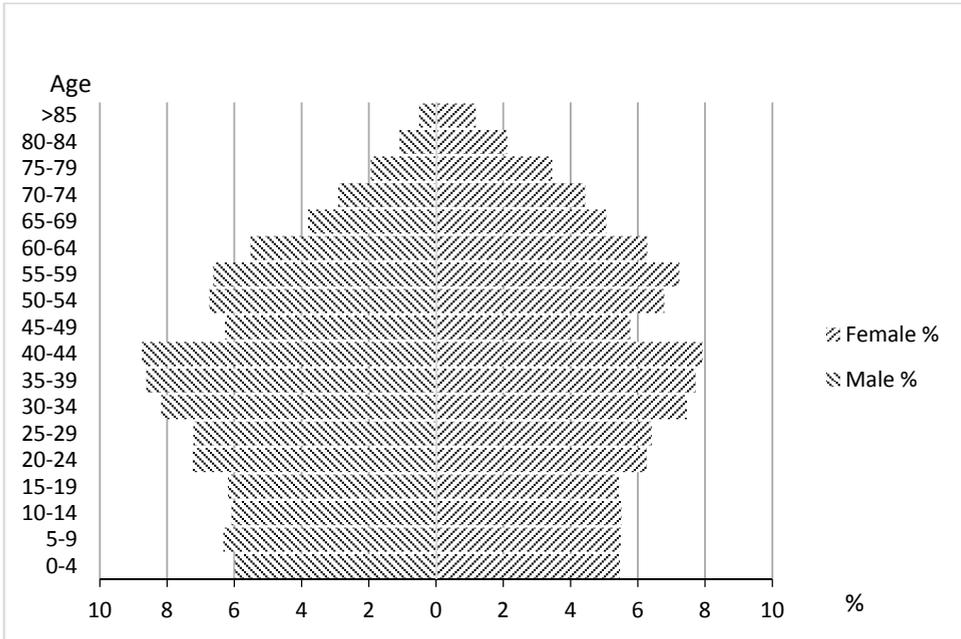


Fig. 3. Population pyramid of 2011

The aging level of the population is significantly illustrated using the aging coefficient, as a relation between the extreme age groups.

$$K_i = \frac{P \geq 60 \text{ years}}{P 0 - 19 \text{ years}} \cdot \text{The threshold rate is considered to be } 0.42.$$

In the case of Satu Mare County, this is of 0.83, namely double in regard to the situation of perfect balance. Surprisingly, the aging coefficient of the population is more increased in the urban area (0.95), than in the rural environment (0.75), taking into consideration all the depopulation resulted during the final period of the communist regime.

The aging coefficient at the level of the lower-ranked administrative-territorial units, estimated according to the data of the census from 2011, oscillates between very broad limits, from 0.26 (Gherța Mică commune) to 1.50 (Cehal). The most reduced values (up to 0.75) are registered in Oaş and, hereafter, in the Livada-Halmeu area and around Satu Mare city (excluding the city). The low or regular (up to 0.50) aging coefficient is present in only five communes: Gherța Mică, Târșolț, Călinești-Oaş, Halmeu and Dorolț.

The most pronounced aging is manifested in the peripheral communes from the eastern, southern and south-western areas of the county, and in the two cities as well – Carei ($K_i = 1.16$) and Satu Mare (1.01). The communes of Cehal (1.50), Homoroade (1.47), Valea Vinului (1.33), Bogdand (1.24), Foieni (1.20) and Urziceni (1.17) have the highest values.

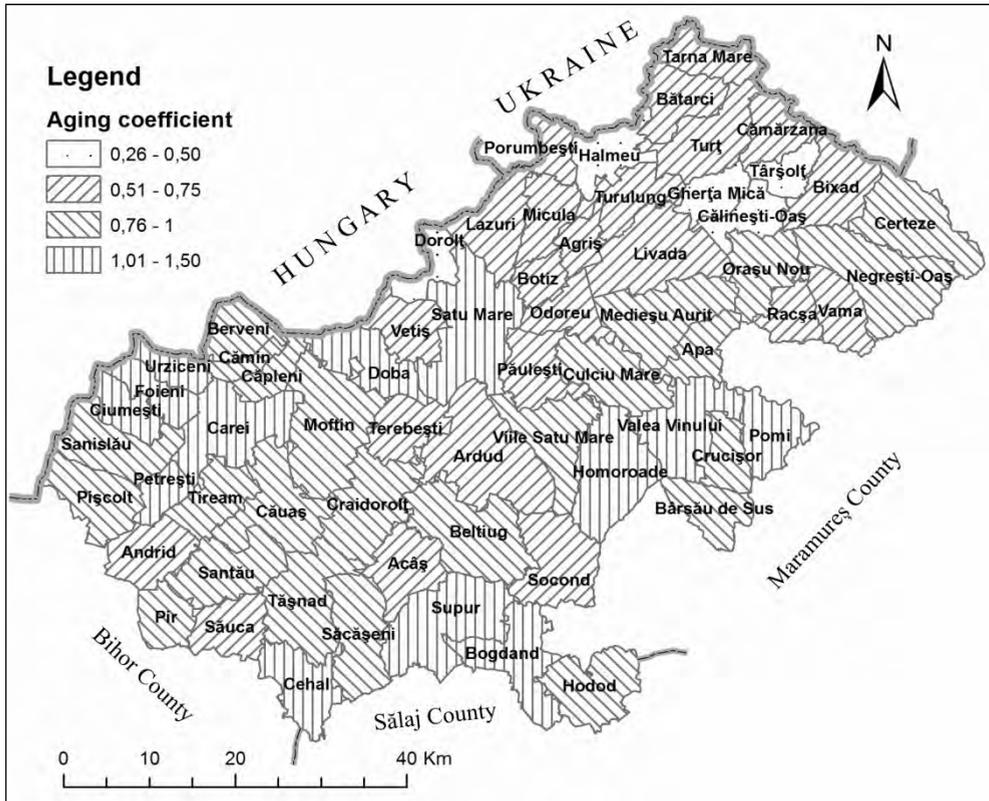


Fig. 4. The aging coefficient in Satu Mare County, 2011

From the economic point of view, *the dependency ratio* is edifying, expressing the relations among the extreme age groups, on the one hand, and the current workforce potential, represented theoretically by the adult population, on the other hand:

$$R.D = \frac{P_{0-19\text{ years}} + P_{\geq 60\text{ years}}}{P_{20-59\text{ years}}} \cdot 100.$$

Its value was 84% at the 2011 census, lower than the ones in 1977 (95.3%) and 1992 (92.7 %), as a consequence of the significant decrease of the ratio of the younger group, even in the conditions of the increase of the ratio of the elderly population, as well as of the adult population, on the other hand. If at the 1977 and 1992 censuses, theoretically, the pressure of the younger population (up to the age of 20) was much stronger than that of the elderly one (2.8, and 2.3 times higher respectively), during the past years the pressure of the extreme age groups tends to balance out. The situation of Satu Mare County is a lot similar to the one present on a national level.

CONCLUSIONS

The population of Satu Mare County went through all three stages, from the progressive type, with a high ratio of the younger group, to the stationary type, with a balance among the three groups, and then, quite rapidly, to the regressive type, defined by a more pronounced degree of aging.

REFERENCES

1. Cocean, P. (coordonator) (2004), *Planul de amenajare a teritoriului Regiunii de Nord-Vest*, Presa Universitară Clujeană, Cluj-Napoca.
2. Nicoară, L. (1999), *Dealurile Crasnei: studiu de geografia populației și așezărilor umane*, Editura Focul Viu, Cluj-Napoca.
3. Pop, Gr. (2005), *Dealurile de Vest și Câmpia de Vest*, Editura Universității din Oradea.
4. ***, <http://www.insse.ro/> - Recensământul populației și așezărilor, accessed on 12 August 2015.

ANTHROPOLOGICAL SUMMARY OF MIGRATION ROMANIAN MOBILITY, BETWEEN STUDIES AND REALITY

DINO BURTINI¹

ABSTRACT. - **Anthropological Summary of Migration Romanian Mobility, between Studies and Reality.** The anthropological analysis of the Romanian migration to foreign countries, thus also to Italy, appears as very useful for going deeper into this phenomenon bordered, till now, only within the transnational model. The present work integrates it showing the social and economic advantages of the phenomenon. This is, in fact, outlined from the perspective of the exchange of resources and opportunities between the two protagonists: the offer of the Romanian immigrant, characterized by a cultural system and values similar to those from the Italian past; the question of an Italian society completely changed, that has not yet succeeded to deprive itself of its cultural and traditional aspects.

Keywords: *Anthropology, Migrations, Culture, Romania, Italy*

The anthropological observation on immigration has led to a review of the judgment of transnationalism and international mobility, so as to promote debates in other areas such as sociology, political science and economic studies. The transnational model enunciated (Glick Schiller *et al.*, 1992) had been proposed as a solution to the problems of the 70s and 80s on immigration studies. The studies had stopped to put the subject in the culture of the host country or of a temporary transfer for a home coming back. The figure of immigrant was seen as a move dictated by business needs, its integrative capacity in the country of arrival was assessed regarding the presence on the labor market, social activities and education.

As we have seen on the field, plus continued an outline that today we can have, the rapidity with it moves to the news, the new transnational model does not follow a logic of thinking in one sense, but it rather a shift faces place towards two or more directions, an uninterrupted movement of people, capital, goods, ideas, considering the new united Europe and eliminating the old national borders, allowing a communication physical spaces, political, economic, different social.

¹ *Centre of Research and High Education in Psycho-Anthropological Sciences, 14 Via Michelangelo, Pescara, Italy, e-mail: d.burtini@unich.it*

Keeping up with the times it has led to a conceptual modernization, tying new ideas, resources, tools, the technologies and the innovation brought to the market in support of the company, a rapidity which migration did not have before. We mention the phrase with which some scholars (Glick Schiller *et al.*, 1992) have defined the transnationalism: “the processes through which immigrants create and sustain social relations that linking the stratified society of origin with those of settlement.” This definition has not been immune from criticism; It must also be said, however, that there has been the utilization of this concept made by some authors (Cingolani, 2010, pp. 14-17). Without dwelling on this type of thematic challenges we continue our analysis by observing the movement of Romanian immigrants.

The labor factor is the leading voice in migration flows, the cause that led to the need to emigrate from the country of origin and in the stages of transferring people do not stop at a single occupancy. The immigrants have found jobs in different sectors, in agriculture, in construction, textile, and managed to cover the roles of entrepreneurship.

The condition of variability that Italian labor markets and perhaps the European offers, leads the immigrant, favored by a number of surrounding and in particular to those information, to maintain a close relationship with the country of origin. The immigrant is an allowance in our territories, through a job opportunity with the acquisition of the residence, keeping as a reference their country with regard to savings and investments, in anticipation of a return to their homeland.

The main figure that keeps alive their interest in the new social economies chosen to follow up their work prospects remains, as in societies to industrial and commercial development, those aspects involves the participation in the educational system, education, and more closely associated with the production market.

For many professionals in the work the emigration from Eastern Europe is perhaps to be found in the crisis of the political systems that have prompted its inhabitants to over come for political and economic, difficult situations showing a mobility and an intense and enjoyable social fabric in large parts of Europe. The area of Eastern Europe shows a peculiar socio-political renewal came with the migration, following the various stages occurred in the history of local societies. An issue such as the migration from Eastern Europe can not fail to consider a history of past and present has marked the life of its inhabitants. Studies carried out in recent years have dealt with an issue that raises many questions and such delicate reflections to be imposed on the migrant, not only in the social harshness of his state of origin, but also the situation on a global scale.

The Romanian immigrant who start packing in search of better luck, generally has a social position of mid-level, has enough potential, in both economic and social, to enable it to implement his decision to leave and go to the long planned. The poorer class must try other ways of escape, not to be absorbed by a destiny that would compel it to a social immobility.

The events on mobility for immigrants, Romanians and not, use, are different, many times the risks and dangers are not lacking. Among them there are the organizations that traffic in this type of trafficking of persons.

The moving to other areas, in new transnational areas, allows to the immigrant to get in touch with the new realities. The complexity resulting from new social relationships leads the immigrant a new condition of himself. Many suffer this state of affairs, leaving dominate the new relations reached, in other cases there may be a greater social or economic weight, that they had not in their country of origin (Cingolani, 2010, pp. 20-21).

Before 1989, we think of Romania and other socialist countries, the ability to shift was indicated as a form of protest to the political regime, but probably the controls and the closure policy of national borders had prevented its residents to improve their expectations, forcing bear precise political choices that prevented, in fact, social development, except for those few who enjoyed the favor of the ruling class. The scheme, by the reports of some studies, had set up an internal migration that obeyed the directives of the state, useful to improve the industrial structure of the country, and another influx considered adverse and disobedient who betrayed the nation (Cingolani, 2010, p. 29).

The focus must fall on the socio-political thought that has changed the Romanian society, before allowing her to live in rigid social patterns, then, with the birth of a united Europe, bound mostly by a single base coinage, favoring. It is spilling most of its inhabitants and the entry of companies, goods, capital to restart its economy. In all this change the Romanian emigrant actively participates in the formation of an economic stability by sending his savings in his country, enabling the creation of a source of income of coins which allows new forms of wealth, on which the nation can throw the foundation to share in its economic development. A goal-currency, however, that in recent years inevitably affected by economic crises that afflict many migrant receiving countries, Spain and Italy in particular.

The phenomenon of emigration in Romania reflects the new expression of the community who has known the current economic and social change, in which the migrant is someone who puts into circulation new cultural fashions to move between the territories in which they live (Cingolani, 2010, p. 31). The new historical stage of Romanian society has gone beyond the old boundaries cultural background. Today the state of dissatisfaction of the inhabitants along with a search for "identity" that the Romanian citizen free from old prejudices, urging a revival not only economic but also cultural in particular.

Comparing to the past there are so many disparate forces together competing with each other to build a new social model, into which business ventures of foreign countries, including Italy, which create new opportunities in the economy, prospects that before the Romanian society, suffocated a single

large pro-government management, it had not. The arrival of foreign groups has enabled a comparison with the mentality and habits of Europeans even more have changed the spirit of the Dweller Romanian.

The Romanian citizen is committed to defining the contours with the collaboration established with the immigrant, both characters combine with an active participation to social ascent in the past was hampered. The immigrant with economic resources gained in the countries of destination starts to lay the groundwork for a future return which is expected to be a new protagonist, to continue contributing first hand, his own and others' social reconstruction, with the acquisition of other cultural experiences. The data we collected in recent research does not allows to go further to scrutinize what could be the thought of the Dweller left in Romania. Whatever the reasoning implemented, the changing nature of today's society and the competition that it can be inferred, were most likely looking for a personality emerging in which individuals are competing for lasting results.

We have to consider an important feature of the Romanian immigrant : it is his feeling stranger in a host country. Examining in details the personality of the immigrant it can describe the immigrant worker 's feeling like a person who has no points of reference, what surrounds it revolves around her being immersed in a cultural context in which it is born, but there is only a certain period of his life and seeking opportunities. His main fear is to have to deal with cultural differences. This puts it in a position where it feels the pressure of a continuous test, entertaining for these and other reasons relationships with their fellow citizens and their communities, not opening their cultural barriers preventing interaction with society d 'arrival, closing social relationships within the groups to which they belong. Upon his arrival in the host country, the migrant increases his knowledge, coming into contact with other worlds, flow of ideas, goods, and other exchanges. In his imagination, the immigrant picturing a possible return home, in a new social position changed from the time when he decided to move, he will make sure to take action, for those who have the foresight to rely on a sound economic choice realizing how budgeted, a silent social revolution in which he has placed his talents working. On his return to feel a sense of belonging not only tied to his roots, but his wandering in other European countries, including ours, will ensure that its status is linked to a concept of inhabitant "extraromeno" then Europe.

Studies of the Romanian migration have become the subject of interest among scholars in recent years. You must be recorded among the reasons that have promoted this line of study, the lack of detailed knowledge, because in the past there were opportunities for the spread of ideas on these topics, as well as the fact that immigration abroad was affected by the closure of borders. The regime even before 1989 controlled the lives of their citizens, without damaging the image in the international community. After 1989 the Romanian territory

opens his company with a transformation that generates an international mobility. Since 2007, the entry into the European Community has changed the state of things again, creating other incentives in the population that has led to other migrations.

The first symptoms of an economic crisis are felt even before 1989, with the final fall of the regime: the Romanian population has to deal with an uncomfortable condition at the political-social that was unprecedented.

The first aspect that has produced a strong backlash on the social system is the traumatic disruption due to sudden change not only political, but also centers of production, causing the extinction of domestic and foreign trades. The loss of trading partners Socialists, after 1989, have blocked the country's economic growth: industrial employment has fallen from 40% in 1990 to 23% in 2000. The average unemployment has increased from sixteen months in 1995 to eighteen months 2000, with the decline of central government control in the sphere of production as well as the support for the assistance. A decrease of livelihood has increased in parallel with the grant application submitted by the elderly, the unemployed, women. The new form manifested in the Romanian society in the labor market has been the flexibility. The elasticity that before the Romanian society was not used to have, involved companies, with an increase in layoffs or different working hours, flexibility linked to outsourcing and subcontracting, therefore even the pay was immune from the socio-conditioning statement. The data that we studied proves that in the first ten years after the falling down of the regime more than 40% of employees have changed jobs, this has led to a subsequent social crisis with gre ater poverty (Cingolani, 2010, pp. 33; 38).

The economic growth that characterized the past the central government through its agreements with partners Socialists was blocked when they were no longer any commercial outlets, isolating, in fact, part of the Romanian territory and its productive sectors which significantly impacted the population. The lacking) administration and the new government forces have not been able to compensate for the breaking of the old models of production after the events which have changed the balance. These things added to the absences of the previous political totalitarianism which had failed to connect the regional differences within the state, rather it aggravates and form a feature of the new market economy. The north-east part of the country is the area with a greater loss of industrial jobs and the reduction of infrastructure investments relative to other parts of the country. The western area of the country, taking advantage of the proximity to the borders of Europe and with more foreign investment, along with the capital, has been fortunate to receive resources that have characterized a career growth and a strengthening of the structures. Agriculture has preserved huge differences. If production is fortunately high inland and in the south, in the north-east continued to have strong needs for sustenance.

We note that the economy has produced changes, bringing the Romanian citizens in a modified mobility within the state. The first consequence of de-industrialization has been the decline of an internal movement, with the return from the cities to rural towns starting. The small urban settlements from the early 90s have lost the ability to attract the inhabitants of rural areas, with a considerable reduction in employment, that has seen by the people from the agricultural centers, the first to be expelled from the factories, returning to rural areas. The causes of this return there are: the cost of maintenance of urban apartments, the lacking of social housing through which the regime was helping young couples, the decline in public transport and connections that every day there were between countries and cities (Rotariu, Mezei, 1999, pp. 5-38). One more incentive for the return of farmland consists of the process decollectivisation of the agricol fields, although the rebirth of a small landholdings, bought from Romanian, formed only a source of essential family that never made it to an activity capable of producing gains (Cingolani, 2010, p. 40, footnote 5). That people who had moved into town, have returned to the country taking the house of their relatives, while others have decided to sell the homes owned in town to buy houses in the countryside with farmland. Lost interest in small urban centers, regional differences continue to shift flows into Romania and (have) seen to persist with the socialist period cities like Bucharest, Constanta, Timisoara which favorite centers : regions east suffers from greater inter-regional migration(Rotariu, Mezei, 1999, pp. 101-103).

The economy has changed its forms, no longer works in continuous character but uses small newspapers, trade, jobs are not regular gimmicks to obtain gains and overcome serious difficulties for a large part of the Romanian families; the data indicate that 40% of the entire gross domestic product at the end of the 90 derived from these forms of income (Stanculescu, Berevoescu, 2002, pp. 187-225).

The trade across national borders has been another way to profit in the first years that followed the fall of the regime, a sort of petty economy, for many Romanians represented the opportunity to step outside our own country. A mode feature that gave birth to the figure of 'false tourists' (Stola, 2001). Many people took advantage of the occasion of the proximity to countries confined to enter as tourists, but took advantage of Romanian products to sell and buy goods to be imported on the domestic market. This original method of "suitcase traders" was already present during the communist politics and was formed mainly by Poles, who had acquired skills in practice the '50s, taking advantage of a national policy rather lax in issuing passports. This practice was also present in Romania: an agreement between Romania and the Yugoslav government in 1967, had favored a free flow of people up to eight days a month, without visas and even without a passport (Radu, 2006). The extent of cross-border transfers after the falling of the regime grew wildly: in the years 1990 to 1993 about thirty million Romanians visited as tourists Hungary and in 1992 a million headed for Istanbul. Many people

discovered other ways to make earnings through new economic markets. The benefits derived in particular from the absence of rules typical of this market, with very low cost, it is not practiced any form of tax and without constraint and without initial capital. The so-called “suitcase traders with” placed themselves in an intermediate position: in a market share of defined gray, free of the white market, with taxes and protected by the state, but also in a slice of black market run by the crime with initial expenses and commercial return for large sums.

Within a few years this form of trade has spread and changed to the action required by the introduction of rules to regulate the cross-border market, for a greater diversification of the work of Trade (who sells an asset plays a distinct role from those who moved through the border) and to distinguish ethnic minority semi-sedentary and specialized (in particular Chinese and Vietnamese). Few are those who have passed from the “suitcase trade” with an asset of container, putting up a real business. The regions closer to the borders with Ukraine and Moldova are the part of the settlements that were more involved in this phenomenon. The years that cover the range that ranges from 1990 to 1994 are defined by Diminescu the first phase of mobility Romanian (Diminescu, 2003). The possibility offered by the external market with new channels on which converge the exchange of goods, not only by resorting to a single market and closed the case with a cross-border trade subjective. The request for political asylum (Cingolani, 2010, p. 42) and emigration particularly affect small communities: Germans, Hungarians and Jews. The mechanism of national purification began with the Government of Ceausescu. Between 1950 and 1989, approximately 242,000 Germans leaved Romania (Cingolani, 2010, p. 43, footnote 8).

Between 1990 and 1993, followed by others 140,000. Since 1994 this transfer drops significantly and it became a sort of stay or holidays in the country Romania by the Germans. The same policy is followed for the Hungarians: between 1987 and 1989 about 25,000 people got the status of refugees, an increase of emigration after the opening of borders with about 29,700 people in 1990, which declined in the following years. For the Jewish community the increased migration occurred in the 60s and 70s on the basis of an agreement between Romania and Israel with the transfer of about 63,500 people; 90s departures fell, for the reduction of the group that, in the country, reaches just under 9,000 units. The displacement of these communities in their respective countries, served as an excuse to enter the Romanians, so that they begin to migrate for work.

Germany was the favorite destination for the regions like Sibiu, Brasov and Timis. The point of connection was through an old neighbour or friend of German origin who was deported to Germany. Romanian Jews back to Israel, they put on the mediation organizations for the work they were interested in finding Romanian labor; the Hungarian side they took advantage of relatives and friends for support during seasonal businesses abroad. Germany and Israel, both lost

their previous interest, for actions to protect migratory policy, so the 90 is applied stricter rules against Romanians immigrants.

The second phase of transnational migration is from Diminescu traced back to the years from 1994 to 2000, which coincides with a standardization of EU immigration policies and the increasing of the economic crisis in Romania. Emigration in the early head for neighbouring countries, moving towards the western areas of the Mediterranean (Italy, Spain, Greece and Portugal), other central and northern destinations such as France and Germany, they lost interest. Many people at this time decide to migrate, and in particular the inhabitants of rural areas (due to that part of the population directed to the industrial centers, then forced to return to the countryside).

In many cases they are young men in the countries of immigration in particular, work in agriculture and construction, but also women in later years willing to offer labor services of care and personal care. In this phase it would include a strong regionalization implementing migratory chains and groups that connect villages starting in precise areas of arrival.

The input process in Western European countries is done clandestinely or through the issuance of a visa to the Schengen area. Once granted permission to settle there are concerns and work in a country other than the one who had issued the visa attempting a possible regularization for its position (in particular Italy and Spain). During this period increasingly gaining what scholars call "circular migration", a type of mobility prepared to take advantage of the systems was fraying-national, identified as a "new basis of Romanian migration system" (Sandu *et al.*, 2004). There is much difficulty in making quantitative estimates of this phenomenon. The first attempt was made with a survey in late 2001 by the Ministry of Information, the Ministry of the Interior and IOM in Bucharest, through a questionnaire submitted to a local representative. From the results of the investigation proves, the fact of about 200,000 people were abroad and 120,000 were expatriated in previous years. While about 47% had returned home at least twice during their residence abroad, which implied that there was several exits and entrances of the country Romania (Cingolani, 2010, p. 45). Since January 2002 we enter the third phase of migration: after the abolition of the visa in the Schengen area, the Romanian citizens can travel out of the country as a tourist, the only obligation was not to stay abroad more than three months; What we confirmed by a Romanian citizen, at times when we have been committed on the territory. With this opportunity, after the negotiations to be joining to EU Romania, they have increased the flows of migrant Romanians willing to travel abroad for business reasons.

For many citizens the presence outside of the national borders has produced intermittence of round trips from Romania moving between countries of the European community with more simplicity.

The entry of Romania into the European Union was the last piece for a free movement. The new tendencies have strengthened presence in Ireland and Britain, calling mainly due to the economy, but it is not yet able to fully assess the real impact of movements in Europe after the fall of the borders of January 2007.

The picture that we have proposed, tries to not leave out important data and carefully evaluating the studies on the matter, introduce us to other issues related to the mobility of Romanian citizens. The questions in the political and public opinion for these circumstances raises questions about future developments that provide the final return from abroad of the Dweller in his native Romania. The social and political changes are constantly changing, citizens living abroad are watching closely the evolution of things in their home, they live in hope of a future return, but being skeptical and uncertain what to do, for the most difficult aspects that surround the social, political and economic life of their country that still stabilize Romania (Cingolani, 2010, pp. 45-46).

We've got to find, during the course of our investigation, the local presence we studied the Romanian labor, and we wondered if this emigration of Romanian laborers had not created other problems for the reconstruction of their country. Our collection of information continued in the reading of specific topics in the industry, and in part founded a response to our questions.

The Emigration outside Romanian borders produced in certain parts of the country there is an insufficient mastery local who initiated other immigration processes. They are for example increased the number of inhabitants of the Republic of Moldova or Ukraine, by virtue of the proximity of borders and facilities (Moldovan citizens have dual passports). These come seasonally neighboring areas to carry out agricultural work, as well as in buildings and forests, while the absence of local youths who went abroad. Even the Turks and the Lebanese are employed in trade in southern Romania and the capital. While other national groups, who had had no relevance in Romania, there are established. The daily events were discussed in the local press concerning the creation of a large wholesale market on the outskirts of the Chinese capital and the assumption in the textile factories in Bacau of Chinese workers. What is certain is that Romania has a key position on the eastern border of the European Union, which could transform it from a nation of emigration to country of transit and allocation (Michalon, 2005).

The evolution of the migratory situation impresses with its rapidity and complexity and goes hand in hand with the redefinition of political boundaries and dynamics border.

The mechanism of regularization proved as irregular arrivals burden the total attendance Romanian, highlighting areas of application in which Romanian citizens are more engaged, formed from assistance. It was found that people do not always have been occupied in the branches for which they had received the documents. There are several cases of women who had to pay for care services, which were covered, then changing profession.

The Romanian citizens in Italy have not been established only in large urban centers but are scattered in the territory, with a branch polycentric. This sorting seems to conform to the characteristics of our country with a provision of the city not in large clusters citizens as the extended metropolitan areas, but following groupings of urban and economic centers. It was noted, for studies on the subject that we are facing a general preference for Romanian immigrant suburbs. Weber speaks on arguing that this trend is linked to two factors: the ease of finding accommodation and more job opportunities in branches such as restoration and construction, care for the elderly and work in agricultural fields (Weber, 2004). In this typical townhouse small town and urban area, the Romanian citizen is to live in a location (country or small town) and work in areas of intense urbanization: seems to follow those aspects of *navettismo* they had had during the socialist regime.

The employment sectors who know greater presence of Romanian citizens are construction, agriculture and handicrafts to humans; women engage in work and nursing care of the elderly. These data brings out a key which reflects the performance of the Italian social situation, with a labor market that offers the lacking of national workers in these areas, in which these immigrants demonstrate their preference. Rather than provide those services in their home countries, attracted perhaps by currency speculation which guarantee more earnings, they travel abroad to carry out these tasks. Like the Italian citizen who refuses to pay their workers with a tax burden oppressive and does not allow a more comfortable life, the Romanian immigrants occupy the seats left vacant by the Italians, and then perform shift from money to your home country; what they do in Italy would not be possible to carry it out in the country of origin due to lower economic returns.

The reality of Romania with the crisis of 1989 is passed by large industrial production activities in the period, to a post-industrial phase directed towards greater flexibility (Cingolani, 2010, p. 49), based on small productive activities and job mobility Phenomenon that after twenty years is proposed with features similar to what was experienced in the countries of southern Europe (Wallace, 2001). The Romanian emigrant is the witness of this continuity.

Our production system is based on an interrelationship between job insecurity and the informal economy; in this approach it is not regular work. Studies have focused their interest on undeclared work and the benefits this has for the employer, not by paying the costs. Illegal employment is found primarily in the construction and agricultural sectors. This involves a new production management: illegal workers are placed on the labor market to follow the trends of supply and demand work. The demand and supply of labor are targeted towards those minorities with little or no rights.

Changing the state of the Romanian worker happened in 2007, after having acquired the same rights as Community workers. Employers after these changes have preferred to hire workers more easily blackmailed Moldovan or Ukrainian, accepting working precarious conditions.

A Romanian citizen has confirmed the employment difficulties encountered in previous years the entry of Romania into the European Union. The company where he worked imposed harsh conditions, in these cases, companies or those who run them should undergo more checks, because they cause problems on employment systems to national and foreigners, with repercussions on state finances straining the fees charged.

These elements of informality and elasticity, as already mentioned, are mainly found in the construction, agriculture, small artisans, where the opportunity to work illegally is very large. The construction sector is developed through the races of subcontracting, in which the work is based on the fees received by the firm. The construction industry makes use of seasonal and occasional work, however poorly controlled in small and medium-sized companies. The company has crafted a family, sees involve the owner and his employees, and in this case will establish internal rules. The emigrant Romanian became part of a gear which collects customs and family relationships in productive activities, so as to convey to the place to live with that when you work with work rhythms unspecified (Cingolani, 2010, pp. 49-50).

Another aspect of our labor market is the big question of assistance and care for the elderly. These developments give us information about the composition and the demographic and social changes that have affected our country in the last thirty years, with a notable decrease in births and a greater presence of Italian women in the workplace, leaving commitments household and proliferation (Andall, 2000), matched to the low presence of social policies. This lacking, or should I call it absence, it had to deal with an empty capped by strong immigration of Romanian women found no evidence in other European situations. A new work role was introduced in Italian families, the inclusion of a new figure able to provide services of care and assistance to the most needy, starting with the elderly. This has given rise to a new social figure, leading to elevate the role played in this case by the women in Romania; right from the stages of the 2002 regularization has highlighted this fact. The figures place them in second place after the Ukrainian (Cingolani, 2010, p. 51).

Some studies are interested in the Romanian migration (Vlase, 2006, pp. 6-22) as known, the number of women has grown over the years, in the initial migration husbands after they reached an initial allocation or traveling along with them; in recent years there has been a new trend, sees further protagonists of migratory processes.

In fact, it is the women, to meet those needs we mentioned, to leave the home fire; speeches that some Italian citizens face and heard personally, to compare our grandmothers post-war. Many people see in them their grandmothers. Others describe the Romanian society with customs and traditions that belonged to our recent past. Other descriptions reminiscent of ancient traditions and ways almost extincted in our habits that technological development and social replaced.

They are also reminded of the many cases in which these migrations occur from women who are not young, with children to support, leaving behind difficult situations related to a marriage gone bad, or cases in which they are left alone for the loss of husband to care for their children. The women arrive in Italy starting most of the time alone with the weight of the children to support, sacrificing affections to help them in their growth, with an obvious choice that leave away from home.

Studies saw this happen through coincidence of the abolition of visas in 2002: according to these investigations in this way there would be more dependence on men. Women so they do not need money to buy a visa or to wait until it is the husband or other relatives to ask their arrival in the country of destination. The acquired independence of women does not end with their arrival in Italy. On this type of growth of women not everyone agrees, suggesting other analyses (Cingolani, 2010, pp. 52-53).

If today is a predominantly female migration, retracing roads and circulation patterns now widespread and consolidated, in the meantime there has been, on the part of the Romanians, a passage to the obvious fact that root in the area; we refer to a greater presence in the schools, the increase in couples, the growth of the students in the schools, the average age of those who habitually have taken up residence, house purchase.

The studies on this phenomenon, conducted in other regions of our country, allowed to note how the Romanian migrants, with regard to their permanence, are not separated compared Italians and many of the jobs that practice involve a high percentage of integration with the locals. Just think of women at work and assistance at the homes: coming to have a good feel for the families, often with the person to attend, is the primary tool to enhance the learning of language and society.

The fundamentals are the same for the men occupied in small companies, because the relationship that develops between the boss and their employee is held on mechanisms friendly and confidential.

The study done by Cingolani allowed to make further assessments on the presence of the Romanian community. The presence of a large community in the area has led to the emergence of public delegations, in many cases appeared sketchy and elementary, shifting the emphasis from the wealth of internal differences, which recur the vicissitudes of life experiences and personal subjects (Cingolani, 2010, p. 54). We can deduce two things: assimilationist and criminal.

For the case assimilationist the Romanian citizen has more potential for integration, to be simply due to our past of migrants; this passage suggests some reflections on what we have previously reported after collecting speeches, dialogues that are present in many of our countrymen, abandoning a social entity as a reflection of what happened in Italian society on the threshold of mass industrialization. The Romanian citizen is a practicing Christian, related to the

family and employee. Womankind instead it has its peculiarities in the family and respect of male power. While boys are praised for the on-going work and to honor its word. The Romanian presence leads us to reflect on how many Italians, we have assumed in our considerations, have left a deep value system that our society no longer has. What surrounds us today, corruption, excesses, excessive social frenzy, consumerism or other factors, bring out a whole series of reasons that have changed the incentives, important points to mark our history, therefore capable of producing positive effects. An example to complete part of our analysis is the choice of many Italian men to find wives in Romania and generally in other Eastern European countries, for a sensitivity family no longer present in the Italian women. It is given that this could also be read as a lack of capacity or ability, by many of these men, of contracting meaningful relationships their diversion into marriage with Italian women.

Under the aspect of the criminalization of Romania, there has been a large group of individuals that harm our security and peace, entering in the plots bleak social strata in putting agitation serenity. The male gender is described as evil and always ready to steal, entering in homes that often known for having worked as masons; often are linked, together with other ethnic groups of the East, to the theft of computer tools provided by banks (debit, credit cards, etc.) or the exploitation of the prostitution of countrymen.

The dialogues between, assimilation and criminalization are proposed daily in collective discussions and correlation with episodes of broader political economic (Cingolani, 2010, pp. 54-57).

We learned why to all individuals who have moved, you pose the findings relating to the relationship between the public, private and the correlation between standards, legal protection, diversity of membership, social pluralism. The whole that is became part of our world, not more and not only at the level of European borders and circulation as well as tracked by our politicians, expressed new forms of communicability and changes in our historical development, has changed our habits social. The demand for new social norms and the implementation of the rights can be achieved through actions that develop alongside other changes taking place. It is not always easy to put into practice and have a provision that makes the case: most of the time in the legal no rights suited to the problems that arise, the rules in certain situations come in a second time to fill a void judicial It emerged from society as a multifaceted feature and an unstoppable process of making up.

Let's think of the aforementioned figure of the emigrant who now plays the "role of the caregiver." In his investigation, also Di Nuzzo offers this example to expose the best condition and unpreparedness of our legal system (Di Nuzzo, 2009).

In his speech he shows us the ability to move in confined areas, to reap the benefits for society, getting a protection group, and a lot of defense from the outside. On which model is its ability to live in society, but not in its external side and of its financial system. It is subtracted from the duties and obligations that

would result in an effective citizenship. We met with the benefits that the employer may have to avoid taking citizens regularized. On identical floor there is the case of the family is not willing to expose other expenses to his budget, in cases where there is mutual agreement between the parties not to manifest a regular contract, to reduce the costs of the family in need of care and assistance, and, a more hidden life for the caregiver, so can play a major action without obligations, receiving higher fees. The cases which lend themselves to favor these particular situations are women who have applied to receive a regular residence but arrive in Italy with regular residence permits, working for certain periods and to perform their service at the home which should this tacit agreement.

Following the periodic cycles ago return to the country of origin, relying on circulation that allows it to fit into the gears of the system by avoiding problematic situations.

This new dimension has become part and parcel of our society and our families, reflecting the changes in which we all participate actively or passively.

The figure of the carer, domestic transnational, has broken new ground by circulating not only a movement of people, but an exchange of ideas, goods, means to transport in order to simplify the contact between different realities.

In our mentality they have aroused much curiosity the arrival of new people and settle with the emergence of these new professionals and produced the elimination of previous schemes.

The reality on our territory and centers under investigation, appears to reveal a delay of the presence of Romanian immigrants, only after access to certain employment relationships increased wildfire local presence.

Returning to the role of the home, a commonplace strongly felt, is the image of the Romanian ready to do anything to receive the benefits. Women better inserted in familiar surroundings, they get the confidence to use their charm to compromise the Italian men just to reach their goals. Knowing the individual aspects of the life and habits of the people in which they perform their duties, a definite plus for achieving what you want. But you would think that in a society characterized by households shrinking, the female labor and an aging population, emerges the need for somebody "mind" of the house and especially the elderly. And therefore it explained the genesis of a new word that, until a few years ago, did not appear as certain noun in dictionaries: "caregiver" or "carer". A term recovered from the past more by necessity than by choice as in emergencies and new challenges posed by aging populations, the domiciliary has found an answer in the decisive contribution of the foreign and assistants. This phenomenon has developed, in a relatively short time, displacing the public programming and acting on a mix of factors need and cost effectiveness and to take up a significant size. So a theme that is looming as a particular aspect of the current balance of the local welfare systems: the conveniences hidden, as defined Pierangelo Spano, in elderly care (Spano, 2006).

BIBLIOGRAPHY

1. Andall, J. (2000), *Organizing Domestic Workers in Italy*, in *Gender and Migration in Southern Europe*, F. Anthias & G. Lazardis (eds.), Oxford, Berg.
2. Burtini, D. (2010), *Antropologia dell'Amore*, Bulzoni, Città di Castello 2011.
3. Cingolani, P. (2010), *Romeni d'Italia*, il Mulino, Urbino.
4. Di Nuzzo, A. (2009), *La morte, la cura, l'amore*, Cisu, Roma.
5. Diminescu D. (2003), *Visebles mais peu nombreux. Les circulations migratoires roumaines*, Paris, Editions de la Maison des Sciences de l'Homme.
6. Eliade, M. (2010), *Trattato di storia delle religioni*, Bollati Borighieri.
7. Gaffuri, L., Di Michele, L., Nacci, M. (2008), *Interpretare la differenza*, Enciclopedia Garzanti, s.v. *Romania*, in *Europea*, 9, Milano 1988.
8. Gatto Trocchi, C. (2000), *Etnie, Miti, Culture*, Bulzoni, Città di Castello.
9. Glick Schiller, N., Basch, L., Szanton Blanc, C. (1992), *Towards a Transnational Perspective on Migration: Race, Class, Ethnicity and Nationalism Reconsidered*, New York, Annals of the New York Academy of Sciences, vol. 645.
10. Luciano, A., Demartini, M., Ricucci R. (2009), *Immigrazione: segnali di integrazione*, G. Zincone (ed.), il Mulino, Urbino 2009, pp. 113-156.
11. Mauceri, M. C., Negro, M. G. (2009), *Nuovo immaginario italiano*, Sinnos.
12. Michalon, B. (2005), *Dynamiques frontalière set nouvelles migrations internationaux en Roumanie*, in «Revue d'etudes comparatives Est-Ouest», vol. 36.
13. Pasquinelli, C., Mellino, M. (2010), *Cultura. Introduzione all'antropologia*, Carocci.
14. Radu C. (2006), *Coping with Visas. Notes on the Recent Changes in Mobility Regime at the Romania-Serbia Border*, in *Migration Process in Central and Eastern Europe: Unpacking the Diversity*, A. Szczepanikova, M. Canek & J. Grill (eds.), Prague, Multicultural Center.
15. Rotariu, T., Mezei E. (1999), *Aspecte ale migratiei interne recente din Romania*, in «Sociologie Romaneasca», n. 3.
16. Sandu D., Radu, C., Constantinescu M., Ciobanu, O. (2004), *A Country Report on Romanian Migration Abroad: Stocks and Flows After 1989*, Prague Multicultural Center.
17. Sartori, G. (2000), *Pluralismo, Multiculturalismo ed estranei*, Milano.
18. Sciolla, L. (2008), *Sociologia dei processi culturali*, Il Mulino, Urbino, pp. 142-143.
19. Schultz, E.A., Lavenda, R.H. (2010), *Antropologia culturale*, Zanichelli, Bologna, pp. 24-25.
20. Spano, P. (2006), *Le convenienze nascoste. Il fenomeno badanti e le risposte del welfare*, Nuova dimensione, Portogruaro.
21. Stanculescu, M., Berevoescu, I. (2002), *Literature Review, Romania*, in *Households, Work and Flexibility Research Report 1: Critical Review of Literature and Discourses about Flexibility*, C. Wallace (editor), Vienna, HWF Research Consortium, Institute for Advanced Studies.
22. Stola D. (2001), *Two Kinds of Quasi-Migration in the Middle Zone: Central Europe as a Space for Transit Migration and Mobility for Profit*, in *Patterns of Migration in Central Europe*, C. Wallace, D. Stola (eds.), Houndmills, Palgrave

23. Vlase, I. (2006), *Donne rumene migranti e lavoro domestico in Italia*, in «Studi Emigrazione», 2006, vol. 43 n. 161.
24. Wallace, C. (2001), *Conceptual Challenges from the New Migration Space*, in *Patterns of Migration in Central Europe*, C. Wallace & D. Stola (eds.), Houndmills, Palgrave.
25. Weber, S. (2004), *Exploring Some East-West Migrant Networks and Their Distant Local Dynamics. Ukrainian, Polish and Romanian Migrants in Rome*, in *New Waves: Migration from Eastern to Southern Europe*, M. J. Bagahna & M. L. Fonseca (eds.), Lisbon, Luso-American Foundation.
26. Zincone, G. (2009), *Immigrazione: segnali di integrazione*, il Mulino, Urbina.

ROMANIA'S YOUNGEST TOWNS – HOW URBAN ARE THEY?

VERESS NÓRA-CSILLA¹

ABSTRACT. – **Romania's Youngest Towns – How Urban Are They?** After the collapse of the socialist regime, the urban system of Romania has changed significantly in a very short period of time: in a few years 60 rural settlements gained the town status, mostly without matching the quantitative and qualitative conditions set by the law. This paper examines those 17 indicators necessary to become a town, and compares the values of 2004 (the year, when a “mass declaration” was conducted which resulted in 38 new towns) with the values of 2014 (the latest available statistical data) in order to see the extent and direction in which the new towns developed (or not) in ten years after becoming urban. The paper discusses also the question of whether urbanization and development can be made via political decisions or not.

Keywords: *urbanization, commune, town, post-socialist, Romania, declaration of towns*

1. INTRODUCTION

The world has urbanized rapidly since 1950 when it was mostly rural: less than one-third of the population lived in urban settlements. In 2014 just over half of the global population was urban. This distribution is expected to shift further towards urban areas over the next 35 years so that, by 2050, the world's population will be one-third rural and two-thirds urban, roughly the reverse of the situation in the mid-twentieth century – says UN in one of its publications (United Nations – Population Division, Population Facts no. 2014/3). But in this “urban century” in which “mankind tends to become an urban species”, the structure of urbanization shows important variation in different regions of the world (Kourtit and Nijkamp, 2015, p. 2-3). Europe is counted among the most urbanized sites on the Terra, but Romania is well below that high European average.

¹ PhD Student, Babes-Bolyai University, Faculty of Geography, Cluj-Napoca. E-mail: nora@veress.ro

A considerable amount of papers are addressing the issue of what is urban and what is urbanization, what is rural, what is the role of rural areas in the regional development. While before the rural and the urban were defined as a dichotomy, relative to each other, many recent commentators see a “blurring” of distinctions between urban and rural characteristics because of the increasing similarities between the two regarding economic structure and industrial activities (Caffyn and Dahlström, 2005), as a result of counterurbanization and of economic restructuring and globalization affecting both urban and rural areas (Shucksmith et al., 2009). New concepts have emerged in the literature, such as that of *rurbanisation* and *rurban areas*. While the former covers a process where the physical environment loses qualities that were traditionally associated with urban or rural settings (Bengs and Schmidt-Thomé, 2005), the latter represents those transitional areas between rural and urban areas, which are apparently the result of urban growth and related urban agglomeration advantages as main drivers (Kourtit and Nijkamp, 2015). Despite this positive trends, the *OECD's New Rural Paradigm report in 2006* (OECD, 2006) stresses that although rural regions conceal great disparities, and “rural” is not necessarily synonymous with decline, in general, rural regions are lagging behind national average economic growth. This weaker economic performance is driven by factors like out-migration and aging, lower educational attainment, lower average labour productivity and overall low levels of public service – and this often lead to a vicious circle driving rural decline². Despite that some of the researches indicate that urbanization not necessarily causes economic development, there is a growing literature that emphasises the strong positive relation between the two (Lewis, 2014). Moreover, cities are seen as economic drivers, while rural areas as lagging ones. A higher probability for being poor is associated with the rural households (Sandu, 1999), which experienced further impoverishment since the late 1980s (Sofer and Bordanc, 1998). They have also lower values on average life expectancy at birth, infant mortality and school enrollment (Veress, 2013). In turn, urban areas represent the cleanest way from poverty to well-being and prosperity (Glaeser, 2012), and not only for themselves: they are expected to be the drivers and the spaces for the renewal of the peripheral or declining regions, while they assure the regions' competitiveness as engines of economic growth (Rechnitzer, 2004). It is observed also, that those rural areas that are developing are to be find in certain, that is surrounding of big cities, tourist destinations and western border regions in the EU's neighboring countries (Kovacs, 2009).

² Although Romania is not yet a member of OECD, we consider its findings and documents as unmissable. Currently Romania is represented at 19 working structures of the OECD, and the country's accession is a strategic objective of Romanian foreign policy, included in the 2013-2016 government program (Ministry of Foreign Affairs, <http://www.mae.ro/node/18539>).

Urban-rural disparities are striking also in Romania. The problem is even more substantial if we consider that almost the half of the country's population is rural³, being occupied predominantly in (subsistence) agriculture. The rate of those working in this sector is much higher than its contribution to the country's GDP (Kurko, 2009). Foreign investments – considered a “regional development panacea” in Eastern Europe (Mackinnon and Cumbers, 2007, p. 162-164) – also avoided, in general, rural areas (Postelnicu, 2011), partly because of the poor infrastructure and a low diversity of raw materials (Drgona and Turnock, 2000).

In this social-economical context, converting communes in small towns represented a hope that they maybe can transform into centers of natural economic growth – in parallel with the new rank of municipality which represented a solution of salvation and revival for towns in decline (Dragomirescu and Săgeată, 2008). The emergence of new cities was also necessary because of the existence of vast areas that are “deeply rural” and poorly polarized by the existing urban settlements (Ianoş and Tălângă, 1994, p. 71).

The issue of the newest towns of Romania (fig. 1) was not comprehensively researched, although some authors addressed it on its own (Berekmeri, Săgeată), while others included the problem in broader studies that targeted the urban changes after the fall of the socialist regime (Benedek). Some case studies were made by Berekmeri (2006, 2007, 2009) – the new towns of Mureş county (Sângeorgiu de Pădure, Ungheni, Sărmaşu, Miercurea Nirajului), Dolhasca and Voluntari. The author not only presented to what extent the new towns do (not) fulfill the criteria, but tried to outline also the competitiveness of these towns, as well as the opportunities and constrains of their development. Recently, Covăsnianu and Covăsnianu (2014) analyzed the urban settlement network in Moldavia by summing the 16 indicators to become a town, defined by the law. The final urban coefficient they obtained shows that none of the new towns meet the minimum conditions of being an urban settlement, nor do the “traditional” towns such Iaşi, Galaţi, Botoşani. But while the latter accomplish 14 indicators from 16, most of the former achieve only 2-4. Their conclusion is that after nearly a decade none of the current towns meets the criteria defined by the law. In Moldavia, during the 2003-2005 stage, there were 14 newly created towns.

³ 46% of the Romanian population is rural, according to the latest census data (2011). This ratio is smaller with 1.3% if compared to the previous census (2002), but it is still very high in a European context.

2. MATERIALS AND METHODS

On the following pages, a comparison will be made between the values of 2004 (the year of the declaration of the most towns in North-West development region) with the latest available statistical data (2011 if comes from census, 2014 if it is provided by the National Institute of Statistics). In case of indicators that are reported at 1000 inhabitants, we use the 2002 census data (for values of 2004) and 2011 (for values of 2014). We encountered the problem of missing statistical data by several points of the research, but we faced it by replacing the data from the missing year with the closest available in time (for example, the length of modernized roads was missing in Bragadiru for 2004, thus we considered data for 2005). The entire list of replacements can be found in the Appendix. There is no available statistical data regarding two of the requirements, *streets with external hydrant network against fire* and *landfills with provided access* respectively; this will be left out from the analysis. For other two indicators, *proportion of employees in non-agricultural activities* and *sewage water cleaning*, values are available only for 2004, hence we will be able to analyze just that year.

The 16 + 1 indicators will not be all treated in the order they appear in the law, but grouped in a more logical way (for example, indicator no. 3, the proportion of households with water supply facilities will be analyzed together with indicator no. 11, the proportion of streets with water supply).

3. RESULTS AND DISCUSSIONS

Law no. 351/2001 enumerated 16 indicators and assigned to them precise quantitative thresholds that are to be fulfilled in order for a rural settlement to become a town (table 1). This was the first law since 1945 that conditioned the granting of the town status to concrete quantitative conditions (Benedek, 2006). Later, the list of requirements was supplemented in 2007, by Law no. 100/2007 with a new indicator, the proportion of households with central heating. The number of inhabitants was also increased from 5000 to 10000.

Law no. 351/2001 mentioned also, that there are such towns and municipalities that are not able to fulfill all the indicators required⁴. The fulfillment was a problem also for the new towns. There is not a single criterion that was met by all the 60 new towns in 2004, nor in 2014, but there are improvements for all the indicators (except for the number of beds in hospitals) between the two analyzed years, although to different extents.

⁴ MDLPL, Urbanproiect made a research on the degree of fulfillment of the indicators in all towns and municipalities of the county and demonstrated the shortcomings.

Table 1.**The 16+1 indicators set by the law**

No.	Indicators	Minimal value required by the law	Number of new towns that fulfilled the criterion in 2004	Number of new towns that fulfilled the criterion in 2014
1.	Number of inhabitants	5000 (10000 starting with 2007)	55	15
2.	Proportion of employees in non-agricultural activities (% of total employees)	75	23	No available statistical data
3.	Proportion of households with water supply facilities (% of total households)	70	2	16
4.	Proportion of households with bathroom and toilet facilities (% of total households)	55	5	22
5.	Number of beds in hospitals/1000 inhabitants	7	13	9
6.	Number of doctors/1000 inhabitants	1,8	7	11
7.	Institutions of education	Secondary schools	47	49
8.	Cultural and sport institutions	Public libraries, rooms for sport activities	56 with libraries No available statistical data for sport institutions	55 with libraries No available statistical data for sport institutions
9.	Number of hotel beds	50	5	8
10.	Proportion of modernized roads (% of total length)	50	14	27
11.	Proportion of streets with water supply (% of total length)	60	30	37
12.	Proportion of streets with canalization (% of total length)	50	9	8
13.	Sewage water cleaning	Cleaning station with mechanical technology	22	No available statistical data
14.	Proportion of streets with external hydrant network against fire (% of total length)	60	No available statistical data	No available statistical data

No.	Indicators	Minimal value required by the law	Number of new towns that fulfilled the criterion in 2004	Number of new towns that fulfilled the criterion in 2014
15.	Green areas (parks, public gardens) m ² /inhabitant	10; public garden	17	25
16.	Landfills with provided access	To have	No available statistical data	No available statistical data
16+1	Proportion of households with central heating (%)	35	3	12

Source: Law no. 351/2001, Law no. 100/2007

3.1. The Population Criterion

The *number of inhabitants* required by the law – the so-called population criterion – was one of the easiest to achieve by the settlements which wanted to become a town, and the great majority managed to fulfill it – at least before 2007, when the threshold of 5000 inhabitants was lifted to 10000 inhabitants. The initial limit of 5000 was relatively low if we compare it to the countries of Southern Europe, but it is high in comparison with Northern Europe. In Romania, a large number of rural settlements could satisfy this condition, the real difficulties were lying in fulfilling the social, economic and infrastructural conditions (Benedek, 2006).

Out of the sixty new towns, five were not able to fulfill the initial criterion (Bechet, Căzănești, Dragomirești and Miercurea Sibiului – all of them declared in 2004, the year of mass declarations, and all of them with population less than 4000 inhabitants, according to 2002 census; respectively Baia de Arieș, declared already in 1998, before the law came into force). Most of the new towns, 42 settlements, belonged to the category of 5000-10000 inhabitants, 12 had their population between 10000 and 20000 inhabitants, while only one (Voluntari in Ilfov County) surpassed 30000 inhabitants (Berekmeri, 2009).

After the new threshold was set, not a single settlement was awarded the rank of town (this has ended in 2006). From the sixty towns created after 1989, only 15 met this new requirement in 2011, while 75% of them fail in matching it. Eleven new towns would not comply even with the initial 5000 threshold, due to population decline, while most of the towns – 33 – have a population between 5000 and 10000 inhabitants. Diminishing population is a general problem of the new towns of Romania (as well as the entire urban system of the country; for more on the topic see Mitrică, 2015): 46 new towns out of 60 experienced smaller or larger population losses. Population loss is not reflected however in the average number of inhabitants of all the new towns: this number was 8407 in 2002, but grew to 8639 in 2011.

The lucky exceptions are to be found mostly in the agglomeration area of Bucharest; the number of inhabitants has grown in a spectacular way especially in Bragadiru, Pantelimon, Popești-Leordeni and Voluntari – the latter surpassed 40000 inhabitants, thus is the biggest new town of post-socialist period. The rapid growing of these towns seems to counterbalance the wide population decline – this is the explanation why the average number of inhabitants is higher in 2011 than ten years earlier.

The new limit of number of inhabitants acts also as a slowing force, although not as a “freezing” one, of further proclamations, as 25 large communes have a population above 10000 inhabitants, according to 2011 census (the biggest is Florești in Cluj County with more than 22000 inhabitants, while the majority of them are from Iași, Ilfov and Prahova counties).

3.2. Economy

The only indicator which is related to the economy of the newly declared towns is the **proportion of employees in non-agricultural activities**, with a threshold of minimum 75%. This means that at most 25% of the employees should be working in agriculture, forestry and fishing.

In 2004, 37 new towns out of 60 (62%) did not match this criteria, while seven of them (Flămânzi, Ștefănești in Botoșani County, Dăbuleni, Dragomirești, Săliștea de Sus, Cajvana, Milișăuți) had the ratio of the employed population in agricultural activities extremely high, above 75% – exactly the opposite of the requirements. Another ten towns had their population between 50% and 75% employed in agriculture⁵, meaning that they predominantly had an agricultural profile. The best values – around 97-98% – were measured in certain towns of Ilfov County (Chitila, Pantelimon, Voluntari, Bragadiru), but some other towns had also high values above 90% (Teiuș, Ghimbav, Turceni, Otopeni, Popești-Leordeni, Băbeni, Berbești). In spite of these outstanding achievements, if we calculate the average of all the new towns, the value remains below the minimum criterion (64%).

According to Berekmeri (2009), in 2002 most of the new towns had mixed profile (34), while 18 an agricultural one. 6 were oriented predominantly to services, and only 2 to industry. Unfortunately, because of the lack of exact data, we are not able to analyze how the new towns evolved from this criterion point of view (the 2011 census of population and households did not record it anymore).

⁵ Sărmașu achieved 74.6%, which is 75% if we round it up, so we counted this town to those that fulfill the indicator.

3.3. Infrastructure

Most of the requirements of gaining the town status are connected to the infrastructural condition of the new towns, both public and household-related. Thus, the *proportion of households with water supply facilities* (criterion no. 3), the *proportion of households with bathroom and toilet facilities* (criterion no. 4), and the *proportion of households with central heating* (criterion no. 16+1) are targeting the equipment of the dwellings, while criteria 10-16 are mapping the public utilities, respectively the environmental condition of the settlements.

To much the infrastructural conditions was not easy, but was even harder on household-level, than on settlement-level.

In 2002, only two towns managed to achieve the minimum of 70% of ***households with drinking water supply*** (Ghimbav – 89.63% and Otopeni – 73.75%), and in an additional nine towns had at least the half of the dwellings equipped with this facility. The lowest values were recorded in Liteni (3.3%), Salcea (3.59%), Milișăuți (3.6%), Dolhasca (4.87%) and Cajvana (5.66%), all of them of Suceava County. Despite the bed records, this indicator evolved in the most spectacular way in the analyzed period: according to 2011 census data, already 16 new towns managed to reach the threshold⁶. The best values were around 95-96% and were measured in Ghimbav, Popești-Leordeni and Otopeni, while the lowest values were counted in Liteni (18.3%) and Murgeni (19.7%). The average of all the new towns has increased also in a spectacular way, from 33% in 2002 to 58% in 2011, but still remained below the 70% required by the law.

The next criterion, ***the proportion of households with bathroom and toilet facilities*** (minimum 55%) is a combined one: we do not have official data about the toilets, but we know the proportion of household with bathrooms inside (given by 2002 and 2011 censuses of population and households). From this point of view, the dwellings of the 60 new towns were somewhat better equipped, but the picture was still catastrophic in 2002: only 5 towns managed to fulfill the criterion of 55% of households with bathroom. These were Ghimbav (77.42%), Otopeni (68.77%), Bragadiru (58.59%), Baia de Arieș (56.85%) and Livada (just on the limit if we round up its 54.63%). Berbesti remained just below the limit (55.11%). The bottom of the list was occupied as well by Liteni (2.67%), Salcea (3.03%) and Dolhasca (3.38%). Until 2011, significant changes occurred: the biggest shares of households with bathroom exceeded 90% (Otopeni, Bragadiru, Popești-Leordeni, Ghimbav), and also the lowest values became two-digit numbers: 18.40% in Dolhasca, 18.50% in Murgeni. This time, 22 young towns fulfilled the criterion, and the average also rose from 27.99% to 49.50%. The improvement is not bad, but still insufficient to match the limit.

⁶ Amara reached the threshold just on the limit with 69.8% which is 70% if we round it up.

The last criterion related to dwellings is the ***proportion of households with central heating (%)***. Being added to the system of criteria in 2007, was not a duty of the settlements wishing to become a town to fulfill it. Nonetheless, we examined how the new towns look like also from this point of view. Data collected with the occasion of the 2002 population and household census show devastating results: the number is 0 in more than the half of the new towns (exactly 31 of them), meaning that not even a single household was equipped with central heating. Three out of sixty had values above the minimum of 35%, these were Otopeni (44.32%), Turceni (42.08%) and Bucecea (35.24%). There were six towns with records between 8% and 27%, while the remaining 20 had values between 0.2% and 3.9%.

In 2011, already 12 towns managed to match this criterion, the best records being around 80%, in the town of Otopeni (88.7%), Popești-Leordeni (80%) and Bragadiru (78.2%). The lowest value was 0.8% and was measured in Murgeni, so there is an extremely high disparity among the new towns regarding this issue. Calculating the average, we can notice an improvement from 3.98% in 2002 to 22.03% in 2011, but this latest value – like all the previous ones – is below the actual minimum rate.

The law does not include other installations, such as the proportion of households connected to the public sewage system or with electricity.

The public sewage system is present, however in the settlement-level requirements. Most of the infrastructural requirements are defined in a relation of the length of streets, such as the proportion of modernized roads (% of total length), the proportion of streets with water supply (% of total length), the proportion of streets with sewerage system (% of total length) and the proportion of streets with external hydrant network against fire (% of total length).

The law stated that at least 50% of the roads of a settlement willing to become a town has to be modernized. The criterion of ***the proportion of modernized roads (% of total length)*** was fulfilled in 2004 by 14 settlements, out of which two presented 100% – Broșteni and Salcea, however, their total length of roads was only 4, respectively 6 km. Good values – above 65% – were also calculated for Măgurele, Bălcești, Turceni, Ștefănești (AG) and Dragomirești. The smallest ratio of modernized roads was recorded in Sălișteea de Sus (4.88%) and Bechet (5.63%). Until 2014, the number of settlements matching this criterion has risen to 27, with the best values of 96.08% in Chitila, 93.33% in Făget, respectively 91.30% in Ardud. The lowest values were below 20%: 13.64% in Sărmașu, 14.29% in Dăbuleni and 17.39% in Sălișteea de Sus. Most of the towns showed better values in 2014 than in 2004, but it must be mentioned that not only the absolute length of modernized roads, but also that of total length of roads experienced changes in many cases in the analyzed period, due

to particular reasons for each settlement (for example from 69 km to 170 km in Măgurele). The general improvement is indisputable, as the 2004 average of 29% of the proportion of modernized roads turned into 45% in 2014.

The further conditions – the proportion of streets with water supply (% of total length), the proportion of streets with sewerage system (% of total length) and the proportion of streets with external hydrant network against fire (% of total length) – make somewhat a nonsense, as the utilities do not follow the path of the streets, and were already requested before (at least the drinking water). Data availability is also a problem. Because there is no evidence on the indicators below, we calculated the share of the total length of the utilities in the total length of streets, thus our results are not exact, but approximate.

In 2004, exactly 30 new towns fulfilled the criterion of at least 60% of **proportion of streets with water supply**, but 17 of them had exaggerated values above 100% (the far more hyperbolic was in the case of Șomcuta Mare with 612.50%, which is the result of 8 km of streets, but 49 km of drinking water system). There were also three towns with 0 km of total length of drinking water system (thus 0 km proportion of streets with water supply): Miercurea Sibiului, Cajvana and Milișăuți, but low values around 3% were also found in Bechet, Bragadiru and Miercurea Nirajului.

In 2014, there were already 37 new towns which faced successfully this challenge, while two others were just below the limit (Săcueni – 59.28%, Băbeni – 59.48%). The same exaggerated results above 100% were present in 20 settlements (this time with Tismana on top – 682.86%). Sadly, Miercurea Sibiului, Cajvana and Milișăuți did not managed in the past ten years to build up a drinking water system, so their results were 0% again. The average of the 60 young towns went up from 44.98% in 2004 to 70.32% in 2014 – this latest value being the first average value which passes the test of our analysis (that is, it is above the minimum required by the law).

The next issue, **the proportion of streets with sewerage system** theoretically goes hand in hand with the previous one, but we found less exaggerated numbers. In 2004, 9 settlements have passed the threshold of 50%: the best were Broșteni with 112.59% (only 4 km of streets and 4.5 km of sewer pipes) and Voluntari with 109.24% (this time with 119 km of streets and 130 km of sewer pipes). Many towns had their values above even 60%, such as Ghimbav, Geoagiu, Amara, Ungheni and Făget. Unfortunately, 10 towns did not have any sewerage system (out of which five were from Suceava County). A general setback occurred in the coming years: in 2014, only 8 towns managed to achieve the limit. Ghimbav, Tismana, Amara and Broșteni gave their way to Chitila, Ardud and Săliște. With few exceptions, the length of sewer pipes has grown in the towns, but the total length of their streets has grown even harder.

This time, Ungheni (297.50%) and Geoagiu (153.68%) were on the top, while seven towns had 0 km of sewer pipes (Sălișteea de Sus, Liteni and Salcea had constructed their sewer system in the meantime). The average of the 60 towns has increased from 19% in 2004 to 26% in 2014, but it is still incredibly low.

The next criterion is also related to the sewage water. The law requested a ***sewage water cleaning station with mechanical technology*** from each of the candidates to the town status. Unfortunately, none of the statistical databases provides us with information whether a settlement has such a cleaning station or not. The National Institute of Statistics collected data about the flow of the stations in operation for wastewater between 1993 and 2004, so we considered that those settlements being in the database have such a cleaning station, while the rest do not. Even so, we can determine how many towns fulfilled the requirement only in 2004: 22 out of the 60 new towns.

Such a lack of data hinders the analysis regarding further indicators, the ***proportion of streets with external hydrant network against fire (% of total length)***, and ***landfills with provided access***.

3.4. Health Care

The criteria related to health care was – and still is – the weakest point of the new towns. This is not surprising in a context in which the Romanian health system is among the worst, according to different European level rankings by various indicators (Vlădescu and Astărăstoae, 2012; Vlădescu et al., 2010).

In terms of ***number of hospital beds/1000 inhabitants***, only 13 managed to reach the minimum of 7 (out of which Roznov just on the limit with 6.9 beds/1000 inhabitants, which is 7 beds/1000 inhabitants if we round it up). The best values were presented by Gătaia (62.4), Geoagiu (50.3) and Bragadiru (32.7). Nine towns had values between 7 and 20 beds/inhabitants, while 13 towns had this indicator very low, between 1.3 and 5.3 hospital beds/1000 inhabitants. The biggest problem was however, that the majority of the new towns – 33 – did not possess any hospital in 2004.

The situation seemed worse in 2014. The National Strategy of Hospital Rationalization envisaged the reducing the number of public hospitals by 15% starting from 1st April 2011 (Decree no. 303/2011), through the dissolution of those hospitals that had proven unprofitable from an economic point of view and which were not able to close contracts with the National Health Insurance Agency (Bilașco et al. 2015). Due to this health care reform, 67 hospitals were closed nationwide, out of which 8 were located in one of the newly declared towns (Baia de Arieș, Sântana, Pătârlagele, Băneasa, Sărmașu, Roznov, Ciacova,

Bălcești)⁷. So, in 2014, only 9 towns managed to fulfill the 7 hospital beds/1000 inhabitants, 12 had values between 1.03 and 6.07, while 39 did not have any hospital. This year, the best values were reached by Gătaia (81.67) and Geoagiu (65.36). The better values in 2014 compared to 2004 (the case of Gătaia, Geoagiu, Turceni, Murgeni) are the result of population loss and not that of a capacity increase in the hospitals. There are also some shrunked values due to the capacity diminution (Ștefănești in Argeș, Sângeorgiu de Pădure, Făget). New hospitals were established in Otopeni, Voluntari, Răcari and Fierbinți-Târg, but because of the close-downs, the average of the 60 new towns for the hospital beds/1000 inhabitants experienced a little decrease from 5.26 to 5.25, remaining below the threshold set by the law.

The number of doctors is highly related to the number of hospital beds. In 2004, 7 new towns fulfilled this criterion. The best values were showed by Sângeorgiu de Pădure (3.64 physicians/1000 inhabitants) and Otopeni (3.62 physicians/1000 inhabitant), while 5 towns had values between 2.08 and 2.91. Out of the rest of 53 towns, 42 had less than 1 doctor/1000 inhabitants. The worst values (around 0.3) were recorded by Flămânzi, Liteni, Milișăuți and Berbești.

In 2014, 11 new towns fulfilled the minimum, out of which three – Bechet, Sângeorgiu de Pădure and Ciacova – just on the limit with 1.78-1.79 (which is 1.8 if we round it up). The top positions were occupied by Otopeni (5.68), Gătaia (5.14) and Turceni (4.13), while on the bottom is Bucecea (0.24). The list of eligible towns in 2004 has changed considerably during the next ten years: Băneasa, Șomcuta Mare, Sângeorgiu de Pădure and Bălcești were cut off, but Dăbuleni, Geoagiu, Bragadiru and Voluntari entered the list. There is an indisputable improvement regarding this indicator in the analyzed period: the best value has grown from 3.64 doctors/1000 inhabitants in 2004 to 5.68 doctors/1000 inhabitants in 2014, and the average of the sixty towns also has risen from 0.96 to 1.12 (although remains below the limit set by the law). But it must be mentioned that the changes in the absolute number of doctors are not so spectacular (except for some cases like Bragadiru from 6 to 31 physicians, Otopeni from 37 to 72 physicians, Voluntari from 14 to 83 physicians); mostly they decreased, remained constant or increased a little, but in relative terms the indicator appears enhanced because of the population loss.

⁷ The hospital in Șomcuta Mare was also closed, but reopened later. Some of the closed hospitals were reopened by the court, others were transformed in elderly homes or into family physician's consulting rooms (a detailed analysis was made by Mediafax in 2012, <http://www.mediafax.ro/social/un-an-de-la-inchiderea-spitalelor-majoritatea-sunt-centre-de-permanenta-cateva-transformate-in-camine-de-batrani-9470497>)

3.5. Education

Criterion no. 7 refers to education, and imposes the new towns to have **secondary schools**. In 2004, this indicator was fulfilled by most of the towns on the third place (after the population criterion and the public libraries), in a number of 47. Secondary schools were missing for example in some towns of Suceava County (Frasin, Milișăuți, Salcea) and Ilfov County (Bragadiru, Chitila, Pantelimon, Popești-Leordeni). The majority of the towns had one such school, while Săcueni, Dăbuleni, Ulmeni and Vicovu de Sus had two of them.

In 2014, the number of secondary schools has grown to a little extent: already 49 towns passed the test (Popești-Leordeni and Tăuții-Măgherăuș joined the list). Ștefănești in Argeș, Pătârlagele, Voluntari and Livada had two such schools instead of one. The only setback was registered in Dăbuleni, where only one school operates instead of two since 2010.

3.6. Leisure and Recreation

We include in this category indicator no. 8 and no. 15.

Regarding the **cultural and sport institutions** (criterion no. 8) the law requested public libraries and halls for sport activities (it is not evident however if both of them, or just one of them). There is no available data on sport institutions (very likely most of the towns did not have such halls, at least in 2004), but we know if a settlement has a public library or not. In 2004, every young town had exactly 1 public library, except four settlements – Chitila, Măgurele, Popești-Leordeni and Voluntari – which have none. Nothing changed in the next ten years, except that Pantelimon has closed its public library. It is interesting that the new towns of Ilfov County have very good result in almost all of the indicators (and their indicators improved constantly since 2004), but do not excel from a cultural point of view. We consider that they do not have libraries because they do not need them: located next to Bucharest, they can find everything culture-related there, not only libraries.

The next criterion – **green areas** – is not so likely to be fulfilled compared to the previous one. This indicator, related to the protection of the environment quality gave an ecological dimension to the accession to the town status (Benedek, 2006). This minimum value of 10 m²/inhabitant was reached by 17 new towns out of 60 in 2004. Outstanding values were measured in Amara (86.53 m²/inhabitant, 66 ha of green areas) and Miercurea Sibiului (54.15%, 22 ha). One town, Bragadiru had a value above 30 m²/inhabitant, another 5 above 20 m²/inhabitant. There were, however four towns without any green areas: Cajvana, Dolhasca, Milișăuți and Salcea.

In 2014, already 25 towns did match this criterion. The top towns managed to keep their places – Amara with 93.22 m²/inhabitant, Miercurea Sibiului with 58.02 m²/inhabitant –, however, the size of their green areas remained the same: the better values are a consequence of population loss. The lowest values were measured in Ulmeni (1.41 m²/inhabitant) and Turceni (1.43 m²/inhabitant). But there is nothing to worry about: in absolute terms, the extent of green areas had grown from 384 ha to 626 ha in the analyzed period. It must be mentioned, that the youngest towns of Romania are probably also the greenest, but not because their vast landscaped parks, but because of their rurality.

3.7. Tourism

The *number of hotel beds* is related to tourism, and is the only requirement that does not serve the well-being of the inhabitants, but the economic development. Tourism is seen as a general remedy for the areas lagging behind (and even so for rural areas), not in the regional policies, but also in a considerable amount of scientific literature. And at this point we come back to our assumption that these settlements were not awarded the rank of town because they deserved it, but in a hope that it facilitates development.

Before anything, we must state that in general, there are accommodation units in the new towns, but these are typical for rural areas – guest houses, agrotourism pensions, even motels and school camps – but the existence of hotels is very rare. In 2004, only 7 towns had at least one hotel, out of which only 5 had a number of beds in them above 50. These were Amara (1763), Otopeni (510), Geoagiu (505), Măgurele (128) and Miercurea Sibiului (101).

In 2014, 8 towns managed to pass the threshold: Ștefănești Argeș, Voluntari and Ungheni entered the list, while all the towns already on it increased their number of beds (Amara is still the first with 1894 beds). Other four towns had at least one hotel, with a total of beds below 50: Tismana, Făget, Recaș and Băbeni.

It is interesting that, if we calculate the average of hotel beds, this indicator is the only one from the entirely list of eligibility that meets the minimum value: it was 51.45 in 2004, and it has grown to 78.03 in 2014.

If we count how many indicators were fulfilled by each of the towns in 2004 (Table 2) and in 2014 (Table 3), we can outline certain groups of settlements. For 2004, we took into account the requirements of that year (number of inhabitants: 5000, no criterion on central heating), a total of 14 indicators (because of the missing data on streets with external hydrant network

against fire, respectively landfills with provided access). For 2014, we calculated the modified requirements (10000 inhabitants, central heating) minus the four indicators that were missing this time (proportion of employees in non-agricultural activities, sewage water cleaning, streets with external hydrant network against fire, landfills with provided access), gaining thus 13 indicators.

The number of fulfilled indicators ranged from 2 to 10 both in 2004 and 2014, but while there was only one town with 10 fulfilled indicators in 2004 (Otopeni), ten years later there were four such settlements (Otopeni, Geoagiu, Voluntari, Făget). Most of the towns achieved four criteria in the analyzed years; 13 towns in 2004, 14 in 2014.

Comparing the tables below, one can state if a town has improved its situation or not. For example, Voluntari evolved in the most spectacular way from 4 to 10 indicators, while Tismana experienced a fall from 8 indicators to 5.

Table 2.**Fullfilled indicators in 2004**

Amount of fulfilled indicators in 2004	List of towns that fulfilled them	Number of towns that fulfilled them
2	Chitila, Dragomirești, Săliște de Sus, Milișăuți	4
3	Săcueni, Bucecea, Flămânzi, Ștefănești (BT), Fierbinți-Târg, Pantelimon, Tăuții-Măgheraș, Cajvana, Frasin, Vicovu de Sus	10
4	Răcari, Bechet, Dăbuleni, Căzănești, Podu Iloaiei, Popești-Leordeni, Voluntari, Ulmeni, Miercurea Nirajului, Potcoava, Miercurea Sibiului, Liteni, Salcea	13
5	Teiuș, Șomcuta Mare, Sărmașu, Ungheni, Dolhasca, Ciacova, Recaș, Berbești	8
6	Baia de Arieș, Pecica, Sântana, Pătârlagele, Bragadiru, Ardud, Livada, Gătaia, Murgeni, Băbeni	10
7	Ștefănești (AG), Băneasa, Turceni, Amara, Măgurele, Sângeorgiu de Pădure, Săliște, Roznov	8
8	Ghimbav, Tismana, Broșteni, Bălcești	4
9	Geoagiu, Făget	2
10	Otopeni	1

Table 3.

Fulfilled indicators in 2014

Amount of fulfilled indicators in 2014	List of towns that fulfilled them	Number of towns that fulfilled them
2	Dragomirești, Săliște de Sus, Potcoava, Frasin, Milișăuți, Salcea	6
3	Flămânzi, Ștefănești (BT), Pătărlagele, Răcari, Fierbinți-Târg, Livada, Cajvana, Liteni, Vicovu de Sus, Băbeni	10
4	Săcueni, Băneasa, Căzănești, Podu Iloaiei, Pantelimon, Șomcuta Mare, Ulmeni, Miercurea Nirajului, Sărmașu, Roznov, Broșteni, Recaș, Murgeni, Bechet	14
5	Baia de Arieș, Bucecea, Dăbuleni, Tismana, Sângeorgiu de Pădure, Miercurea Sibiului, Săliște, Dolhasca, Gătaia, Bălcești, Ciacova	11
6	Teiuș, Pecica, Turceni, Ardud, Berbești, Amara	6
7	Sântana, Ghimbav, Bragadiru, Chitila, Măgurele, Tăuții-Măgherăuș, Ungheni	7
8	-	0
9	Ștefănești (AG), Popești-Leordeni	2
10	Geoagiu, Otopeni, Voluntari, Făget	4

4. CONCLUSIONS

The promotion of the 60 new towns was a political action, motivated also by the accession negotiations with the European Union. But the system which created, maintained and controlled this kind of urbanization, could not do anything with the product of the process: neither the central authorities nor the local power has a long-term vision to make use of the new status (Berekmeri, 2006, p. 96). Multiplying the number of towns tends to become only a declarative action in the context of the inability to transform the towns into real local polarization cores (Săgeată, 2011). This is reflected in the eligibility of the new towns for their new rank: none of the 17 criteria was fulfilled by all of the 60 settlements, neither in 2004 nor in 2014. It was the hardest to achieve the minimum in case of indicators related to household-level facilities (proportion of households with water supply facilities and proportion of households with bathroom and toilet facilities) in 2004, while in 2014 the biggest shortcomings are to be found in the health system. However, in 2004 it was the easiest to

fulfill the population criterion, as well as the requirements of libraries and secondary education. Libraries and secondary education were the easiest ones also in 2014.

Indisputable improvements occurred however in all the indicators – except two of them – which is reflected both in the number of towns that fulfill the criteria, and in the average value of the sixty young towns. One exception is the number of inhabitants – the setback is the result of the increased limit and of population loss. Another exception is the number of beds in hospitals, which has its explanation in the hospital rationalization strategy of the country by dissolution of the unprofitable hospitals. The biggest improvements were showed in indicators regarding the equipment of households, the proportion of households with water supply facilities and proportion of households with bathroom and toilet facilities.

As a general conclusion: there are some winners that experienced a real change from rurality to urbanity (for example, the rapidly growing towns around Bucharest), and some losers which would like to return to their previous status of commune (these intentions are also proved by the referendums initiated for this purpose).

Certain researchers suggest that it would be useful to establish an intermediate category of settlements between urban and rural areas, to serve as “nurseries” for new urban settlements that will get this status only after really achieving the criteria set by the law (Săgeată, 2011). But in our opinion, it would be a pity to decrease the status of these settlements (also because the urbanization rate of the country is low, and because of the sense of failure of these new towns), instead of creating real opportunities for them to become real urban settlements. In order to do this, however, much money is needed - enough to be a real support, and something especially reserved for the small towns, so that they do not have to compete with their much bigger rivals.

REFERENCES

1. Benedek, J. (2006), Urban Policy and Urbanization in the Transition Romania, *Romanian Review of Regional Studies*, Volume II, Number 1.
2. Bengs, Ch., Schmidt-Thomé, K. (ed.) (2005), *Urban-rural Relations in Europe*, ESPON 1.1.2 Final Report.
3. Berekméri, M. (2006), Új városok Maros megyében (New Towns in Maros County), *Erdélyi Társadalom*, vol. IV, no. 2, p. 83-98.
4. Berekméri, M. (2009), *Urbanizarea post-socialistă în România. Teză de doctorat*, Cluj-Napoca.

5. Bilaşco, St., Filip, S., Cocean, P., Petrea, D., Vescan, I., Fodorean, I. (2015), The Evaluation of Accessibility to Hospital Infrastructure at Regional Scale by Using Gis Space Analysis Models: The North-West Region, Romania, *Studia UBB Geographia*, vol. LX, no. 1, p. 27-50.
6. Boţan, C. N. (2011), Public Health in Maramureş County - Current Status, Problems And Strategies, *Studia UBB Geographia*, LVI, no. 1, p. 216-230.
7. Caffyn, A., Dahlström, M. (2005), Urban–rural interdependencies: Joining up policy in practice, *Regional Studies*, 39:3, p. 283-296.
8. Cămară, G. (2011), Demographic Evolution of the Small Towns in The North-East Development Region in the Post-Communist Period, *Romanian Review of Regional Studies*, Vol. VII, Nr. 2, p. 105-110.
9. Covăsnianu, A., Covăsnianu, L. (2014), An Urban Perspective upon Moldavian Settlements. From Political Desideratum to Territorial Reality, *Romanian Review of Regional Studies*, Vol. 10, Nr. 2.
10. Dragomirescu, S., Săgeată R. (2008), Statutul de municipiu – o necesitate obiectiva, o moda a perioadei de tranzitie sau o incercare de reabilitare a unor asezari urbane fara perspective de dezvoltare? (The Status of Municipium – an Objective Necessity, or a Fashion of the Transition Period in an Attempt to Rehabilitate Towns with no Development Prospects?), *Historia Urbana*, XVI, no. 1-2, p. 251-260.
11. Drgona, V., Turnock, D. (2000), Policies for rural Eastern Europe in transition: the case of Slovakia, *GeoJournal*, 50, p. 235-247.
12. Glaeser, Ed. (2012), *The Triumph of The City. How Urban Spaces Make Us Human*. Pan Books, London (first published in the United Kingdom in 2011 by Macmillan).
13. Ianos, I., Talanga, Cr. (1994), *Orasul si sistemul urban romanesc in conditiile economiei de piata*. Academia Romana – Institutul de Geografie, Bucuresti.
14. Kourtit, K., Nijkamp, P. (2015), Cities of the Future: Research Challenges in The 'Urban Century'. *Romanian Journal of Regional Science*, vol. 9, no. 1, p. 1-16.
15. Kovács, Z.(2009), Az urbanizáció keresztútja Kelet-Közép-Európában, *Változó Föld, változó társadalom, változó ismeretszerzés*. 460, p. 44-51.
16. Kurkó, I. (2009), Regional Disparities In The Transition Period, *Romanian Review Of Regional Studies*, Vol. V, No. 2, p. 23-30.
17. Lewis, D. B. (2014), Urbanization and Economic Growth in Indonesia: Good News, Bad News and (Possible) Local Government Mitigation, *Regional Studies*, vol. 48, no. 1, p. 192-207.
18. Mackinnon, D., Cumbers, A. (2007), *An Introduction to Economic Geography: Globalization, Uneven Development and Place*, Pearson Education Limited, Harlow, England.
19. Mitrica, B. (2014), Changes in the dynamics and demographic structures of the Romanian urban population. An overview of the post-communist period, *Revue Roumaine de Géographie*, vol. 58, 2, p. 201.
20. Mykhnenko, V., Turok I. (2008), East European cities – patterns of growth and decline, 1960–2005, *International Planning Studies*, vol. 13, no. 4, p. 311–342.

21. Mojolic, D. (2013), Opportunities of Local Development Using Natural and Anthropogenic Resources in Tourism Activities. Case Study: Ulmeni, Maramureș, *Analele Universității din Oradea – Seria Geografie*, XXIII, no. 1, p. 123-133.
22. Postelnicu, C. (2011), *Investitiile straine directe in Romania - oportunitati si riscuri locale si regionale*. In: Balog, Iosif Marin; Graf, Rudolf; Lumperdean, Ioan (coord.): *Economia regionala: ipostaze rurale si urbane*. Presa Universitara Clujeana, Cluj-Napoca.
23. Rechnitzer, J. (2004), A városhálózat és a régiók formálódása, *Magyar Tudomány*, 9. szám, 978-990.
24. Săgeată, R. (2011), Evolutia structurilor administrativ-teritoriale din mediul rural in Romania in ultimele doua decenii (1990-2010), *Economie Agrară și Dezvoltare Rurală*, serie nouă, VIII, nr. 1, p. 79–88.
25. Săgeată, R. (2002), „Ruralul” în mediul urban, *Revista Geografică*, Institutul de Geografie, Academia Română, VIII, p. 157-165.
26. Săgeată, R. (2010), The Role of Political Factors in the Urbanisation and Regional Development of Romania, *Journal of Urban and Regional Analysis*, vol. II, 1, p. 81-88.
27. Sandu, D. (1999), Community and Regional Poverty in Rural Romania, *Romanian Journal of Sociology*, X, 1-2, p. 127-147.
28. Shucksmith, M., Cameron, S., Merridew, T., Pichler, F. (2009), Urban-Rural Differences in Quality of Life across the European Union, *Regional Studies*, vol. 43, 10, p. 1275-1289.
29. Sofer, M., Bordanc, F. (1998), Opportunities, constrains and pluractivity in rural Romania during the transition period; preliminary observations, *GeoJournal*, 44, 4, p. 283-296.
30. Turok, I., Mykhnenko, V. (2007), The trajectories of European cities, 1960-2005, *Cities: The Internatinal Journal of Urban Policy and Planning*, vol. 24, no. 3, p. 165-182.
31. Veress, N. Cs. (2013), Gazdasági diszparitások Észak-Nyugat Erdélyben, *Collegium Geographicum*, no. 10, p. 51-58.
32. Vlădescu, Cr., Astărăstoae, V. (2012), Policy and politics of the Romanian health care reform, *Revista Română de Bioetică*, vol. 10, no.1, p. 89-99.
33. Vlădescu, Cr, Astărăstoae, V., Scîntee, S. G. (2010), A health system focused on citizen's needs. Romania. Situation analysis (I), *Revista Romana de Bioetica*, vol 8, no. 2, p. 87-96.
34. *** United Nations – Population Division, Population Facts no. 2014/3
35. *** Organization for Economic Co-Operation and Development (OECD) (2006), *The New Rural Paradigm: Policies and Governance*. Organization for Economic Co-Operation and Development, Paris. Available online (latest access on 16.10.2015): http://www.keepeek.com/Digital-Asset-Management/oecd/governance/the-new-rural-paradigm_9789264023918-en#page1
36. *** Ministry of Foreign Affairs, <http://www.mae.ro/node/18539>
37. *** Romanian Government, National Strategy for the Rationalization of the Hospitals (Decree no. 303/2011 for approving the National Strategy for the Rationalization of Hospitals). Available online: <http://www.ms.ro/?pag=207>

38. *** Analysis on the closed hospitals made by Mediafax in 2012, available online (latest access on 25.11. 2015): <http://www.mediafax.ro/social/un-an-de-la-inchiderea-spitalelor-majoritatea-sunt-centre-de-permanenta-cateva-transformate-in-camine-de-batrani-9470497>)
39. *** Law no. 351/2001 (Lege nr. 351 din 6 iulie 2001 privind aprobarea Planului de amenajare a teritoriului national - Sectiunea a IV-a - Reteaua de localitati).
40. *** Law no. 100/2007 (Lege nr. 100 din 19/04/2007 pentru modificarea si completarea Legii nr. 351/2001 privind aprobarea Planului de amenajare a teritoriului national - Sectiunea a IV-a - Reteaua de localitati).
41. ***MDLPL, Urbanproiect.
42. *** 2002 Population and Households Census.
43. *** 2011 Population and Households Census.
44. *** National Institute of Statistics, Tempo Online database.

Appendix

Missing data:

Indicator	Town	Year missing	Closest available
Green areas	Podu Iloaiei, Tăuții-Măgherăuș, Ungheni, Ardud	2004	2006
	Bragadiru, Chitila, Măgurele, Pantelimon, Liteni, Săliște de Sus	2004	2005
Total length of sewer pipes	Săcueni	2004	2006
	Săliște de Sus	2004	1999
	Răcari	2014	2004
	Tăuții-Măgherăuș	2004, 2014	1999
Total length of roads	Podu Iloaiei	2004	2006
	Bragadiru, Chitila, Măgurele, Pantelimon	2004	2005
Modernized roads	Podu Iloaiei	2004	2006
	Bragadiru, Chitila, Măgurele, Pantelimon	2004	2005
Public libraries	Pantelimon	2004	2005
	Teiuș	2014	2013
	Sângeorgiu de Pădure, Miercurea Sibiului	2014	2012
Total length of water supply	Fierbinți-Târg	2004	2006
	Salcea	2004	2005
Number of beds in hospitals	Săcueni, Flămânzi, Stefansti (Botosani), Răcari, Fierbinți-Târg	2004, 2014	2002
	Geoagiu	2004, 2014	1991
	Podu Iloaiei	2004, 2014	2003
	Șomcuta Mare	2014	2010
	Miercurea Nirajului	2004	2013
	Broșteni, Vicovu de Sus	2004, 2014	2006
Secondary schools	Ștefănești Argeș	2004	2005

DETERMINANTS OF CULTIVATED LAND ABANDONMENT IN THE HILLS OF WESTERN NEPAL

CHHABI LAL CHIDI¹

ABSTRACT. – **Determinants of Cultivated Land Abandonment in the Hills of Western Nepal.** This paper deals with the change in agricultural land use pattern in the Andhi khola watershed of Syangja district, Western hills of Nepal, where the population has decreased for the last two decades, which is being the main cause of the agricultural land abandonment, resulting into increase in the fallow lands and vegetation wilderness. This phenomenon has also occurred elsewhere in other parts of the hill region of Nepal, resulting in labor deficit in the agriculture activities. Landsat images of 1999 and 2014 have been used for land use change. Topographic map has been used as the map source. DEM was generated from the contours of the topographic map to derive altitude, slope gradient and slope aspect. The Geographically Weighted Regression Model has been used for prediction of abandonment of cultivated land by location across the study region as well as to identify local variability of the strength of the explanatory variables. Changes in population and altitudinal variation are found as significant factors of agricultural land abandonment. Besides, slope gradient and slope aspect are also found as determining factors. Combined effects of accessibility, landform, land suitability, and irrigation facility on change in agricultural land use pattern are the result of greater strength of the altitudinal variation effect. The lowland areas together with easy access to market and better irrigation facilities are found suitable for the cultivation of a variety of crops. Therefore, these areas have less land abandonment as compared to the highland areas, which were used by local residents for cultivation, though marginal. It is concluded that most of the previously cultivated marginal land in the hills has released population pressure, resulting into land abandonment, which is further accelerated by institutional weaknesses.

Keywords: *depopulation, explanatory variables, Geographically Weighted Regression, land abandonment, local coefficient, outmigration.*

1. INTRODUCTION

Re-growth of natural vegetation is the result of a decline in traditional agricultural practices that can be observed worldwide (Gellrich et al. 2007) with its both positive and negative consequences. In the past, expansion of agricultural

¹ Central Department of Geography, Tribhuvan University, Kirtipur, Kathmandu, chidichhabil@gmail.com

land even in steep mountain slope was considered one of the main causes of growing environmental degradation and poverty in the Nepal Himalaya because of rapid population growth (Ekholm 1975) but in the last two decades heavy outmigration of population from rural hill and mountain areas has resulted in growing land abandonment. It is not only because of the depopulation that the agriculture system of these areas has reduced the scope for enhancement of productivity of traditional agriculture but also due to fragile mountain environment, poor economies of scale owing to the highly fragmented and diversified biophysical condition, and resistance to adopting modern, market oriented farming practice by mountain people (Walther 1986, Vogel 1988, MacDonald et al. 2000). In Nepal, outmigration of farmers from the mountains and hills to urban centres, plain areas and foreign countries has been increased greatly over the last two decades, which are assumed to create heavy labour shortage in the agriculture. As a result, cultivated land has shrunk. Invasion of cultivated land by natural vegetation has also grown (Chidi 2015). On the other hand, this situation has also a huge adverse impact on food security and livelihood in those areas (Khanal and Watanabe 2006). The Geographically Weighted Regression (GWR) has been used to estimate a separate local coefficient based on locally available data sets at each geographic location. This technique produces a separate set of spatial regression parameters at each localized level (Leung et al., 2000; Wheeler and Tiefelsdorf, 2005; Farbar and Paez, 2007). A key feature in most parametric approaches is valid in the cases where the researcher knows the process underlying the data or when the researcher is willing to make some assumptions in order to test hypothesis (Wrenn and Sam 2014). Often, however, the researchers do not know the underlying process but they must find a way to uncover it. Thus a researcher needs a model that can flexibly capture the intricacies of the determinant processes and the potential for non-stationary equilibria over space and time. In Nepal studies on the agricultural land abandonment are extremely limited. Therefore, this study intends to describe the agricultural land abandonment situation and its associated determining factors using GWR model at local level.

2. METHODS AND MATERIALS

2.1 The Study Area

The study is confined to the Andhi Khola watershed area in Syangja district of Nepal's Western Hill. The study area lies in 27°56'20" to 28°13'46" N and 83°35'07" to 83°57'00" E. This watershed area covers 480.9 square kilometers, the elevation of which ranges from 520 m to 2468 m over 35 kilometer horizontal distance. The upper parts of the study area are steep hill slopes with streams and streamlets between the hill flank and mostly deposited flat fertile land along

the mainstream and tributaries in the lower areas. The area lies in the Monsoon climate regime. It gets 3200 mm of average annual rainfall, of which about 80 per cent is contributed by the summer monsoon and the rest by the winter Mediterranean cyclones. Temperature ranges from 5°C to 32°C. There are cold, dry winter and wet hot summer months. The intensive subsistence farming of the area is similar to that of other hill areas of Nepal. Besides, some of the local people also take on commercial farming and trade business particularly in low-lying areas and around local towns, which are accessible by road links. However during the recent decades, foreign remittance has been an important income source. During the last decade of 2001-2011, the population growth rate in the district has shown -0.93, as compared to the national rate of 1.35. It indicates a high rate of population outmigration, particularly the males moving to urban areas, the Tarai and foreign countries.

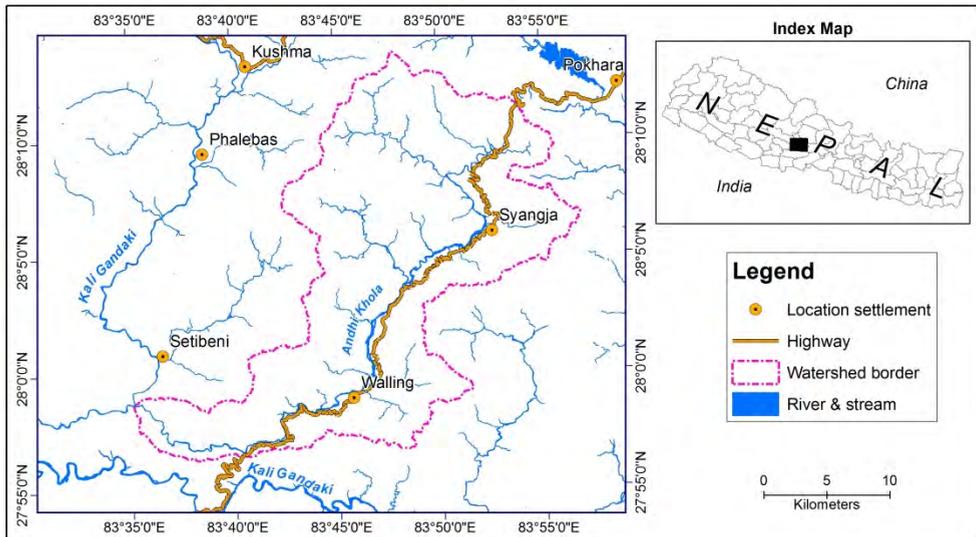


Figure 1. The study area: the Andhi Khola Watershed

2.2 The Data Generation

Population change at ward level, the smallest census unit area, has been calculated between the last two censuses of 2001 and 2011. Land use layers at 30-meter spatial resolution were derived from Landsat7 and Landsat8 images for 1999 and 2014 respectively. The supervised classification method using maximum likelihood and probability method in ERDAS Imagine 9.1 has been used for image classification. Land use has been categorized into forest, shrubs,

grassland, cultivated land, sandy area and water body. Forest, shrubs and grassland are combined into vegetated area. Overall accuracy of image classification was found at 85% in 1999 and 95% in 2014. Ten meters Digital Elevation Model (DEM) was developed by nearest neighbour method on the basis of 20-meter contour interval on topographic map in ArcGIS10.1. Altitude, slope gradient and slope aspect layers were developed on the basis of DEM. All image classifications were converted into vector file in ArcGIS 10.1. Land use change has been derived for different levels such as watershed area as a whole, wards, different elevation zones, and different slope gradient zones and slope aspects by intersecting different vector layers.

Change in population, cultivated land, vegetative areas (forest, shrubs and grassland) were calculated. These data were derived to different slope gradients, slope aspects, altitudes and different wards polygons. The mean centres of each ward polygon were calculated. Distance to highway from the mean centre of each ward was derived. Field level information was gathered visiting the study area. Informal discussions with local people and concerned district level line agencies were performed.

2.3 Data Analysis

Firstly, watershed level land use change at different slope gradient, slope aspect and altitude has been analysed. Secondly, ward level observation unit has been used for statistical analysis. There were 314 observation (wards) units. Percentage change of cultivated land and population, distance from highway, average altitudes, average slope aspect and average slope gradient variables were developed. Ordinary Least Square (OLS) and Geographically Weighted Regression (GWR) models have been compared to identify the suitability of model for better estimation. GWR model has given far better result for prediction of abandonment of cultivated land. Therefore GWR model has been used for analysis and prediction.

GWR is a local regression technique that assumes non-stationary relationships between response variable and explanatory variable. GWR generates a single equation for each spatial unit and consequently allows regression coefficients to vary across the study area. The model calibrates each spatial unit using the target one and its neighbors. The calibration follows Tobler's first law of geography where higher weights are assigned to the nearby locations according to their spatial proximity to the target location i . The weights indicate the fact that close locations have more influence on the calibration than locations further away (Fotheringham et al. 1998, Brunson, et al. 2008). The GWR model is defined as follows:

$$Y_i = \beta_0(\mu_i, v_i) + \sum_k \beta_k(\mu_i, v_i) X_{ik} + \varepsilon_i$$

Where,

Y_i is the dependent variable at location i

X_{ik} is the value the of k^{th} explanatory variable at location i

$\beta_0(\mu_i, v_i)$ is the intercept parameter at location i

$\beta_k(\mu_i, v_i)$ is the local regression coefficient for the k^{th} explanatory variable at location i

(μ_i, v_i) is the coordinate of location i

ε_i is the random error at location i

In GIS platform, GWR produces local coefficient and it diagnose parameter to estimates for each spatial feature. These represent locations where each explanatory variable shows higher or lower influence in the dependent variable (Charlton 2009). To apply and perform the GWR model, the geographically weighted regression extension in the spatial statistics toolbox of ArcGIS 10.1 was used. The percentage change of cultivated land is a response variable; and population change, altitude, and distance to highway are explanatory variables. These variables were selected on the basis of collinearity among variables (Table 3). The prediction given by both OLS and GWR model were compared and GWR model has been used for detail analysis because of its higher percentage prediction capacity than OLS. GWR has the capacity to give different local coefficient value for individual observation of each explanatory variable. The local coefficient indicates the role of variable on the change of dependent variable because of the change in independent variable. So, local coefficient maps of explanatory variables have been prepared to identify the pattern of location specific strength of explanatory variables. Additionally qualitative information collected from the field and secondary sources were classified and analyzed with reference to quantitative analysis and evidence.

3. RESULTS AND DISCUSSIONS

3.1 Results

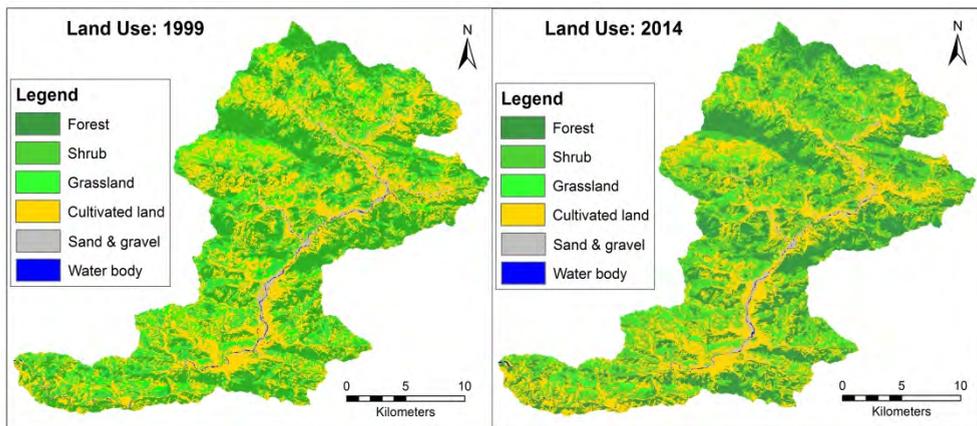
Cultivated Land Conversion: The cultivated land in the study area has decreased during the years 1999-2014. The land use conversed from one category to the other. Most of the cultivated land was transformed to vegetation area due to higher proportion of abandonment of cultivated land. Some vegetated area has been converted into cultivated land, mostly in lowland areas.

Table 1.**Land use change (1999 to 2014), Andhi Khola Watershed**

Land use	Area in 1999 (ha)	Area in 2014 (ha)	Area change (ha)	Percent Change
Cultivated Land	18987.20	15325.34	3661.86	-19.29
Vegetated Area	28177.90	31882.02	3705.12	13.15
Sand & gravel	757.66	792.33	34.67	4.58
Water body	191.20	113.26	-77.94	-40.76

Higher proportion of sand and gravel was converted to cultivated land as a result of the maintenance of former cultivated land damage by heavy flood occurrence in 1996. However, it does not play a significant increase in total area of cultivated land because of the smaller area of sand and gravel as compared to cultivated and vegetated areas.

Conversion of cultivated land into vegetated area is clearly visible on the figure 2 land use map of 1999 and 2014. Land use maps of 1999 and 2014 show higher greenery has increased in most of the areas. Proportion of greenery has been increased in the north and eastern parts. Increase in cultivated land is clearly visible in south and southwest region of the study area. Similarly, decreasing greenery is also equally seen in this area.

**Figure 2.** Land use pattern in 1999 and 2014.

Collinearity of Variables: The results of the Karl Pearson's correlation coefficients of slope gradient, slope aspect and sex ratio variables show very low value since they do not give the reliability of relation with other variables. However, slope gradient has positive correlation ($r = 0.173$) at a significant level of 0.01 and slope aspect has a positive correlation with population change ($r = 0.17$) at a significance level of 0.01. Both positive correlation coefficients are weak but highly significant. They indicate that population change is related with slope gradient and slope aspect. The correlation matrix (Table 3) indicates that population change, altitude and distance to highway have significant correlation with cultivated land change at 0.01 significance level. Population change has a positive relation while altitude and distance to highway have negative relation to cultivated land change. It means that cultivated land is changing with population change i.e. cultivated land decreases with population decrease and increases with population growth. Similarly, cultivated land change rate is negatively increasing with the increasing altitude. It means that cultivated land is decreasing with increasing altitude. Cultivated land has also similar relation with highway distance. Cultivated land decreasing rate is increasing according to the increasing distance from the highway.

Table 2.

Correlation matrix (0.01significance level)

	Cultivated land change	Population change	Altitude	Distance to highway
Cultivated land change	1	0.328	-0.503	-0.342
Population change	0.328	1	-0.234	-0.308
Altitude	-0.503	0.234	1	0.655
Distance to highway	-0.342	-0.308	0.655	1

Location of Sidhartha highway is at lowland area. Therefore, the correlation coefficient of distance to highway and altitude is highly positive. Altitude has the highest relationship with cultivated land change. Population change has also negative correlation with altitude and distance to highway.

OLS and GWR Model: Variables of cultivated land change, population change, altitude and distance to highway have lower variance inflation factor (VIF) and Moran's I indicates that all variables are free of auto-correlation, which can

be used for prediction model. Variable of distance from highway has been rejected in the OLS. So, only population change and altitude have been taken as explanatory variables. In GWR model only population change and altitude give the highest prediction value. Therefore, only these two variables have been used for modeling. From the table below, R^2 and adjusted R^2 value is higher in GWR than in OLS. Therefore, GWR is the best for the prediction of cultivated land. GWR model has strength of nearly 57% of predicting capacity to cultivated land change rate.

Table 3.**Comparison of OLS and GWR**

Description	OLS	GWR
R^2	0.299	0.668
Adjusted R^2	0.295	0.566
Number of observation	314	314

However, other remaining variables were also tested in GWR model because of its semi-parametric technique as explanatory variables but mixing with these two variables of any other variables or any other combination of derived explanatory could not give better result than population change and altitude variables. So, GWR model used only these two variables as explanatory variables. Standard Residual of GWR model was tested to identify the whether it is free of autocorrelation or randomness. Moran's I indicates that given prediction GWR is highly reliable at 0.05 significant level. So, this study used GWR model for prediction.

Observed and Predicted Change: Figure 3A is the actual changing percentage of cultivated land between 1999 and 2014. This map indicates that cultivated land abandonment is all over the watershed area except in the south-western part. The increasing rate of land abandonment is from south to north and west to east. Only some parts of the northern region have increasing cultivated land. This area is gently sloping on the south facing slope, which is more suitable for cultivation than other hill slopes. Predicted probability value of each observation is the estimated value of dependent variable on the basis of explanatory variables.

The general pattern of figure 3B is not significantly different than observed land abandonment rate of figure 3A. The prediction of land abandonment rate is smoothly increasing toward north and east from southwest region. Some wards in the central part are predicted for increasing cultivated land because of the high rate of population increase in the urban area but it is not found in observed data. However, observed data has also shown that there is increase in cultivated land in some wards. In the northwest, the cultivated land has increased. Only one ward is predicted for increasing cultivated land. It is because of the lower rate of population increase in these wards, compared to those in the south.

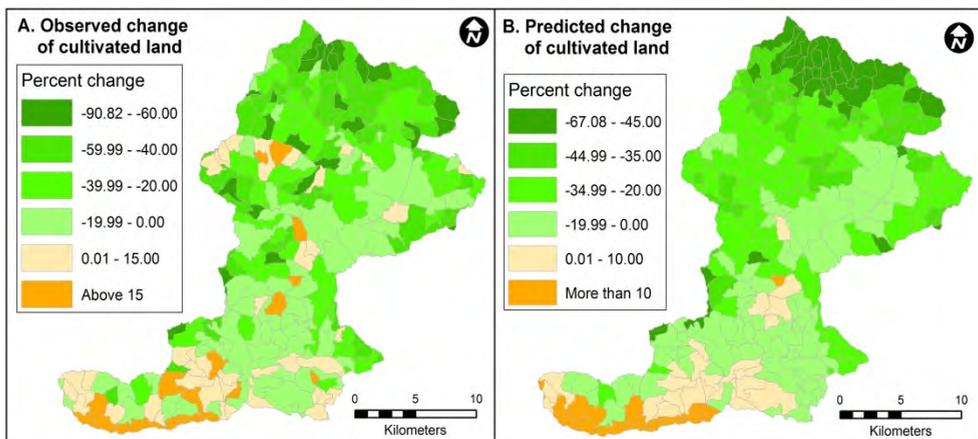


Figure 3. Observed and predicted cultivated land changes in the Andhi Khola Watershed

Local Coefficients of Explanatory Variables: Figures 4A and 4B show local coefficients of population change and altitude respectively. They are developed by geographically weighted regression model. Higher value of regression coefficient means higher strength of role played by explanatory variables on dependent variable. Positive value indicates the positive role of explanatory variables on the changing situation of dependent variables and negative value means negative role. In most of the area, population change has played positive role to the change of cultivated land. Higher strength of role of population change is in the western region from north to south. There are three big clusters of higher strength are in this region. Among them the strongest strength is in the south. Most of the area has an average positive impact. However, four small clusters have a negative impact of population change on the change of cultivated land.

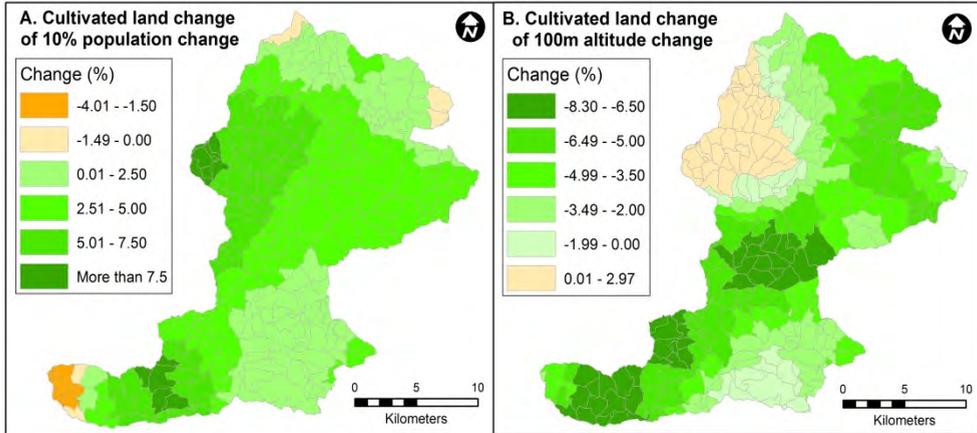


Figure 4. Local coefficients of population and altitude.

Local coefficient indicates that ten percent population decrease have more than 4 percent cultivated land decrease but some limited area have more than 7.5 percent cultivated land increase where population decreased in the same proportion. It proves that one variable may not play the same role at different location. Figure 4B indicates that in most of the areas the altitude has a negative impact on cultivated land change. Lowland areas from north to south indicate the negative role of altitude to the change of cultivated land. The higher strength of altitude is in the southern part compared to the north. However, the northwest portion indicates a positive role of the altitude. Most of the area have inverse role of two explanatory variables on cultivated land change in the study area. It means that a higher proportion of cultivated land is converting from vegetated area or abandoned land with increasing altitude. Local coefficient indicates that more than 8.3 percent of cultivated land has been abandoned with increasing altitude of 100m. A higher impact of altitude on cultivated land abandonment seems to exist along the lowland area.

3.2 Discussions

Population Change: Migration is an essential and inevitable component of the economic and social life. Properly managed migration can be beneficial for both individual and societies. Foreign employment emerged as a strong attraction among Nepalese in the mid 1990s because of the political instability which was perpetuated by the rapid expansion of the people's war, the construction boom

in East Asia and Persian Gulf region creating employment opportunities for skilled and unskilled labour, and rapid expansion of information system to convey easily messages regarding employment opportunities. Political instability remained elusive for a long time in Nepal. That is why there still remains a strong attraction for foreign employment among young population. As a result, the number of Nepalese who obtained official permission to work overseas more than doubled in a single year from 1996/97 to 1997/1998. It is estimated that around 2.27 million were in foreign employment in 2007 (NCCR/NIDS 2008). The high population growth rate after 1960s resulted in an increased population density from only 38 persons per square kilometre in 1911 to 157 in 2001. The annual population growth rate between 1991 and 2001 was 2.24 percent per year (CBS 2002) while between 2001 and 2011 the annual growth rate of Nepal is only 1.35 percent. The percentage of the absent population in the 2011 census reflected a surge in numbers, with an increase by 152 percent between 2001 and 2011 and accounting for 7.3 per cent of the total population (Government of Nepal, 2011). Among the total migration of the country, a higher proportion is from rural hilly and mountain areas than from the more accessible and plain areas of Nepal.

Hill Farming Practices: Over the centuries, farmers have been adopting a system of land use compatible with their environment such as shifting cultivation. But such traditional farming system has not been able to cope with the rapid growth of both human and livestock population. Over the recent decades, land degradation and destruction in mountain ecosystems are becoming increasingly widespread. The traditional farming system and cultivation in steep hill slopes have accelerated the rate of erosion and degradation. Agricultural productivity especially in the hills and mountains is declining due to the erosion of fertile surface soils every year. Joshy et al. (1997) consider land degradation in specific terms as the decline in soil quality caused through its misuse by humans resulting in the decline in soil productivity. Land degradation affects the entire production system based on land and in turn, the very livelihood system of the population. The production potential of the land is reduced along with the further encroachment of the forest and marginal lands. The intensification of cropping practices further depletes the fertility of the soils. Higher proportion of land abandonment in steeper slope and higher altitude areas also proves the same situation in the study area. People in the mountain and hilly regions of Nepal have limited access to land, to knowledge and information about technology and to credit. The land resources they possess are often of poorest quality and prone to degradation. All these factors lead to unsustainable management of land resources and encroachment into marginal land, which in turn leads to a vicious cycle of further poverty and land degradation.

Determinants of Cultivated Land Abandonment: According to FAO (2006) determinants of agricultural land abandonment are natural constraints, land degradation, socioeconomic factors, demographic structure, and institutional factors. This study has taken only altitude and population change as determining factors because of the reliability problems of correlation among dependent and explanatory variables. However, these two variables give better explanation of dependent variable in this study. GWR model has the capacity to predict the location specific role of explanatory variable. The overall explanation of population change on cultivated land change is positive but some areas have negative impact of this variable. Some studies reveal that population change has not always positive result in agricultural land abandonment (Ellis 2004, Gray and Bilsborrow 2014, and Izquierdo et al. 2011), which is clearly visible in this study. Altitude is another important physical explanatory variable for agricultural land abandonment. Although the general situation of land abandonment is that it increases with increasing altitude, in the north-eastern portion cultivated land increased with increasing altitude because of the less steep slope gradient compared to similar altitude areas. Another factor is the south facing sunny slope, which is suitable for cropping. Climatic factors are also determined by altitude. A lower altitude river basin is flat so it is more productive than higher hilly slopes and these areas also have more irrigation facilities. Temperature decreases with increasing altitude. Colder higher altitude areas have longer growing season than lower altitude area. So, higher altitude area has less potential for multiple cropping. In general, production potential is higher at lower altitudinal region compared to higher altitude areas. Naturally, the carrying capacity of human occupancy is decreasing with increasing altitude (Chidi 2009).

The highway provides a major access in the study area, which passes through lowland area. Major urban centres are located along the highway. On the one hand, the highway is a major influencing factor for human concentration because of land suitability and accessibility, and the development of market centres along the highway on the other. This situation has resulted in population movement from higher altitudes to lower areas. Lowland areas with higher carrying capacity have played a lower role as a push factor for migration. Although, GWR model has taken only altitude and population change as explanatory variables, many factors related to altitude have resulted in a combined impact on cultivated land change. Ward level generalization of slope gradient and slope aspect did not indicate a clear relationship with cultivated land change but a micro level analysis of other research in the study area has proved that these two variables are also another important factor of changing situation of cultivated land (Chidi 2015). The impact of resource scarcity or other environmental factors on a household's decision to send migrants is not well studied, except perhaps in the case of land resources.

There is ample historical evidence to suggest that scarcity of land resources has led to waves of outmigration to new lands, as occurred in European history and is repeated from the cores to the peripheries of many developing countries. Land scarcity is a key driver of migration in Uganda (Tukahirwa, 2002). VanWey (2003 and 2005) finds that both a lack of land and a large amount of land have motivated migration in Thailand and Mexico. The Sloping uplands generally contain marginal lands due to different constraints, which change according to the ways land is used. It can be managed in ways that support the process of marginal land up-gradation. When sloping uplands are viewed from the economic perspective, they are less favourable for agriculture. However, sloping land agriculture can have many values and potentials not available in the plain land agriculture and farmers can make use of these comparative advantages. Thus, even though opportunities exist to improve farming and livelihood on marginal lands, it has not happened so far in the Asian uplands (Pratap 2004), which is quite applicable in Nepal. The problem is not of technology as such but it is more institutional, such as limited research and development investment in upland farming research, socio political neglect of the marginalized upland societies, low capacity of communities, and inappropriate development planning (Pratap 2004). The uplands of Nepal are passing through a dynamic stage of demographic scenario, whereby cropland scarcity and less job opportunities in the uplands have resulted in out-migration from the uplands to growing economies in the urban plains and foreign countries. Heavy land abandonment in such a short period of time has resulted due to the past occupancy of marginal land because of high population pressure. Lack of consideration of local conditions (bottom up approach) and government negligence of service facilities for hill agriculture are major problems in Nepal. Till this date, neither academic nor government and nongovernment organizations have any consideration for this local reality in Nepal.

4. CONCLUSION

Depopulation after the decades of 1990s in the hills of Nepal is increasing day by day because of the outmigration of population. Sudden release of population pressure on hilly marginal agriculture areas has resulted in a fast rate of land abandonment. Higher proportion of abandoned land is being covered by natural vegetation such as grassland, shrubs and forest. It has many implications for hilly people and environmental consideration.

It has been found that outmigration of rural population has caused an increase in agricultural land abandonment. However, some more accessible areas have inverse relation of outmigration. Some areas have increasing cultivated land with increasing population but these areas are very limited and these areas

should be verified properly. Altitude is also another important determining factor of land abandonment. Land abandonment is increasing with increasing altitude. In the lowlands there is more fertile flat land with access to highway and major market centres. Population concentrates also along the highway. These areas have increased cultivated land with increasing population. Therefore altitude itself is not a single factor of determining population change and abandonment of agricultural land. Some areas in the northeast part of the study area have increased cultivated land with increasing altitude. It is because of the other suitable factors for cultivation such as slope gradient and slope aspect. Different local coefficient in a single model is possible by using GWR model, which develops local regression coefficient using local situation of the variables. The GWR model reveals that only two variables, population change and altitude, have 56.6 percent impact on cultivated land change in the study area. There are also other variables such as slope gradient and slope aspect but ward level generalization of these variables has problems of reliability for prediction model. However, micro level analysis in the study area has proved that there is a close relation between the cultivated land abandonment and the slope gradient and slope aspect.

The marginal lands have experienced much land abandonment situation in the study area. This is however common in the mountain regions across the world. Negligence of government for proper implementation of programs to promote hill agriculture has further accelerated the higher rate of land abandonment just after the depopulation in hill agriculture. The formulation of land use policies and their implementation with regard to control over arable land abandonment together with provisions of infrastructure and facilities for local resource utilization is essential to support rural livelihood, thereby to check outmigration of population in the areas such as the Andhi Khola watershed of western Nepal.

ACKNOWLEDGEMENT

Prof. Dr. Pushkar Kumar Pradhan and Prof. Umesh Kumar Mandal are thanked for valuable comments and suggestions.

REFERENCE S

1. Brunson, C., Fotheringham, A.S. and Charlton, M. (2008), Geographically weighted regression: A method for exploring spatial non-stationary, in Kemp, K. (ed.), *Encyclopedia of Geographic Information Science*, California: Sage Publication.
2. CBS (2002), *Population Census 2001, National Report*, Kathmandu: Central Bureau of Statistics, HMG/Nepal.

3. Charlton, M., Fotheringham, S. and Brunson, C. (2009), *Geographically Weighted Regression: White Paper*, Maynooth: National Centre for Geocomputation, National University of Ireland.
4. Chidi, C.L. (2015), Impact of outmigration on land use change in Aroundi Khola watershed of Syangja, Western Hill of Nepal, in R.B. Mehta (ed.), *Environmental Crisis*. Ranchi: Institute of Social Development and Research.
5. Chidi, C.L. (2009), Human settlement in high altitude region Nepal, in P.K. Predhan, N.R. Khanal and Koirala, H.L. (eds.), *The Geographical Journal Of Nepal*, 7, pp. 1-6, Kathmandu: Central Department of Geography, Tribhuvan University.
6. Ekholm E. (1975), The deterioration of mountain environments, *Science*, 189, pp. 764-770.
7. Ellis, E.C. (2004), Long term ecological changes in the densely populated rural landscape in China, in R.S. DeFris, G.P. Asner and R.A. Houghton (eds.), *Geophysical Monograph*, 153: 303-320, Washington: American Geophysical Union.
8. FAO (2006), *Agriculture and the Environment: Changing Pressures, Solutions and Trade-offs*, Rome: Food and Agriculture Organization (FAO).
9. Farbar, S. and Paez, A. (2007), A systematic investigation of cross-validation in GWR model estimation: empirical analysis and Monte Carlo simulations, *Journal of Geographical System*, 9, pp. 371-396.
10. Fotheringham, S., Charlton, M. and Brunson, C. (1998), Geographically weighted regression: A natural evolution of the expansion method for spatial data analysis, *Environment and Planning A*, 30, pp. 1905-1927.
11. Gellrich, M., Baur, P., Koch, B. and Zimmermann, N.E. (2007), Agricultural land abandonment and natural forest regrowth in the swiss mountains: A spatially explicit economic analysis, *Agriculture Ecosystem and Environment*, 118, pp. 93-108.
12. Government of Nepal (2011), *Labour Migration for Employment: A Status Report for Nepal, 2013/2014*, Kathmandu: Ministry of Labour and Employment.
13. Gray, C.L. and Bilborrow, R.E. (2014), Consequences of outmigration for land use in rural Equador, *Land Use Policy*, Author's manuscript available in PMC 2015, January 1.
14. Izquierdo, A.E., Grau, H.R. and Aide, T.M. (2011), Implication of rural urban migration for conservation of the Atlantic forest and urban growth Misiones Argentina (1970-2030), *AMBIO*, Available at online: www.ncbi.nlm.nih.gov/pmc/articles.
15. Joshy, D., Panday, S.P., and Maskey, R.B. (1997). Status of Land Degradation in Nepal, in Ghimire, M.P. and Uprety, B.K. (eds.), *Combating Desertification: Report of the Seminar on Desertification and Land Management*, Kathmandu: Ministry of Population and Environment, HMG/N in collaboration with Secretariat of the UNCCD.
16. Khanal, N.R. and Watanabe, T. (2006). Abandonment of agriculture land and its consequences: A case study in the Sikles areas, Gandaki basin, Nepal Himalaya, *Mountain Research and Development*, 26 (1), pp. 32-40.
17. Leung, Y., Mei, C.L., Zhang, W.X. (2000), Testing for spatial autocorrelation among the residual of the geographically weighted regression, *Environment Planning A*, 32, pp. 871-890.

18. MacDonald, D, Crabtree J.R., Wiesinger, G., Dax, T., Satamau, N. Fleury, P., Lazpita, J.G. and Gibon, A. (2000), Agriculture abandonment in mountain areas of Europe: Environmental consequences and policy response, *Journal of Environmental Management* 59(1), pp. 47-69.
19. NCCR/NIDS (2008), *Migration Year Book 2007*, Kathmandu: Nepal Institute of Development Studies.
20. Pratap, T. (2004), Farming on sloping upland of Asia: sustainability perspectives and issues, in Pratap, T. (ed.), *Sustainable Farming Systems in Upland Areas*, Tokyo: The Asian Productivity Organization.
21. Tukahirwa, J.M.B. (2002), Policies, people and land use change in Uganda: A case study in Ntungamo, Lake Mburo and Sango Bay Sites, *Land Use Change Impacts and Dynamics (LUCID) Working Paper Series No. 17*, available at: www.lucideastafrica.org/publications.
22. VanWey L.K. (2003), Land Ownership as a determinant of temporary migration in Nang Rong, Thailand, *European Journal of Population*, 19, pp. 121-145.
23. VanWey L.K. (2005), Land Ownership as a determinant of international and internal migration in Mexico and internal migration in Thailand, *International Migration Review*, 39(1), pp. 141-172.
24. Vogel, H. (1988), Deterioration of a mountainous agro-ecosystem in the third world due to emigration of rural labour, *Mountain Research and Development*, 8(4), pp. 321-329.
25. Walther, P. (1986), Land abandonment in Swiss Alps: A new understanding of a land use problem, *Mountain Research and Development*, 6(4), pp. 305-314.
26. Wheeler, D. and Tiefelsdorf, M. (2005), Multicollinearity and correlation among local regression coefficients in geographically weighted regression, *Journal of Geographical System*, 7, pp. 161-187.
27. Wrenn, D.H. and Sam, A.G. (2014), Geographically and temporarily weighted likelihood regression: Exploring the spatiotemporal determinants of land use change, *Regional and Urban Economics*, 44, pp. 60-74.

THE EXPLOITATION OF THE TULGHEȘ-GRINȚIȘ URANIUM DEPOSIT. BETWEEN BENEFITS AND CONTROVERSY

G. B. TOFAN¹, A. NIȚĂ², C. NIMARĂ³, B. N. PĂCURAR⁴

ABSTRACT. – **The Exploitation of the Tulgheș-Grințieș Uranium Deposit. Between Benefits and Controversy.** Romania is one of the few European states (alongside the Czech Republic, France, Germany, Ukraine) and one of the few in the world with uranium deposits (Canada, Australia, Niger, Namibia are others), mainly used in the energy sector. According to recent studies, the only currently exploited deposit (Crucea-Botușana, Suceava County) is nearly depleted (by 2019) and will be eventually shut down. For this reason, there are plans to open a new uranium mining facility in the Tulgheș-Grințieș area, where geological surveys have proven that the area holds the largest uranium deposit in the country. It will provide the necessary fuel for Cernavodă Nuclear Power Plant, for the two functional reactors, which have a total capacity of 706 MW each (producing roughly 18% of the country's electricity needs), as well as for units 3 and 4, not operational yet. The study at hand intends to emphasize several aspects regarding the exploitation possibilities for the uranium deposit from the two mineralized structures located in the fracture areas of the central Carpathian line, through which the crystalline overflows the Cretaceous Flysch. Furthermore, the environmental impact analysis as well as the long term safety and security of the population inhabiting the area will be of utmost importance.

Keywords: uranium, radioactivity, Cernavodă Nuclear Power Plant, Tulgheș, Grințieș.

1. INTRODUCTION

The exploitation perimeter of the uranium deposit is located in the Central Group of the Eastern Carpathians, in Bistricioara Mountains (Bistriței Mts.), Preluca Ursului-Pietrele Roșii subunit, on the Prisecani, Bradu, Primatar and Grințieș

¹ „Vasile Goldiș” Western University of Arad, Faculty of Economic Sciences, Engineering and Informatics, Department of Engineering and Informatics, Baia Mare Branch, 5 Culturii Street, Romania, e-mail: bogdan.tofan@uvvg.ro.

² Babeș-Bolyai University, Faculty of Geography, Gheorgheni Branch, Csiki Garden, Romania, e-mail: nitaadrian@hotmail.com.

³ University of Petroșani, Faculty of Mines, Department of Management, Environmental Engineering and Geology, University Street, No. 20, Petroșani, Romania, e-mail: ciprian.nimara@yahoo.com.

⁴ Centre for Research on Settlements and Urbanism, Faculty of Geography, Babeș-Bolyai University Cluj-Napoca; Cluj County Council, Urbanism and Territorial Planning Department, Cluj-Napoca, e-mail: pacurarbogdan@ymail.com.

streams, left side tributaries of Bistricioara, between Harghita and Neamț counties, at approximately equal distance (20 km) from Durău and Borsec mountain resorts (fig. 1).

Since 2013, the Energy Department has been pushing for the approval of the technical-economic indicators for the exploitation of the Primatar 1, Primatar 2, Bradu, Prisecani and Zone III uranium deposits, with funds from the National Uranium Company Bucharest (S.C. Compania Națională a Uraniului S.A. București) and from the state budget, more precisely the Ministry of Economy - Energy Department. The investment is planned for 2020.

The preserved mining tunnels cover a surface area of 10 hectares and are currently owned by the heirs of Prince Sturdza, a result of the enforcement of Law nr. 247/2005. The land is administered by the Forestry Administration, Hangu Domain LLC.

The current owner showed interest in a partnership that would reopen the mines, claiming his right, also soliciting shares, which will certainly insure large profits.

The negotiations were held at government level, as this represents a mining area of national importance.

2. METHODOLOGY

The first phase of the study involved reviewing the geological maps of Romania, which encompass the Tulgheș-Grințieș area, maps created in 1968 by the State Geological Committee, the Institute of Geology, Bucharest (Geological map of Romania, 1: 200000, Toplița area), and the one from 1978, scale 1: 1000000, authored by Săndulescu et al., 1978; the geological map of Bilbor-Tulgheș (Eastern Carpathians), created by geologist Ionescu (1999), addendum after Kräutner et al., 1988; Gheucă et al., 1988; Bindea et al., 1990, 1991.

We additionally consulted a series of articles and papers which directly studied the area at hand (Atanasiu, 1929; Băncilă, 1958; Rădulescu, 1967, 1970; Mureșan, 1967, 1970, 1980; Gurău, 1969; Ionescu, 1999; Deák, Petrescu, 2002; Petrescu & Bilal, 2006, 2007; Săndulache, 2007; Dumitrescu, 2010).

Furthermore, we researched the general studies written by Mutihac & Ionesi, 1974; Čejka, 1990; Burns & Finch, 1999; Raboca, et al., 2001; Neguț, 2003; Murariu, 2005; Păcurar, 2006; Jefferson, Delaney, 2007; Ramasamy, Rajkumar, Suresh, Meenakshisundaram, Ponnusamy, 2011; Tofan, 2013, as well as the technical-economic documents necessary for the capitalisation of the investment objectives for the Tulgheș-Grințieș uranium deposit, the abstracts of the reports regarding the environmental impact study, feasibility studies, and several other reports by the County Health Administration and Neamț Environmental Protection Agency.

3. HISTORY OF GEOLOGICAL SURVEYS

The geological survey of the area started in 1963, when the first gamma anomalies and ore deposits were found. After a short prospecting period, the perimeter began to be excavated. During 1994-1997, the mining activity involved an experimental face cut, later followed by proper mining procedures, single geological block only, and single gallery (between the second semester of 1997 and the first semester of 2001).

In the first trimester of 1998, due to lack of funding, the operation was halted. The following year, after a series of talks regarding the exploitation licence, with the National Agency for Mineral Resources, a feasibility study was performed for the opening of the northern part of the deposit. In the second semester of 2001, the mining operation in the only active gallery was halted due to lack of permits for the feasibility study, which stopped the investment in its tracks.

Later, in 2005, the National Uranium Company made a project aiming to reopen the mining operations for the existing uranium deposits found in Tulgheș and Grințieș area. The area currently holds several mining galleries, in different conservation stages.

Geological surveys were performed by *S.C. Radioactiv Mineral Măgurele S.A.*, a company formed from the reorganization of the National Uranium Company, whose main objectives are to survey and exploit radioactive mineral deposits, as well to preserve and close mines, clean and restore the environment. Its main work station is the *Tulgheș-Bicazu Ardelean sector*, where a series of neighbouring perimeters have been surveyed (prospecting, preliminary, general, detailed, and experimental exploitation), such as: Grințieșului Valley-Bicazu Ardelean – Dămuț - Chicera-Pârâul Danci-Păltiniș (Neamț County); Bilbor-Corbu (Barașău)-Tulgheș (Putna Valley – Hagota-Șumuleu Valley -Prisecani - Pintic-Pârâul cu Pești-Putna Întunecoasă Valley (Harghita County) etc.

Likewise, *Foradrill Baia Mare Company* was involved as partner in prospecting endeavours, geological and physical-chemical research, in Preluca Ursului perimeter.

4. RESULTS AND DISCUSSIONS

Information regarding the volume of uranium reserves from the analysed area, as well as the other operations from the nuclear cycle remains unknown, being highly classified. However, sources show that, between 2000 and 2007, there was a special monitoring programme of environmental radioactivity, meaning taking samples, preparing and measuring specific global beta activities five days after collecting surface and underground water, soil and vegetation samples, prepared by *Piatra Neamț Environmental Radioactivity Surveillance Station*, which

were then sent for spectrometric and radiochemical gamma measurements to the *National Reference Laboratory for Radioactivity*, part of *Iași National Environmental Protection Agency* (ANPM-LR).

The evolution of the environmental radioactivity in Tulgheș-Grințieș perimeter was also influenced by several logging operations in the area, which led to soil and vegetation degradation and pollution.

The spectrometric gamma analysis showed that the natural gamma radioactivity of the samples comprises radionuclides from the natural series of uranium, radium and thorium, as well as the K-40 series, with traces of Be-7, a cosmogenic radionuclide, Cs-137 and Cs-134, due to fallout from the 1986 Chernobyl accident, plus some heavy metals characteristic for mineralization.

The above mentioned radioactive elements can pollute the atmosphere as powders carried by winds from ore or mining waste dumps, thus leading to air, soil, water, and vegetation contamination in the area. Moreover, there is the pollution of mine and rain water that flows on waste dumps, with negative effects on surface and underground water, soil and plant life.

The samples taken prove that the highest radioactivity levels of ground water are registered in spring, when the snow melts, in conjunction with heavy rainfall, when water turbidity and flow are high.

The increase of radioactivity in these areas is further exacerbated by the phenomenon of dispersion of waste from ore dumps (for instance, at the confluence area of Prisecani with Uluci, Primătar Valley, downstream of its confluence with Afiniș), leading to obstructions at the base of the dumps.

From the analysis of data presented in table 1, we conclude that several activities in the area led to an increase in radioactivity, with high levels especially close to certain waste dumps where we believe that the external radiation exceeds safe values. However, at distances of 200-300 meters from these dumps (including within the existing settlements), the radioactivity of the monitored environmental elements is within normal limits. During 2001-2004, no plant samples have been taken, while prior to 2000, another work methodology was employed, which is why the data obtained are not comparable.

On the 6th August 2008, a sample was taken from an underground water source (spring) located on Mărului Hill, which supplies water for several households situated in Grințieș commune, the specific value of the global beta activity five days after sampling being below 74.2 Bq/m³.

The results regarding radioactivity evolution for the environmental factors from Neamț County show that, in 2007, there was no spatial or temporal radioactive pollution that would lead to significant spikes in radiation levels or that would jeopardise human health, the activities in the area, or the ecosystems in the immediate vicinity. In May 2010, in Tulgheș-Grințieș area, there was another special radioactivity monitoring programme.

Table 1.

Comparison of the specific global beta activity of the main environmental factors from the Tulgheș-Grințieș area, monitored during 2000-2007

Sample name	Location	Measure-ment unit	Specific value of global beta activity							
			2000	2001	2002	2003	2004	2005	2006	2007
Surface water	Primătar stream-downstream of confluence with Afiniș	Bq/m ³	160.0	960.0	160.0	113.0	157.3	181.2	426.9	168.2
	Bradu stream- upstream of Bistricioara		360.0	350.0	110.0	129.2	152.9	166.2	774.0	168.3
	Prisecani-downstream of confluence with Uluci stream		190.0	180.0	220.0	151.7	151.9	571.3	460.3	132.2
	Grințieșul Mare-upstream of confluence with Bistricioara		-	350.0	-	161.8	225.0	398.0	97.6	1412
	Bistr. at Tulgheș		-	-	-	-	-	-	<80.1	95.0
	Bistr. at Bistr., bridge over Durău		240.0	80.0	100.0	125.2	158.3	213.2	<80.1	884.7
Drinkable water	Fântână Grințieșul Mare-confluence area of Primătar with Grințieșul Mare	Bq/m ³	100.0	400.0	270.0	119.4	177.1	127.9	<83.7	313.3
Drinkable water	Fântână-Grințieș (Poiana) centre		320.0	1550	970.0	837.6	223.3	896.6	680.2	931.3
Uncultivated soil	Primătar area-left bank Primătar downstream of confluence with Afiniș	Bq/kg	5290	6050	1730	990.4	2364	1644	2040	1221
	Primătar area-plant nursery		870.0	810.0	910.0	-	-	782.7	1072	1045
	Prisecani-confluence area of Prisecani with Uluci stream		-	980.0	-	-	1759	1390	1275	1192
	Grințieș- School no. 2 area		-	-	1030	689.2	836.8	779	843.3	809.7

Sources: Neamț Environmental Protection Agency, Piatra Neamț Radioactivity Monitoring Station.

It basically involved taking samples, preparing and measuring the global beta specific activity, five days after sampling, of several surface and underground water, soil and plant samples. These were prepared for analysis by *Piatra Neamț Radioactivity Monitoring Station*, which later sent them to *Iasi Radioactivity Monitoring Station*, for gamma spectrometry.

Table 2.
The results of the global beta specific activity of the samples from the second semester of 2010, Tulgheş-Grințieş area

Crt. no.	Sample name	Location	Date of sampling	Date of measurement	Measurement unit	Value of global β activity
1	Surface water	Stream Bradu, upstream of confluence with Bistricioara	17. 09. 2010	22.09.2010	Bq/m ³	224.3 ± 27.8
		Grințieşu Mare, upstream of confluence with Bistricioara	17. 09. 2010	22.09.2010		243.1 ± 28.3
		Bistricioara, bridge towards Durău	17. 09. 2010	22.09.2010		206.5 ± 27.2
2	Underground water	Well, central area of Grințieş	17. 09. 2010	22.09.2010		1136.0 ± 62.1
3	Uncultivated soil	Primatar area, downstream of confluence Afiniş with Primatar	17. 09. 2010	22.09.2010	Bq/kg	2351.3 ± 100.2
4	Vegetation	Afiniş (tree nursery)	17. 09. 2010	22.09.2010		237.5 ± 18.0

Sources: *Neamț Environmental Protection Agency, Piatra Neamț Radioactivity Monitoring Station.*

According to these results, there were no cases of local pollution or radioactive contamination in the second semester of 2010, in Tulgheş-Grințieş area, that would lead to high degrees of radiation or that would jeopardise human health.

We strongly believe that, in the future, there will be a need for a rehaul of the entire environmental radioactivity monitoring system, one that would allow for real time access to data by the authorities, as well as for the measurement of other parameters, mainly in areas susceptible to a high radiological impact, like the mining sites of Tulgheş-Grințieş and Bicaşu Ardelean, areas that must be surveyed continuously through special programmes adapted to local conditions.

5. URANIUM ORE PROCESSING UNIT

The National Uranium Company intends to build in Feldioara (Brașov County) a modular installation for uranium ore processing, as well as for refining uranium technical concentrates, using the latest technologies currently available in the European Union and the world and complying with the existing environmental standards.

The new plant will run for 19 years, having a surface area of 146 890 square meters and an annual processing capacity between 80 000 and 120 000 tonnes of uranium ore. Electricity for this installation will be supplied by the "S.C. F.F.E.E. Electrica Furnizare Transilvania Sud S.A. - A.F.E.E. Brașov", the current total electrical output of the Feldioara Substation being 10 MW, a capacity necessary for satisfying the newly installed 4 880 kW. Natural gas is supplied through the existing network in the area.

In terms of drinkable water needs (roughly 100-120 square meters/ day), there are five supply wells that are used, while the industrial water (for processing) (1 000 – 1 150 square meters/day) comes from the recirculation of the cleared water of the settling basin and the Cetățuia I reservoir. Initially, the ore processing plant was planned to be located close to the mining area, but due to high costs involving infrastructure construction and due to the scarcity of qualified personnel (lack of engineers, technicians, and high-skill workers in uranium processing), a more convenient location was chosen, the uranium ore being transported to Feldioara.

Likewise, many other important factors were taken into account in choosing the location of the plant, such as the relief, climate, hydrography, plant and wildlife, soils, as well as human factors (land usage and cover, distance to human settlements, utilities, access routes for personnel and industrial goods and so on).

6. BENEFITS AND CONTROVERSIES

The announcement published by the National Uranium Company (Energy Department), regarding the exploitation of Tulgheș-Grintieș deposit, generated a series of controversies among local inhabitants. Debates went back and forth between advantages such as a new source of uranium for electricity production, new jobs (between 600-1000 jobs), money in local budgets from taxes, and disadvantages like potential health risks and the peril of obstructing the development of rural tourism in the area.

Consequently, many residents signed a series of petitions opposing these plans, as people were frightened by the risk of radiation exposure, contamination of animal products and thus the inability to sell them, as well as by the impact on future tourism development, the most affected areas from this point of view being Borsec and Durău local resorts, and the entire area of Bistrița Valley.

At the end of 2013, the presidents of Harghita and Neamț County Councils proposed to organize an awareness campaign to inform the population of the two communes about the pros and cons of this project. We would like to point out that such a campaign never came to fruition, the situation remaining uncertain to this day.

7. CONCLUSIONS

It is a known fact that mining uranium deposits implies a radiological risk. However, in the Tulgheș-Grințieș exploitation perimeter, according to the measurements shown, there are no dangers for the environment or for the area's inhabitants, as the concentration of radioactive material is extremely low. From an economic point of view unfortunately, this makes the area less profitable, as it requires processing larger quantities of material.

There is also the issue of distance from railway transport. Regarding this problem, the closest route is through Tulgheș, on DJ 127 county road, over Țengheler Pass (1 025 m), towards Ditrău train station (37 km), or on DN 15 national road, to Toplița, which has a loading station.

The necessity to produce inexpensive electricity through nuclear fission will eventually lead, in the near future, to the mining of Tulgheș-Grințieș deposit. At the same time, we believe that the impact on the local community will be rather insignificant, as a part of the qualified work force will be relocated from the two existing mining operations of Crucea and Botușana.

REFERENCES

1. Atanasiu, I. (1929), *Cercetări geologice în împrejurimile Tulgheșului (județul Neamț)*, Analele Institutului Geol. Rom., XIII, București.
2. Băncilă, I. (1958), *Geologia Carpaților Orientali*, Edit. Științifică, București.
3. Burns, P.C. & Finch, R. (1999), *Uranium: mineralogy, geochemistry and the environment*, Mineralogical Society of America, Washington.
4. Čejka, J. (1990), *Secondary uranium minerals: the mineralogy, geochemistry and crystal chemistry of the secondary uranium (VI) minerals*, Academia, Praga.
5. Deák, Gy., Petrescu, Șt. (2002), *Evaluarea posibilității de îmbunătățire a volumului informațional geo-minier pentru zăcămintul uranifer Tulgheș-Grințieș*, Sesiunea Științifică MENER, Univ. Politehnică din București, 21-22 noiembrie 2002, București.
6. Dumitrescu, N. (2010), *Uranium Mining and Milling in Romania*, „Low Grade Uranium Ore”, International Atomic Energy Agency (IAEA), 29-31 March 2010, Vienna, Austria.
7. Gurău, A. (1969), *Studiu structural și genetic al zăcămintelor metalifere din șisturile cristaline ale Carpaților Orientali*, Dări de Seamă ale Instit. Geol., vol. LVI/2, București.
8. Ionescu, L. (1999), *Studiu geologic, mineralogic și petrologic al zonei Bilbor-Tulgheș (Carpații Orientali)*, cu privire specială asupra Grupului de Tulgheș, Teză de doctorat, Universitatea „Al. I. Cuza” Iași, Facultatea de Geografie-Geologie, Iași.
9. Jefferson, C., W., Delaney, G. (2007), *EXTECH IV: geology and uranium EXploration TECHnology of the Proterozoic Athabasca Basin, Saskatchewan and Alberta*, Geological Survey of Canada.

10. Murariu, T. (2005), *Geochimia și metalogenia uraniului*, Edit. Universității "Alexandru Ioan Cuza", Iași.
11. Mureșan, M. (1967), *Structura tectonică a părții de sud a zonei cristalino-mezozoice din Carpații Orientali*, St. cerc. Geol., Geof., Geogr., Seria Geologie, 12/1, București.
12. Mureșan, M. (1970), *Asupra prezenței Paleozoicului superior nemetamorfozat, în facies continental, în zona cristalino-mezozoică a Carpaților Orientali*, Dări de Seamă Institut. Geol., Geof., LVI/4, București.
13. Mureșan, M. (1980), *Replissements alpins régionaux des métamorphites précambriennes et paléozoïques de la chaîne carpatique. Un exemple: Carpates Orientales*, Analele Institut. Geol., Geof., LVII, București.
14. Mutihac, V., Ionesi, L. (1974), *Geologia României*, Edit. Tehnică, București.
15. Neguț, S. (coord.), (2003), *Geografia economică mondială*, Meteor Press, București.
16. Păcurar, Al. (2006), *Geografie Economică Mondială*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
17. Petrescu, L. & Bilal, E. (2006), *Natural actinides studies in conifers grown on uranium mining dumps (The East Carpathians, Romania)*, Carpathian Journal of Earth and Environmental Sciences, 1 Baia Mare.
18. Petrescu, L. & Bilal, E. (2007), *Environmental impact assessment of a uranium mine, East Carpathians, Romania: metal distribution and partitioning of U and Th*, Carpathian Journal of Earth and Environmental Sciences, 2(1), Baia Mare.
19. Petrescu L. (2007), *Haldele de minereuri de uraniu din Munții Bistriței: implicații asupra factorilor de mediu*, Editura Universității din București, București.
20. Raboca, N., Ciangă, N., Păcurar, Al. (2001), *Geografie economică*, Edit. Vasile Goldiș University Press, Arad.
21. Ramasamy, V., Rajkumar, P., Suresh, G., Meenakshisundaram, V., Ponnusamy, V. (2011), *Determination of level of radioactivity and evaluation of radiation hazardous nature of the recently excavated river sediments*, Carpathian Journal and Environmental Sciences, Vol. 6, No. 1, Baia Mare.
22. Rădulescu, I. (1967), *Conglomeratele metamorfozate de la baza seriei epimetamorifice din Carpații Orientali. Poziția și semnificația lor geologică*, St. cerc. Geol., Geof., Geogr., Seria Geologie, 12/2, București.
23. Rădulescu, I. (1970), *Considerații privind structura gologică a Munților Bistriței*, St. cerc. Geol., Geof., Geogr., Seria Geologie, 15/1, București.
24. Săndulache, I. (2007), *Relieful bazinului hidrografic Bistricioara*, Edit. Universitară București, București.
25. Tofan, G.B. (2013), *Componenta nordică a ulucului depresionar din Grupa Centrală a Carpaților Orientali (Drăgoiasa-Glodu-Bilbor-Secu-Borsec-Corbu-Tulgheș)*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
26. ***(1970), *L'industrie minière de l'uranium*, Commissariat à l'énergie atomique, Paris.
27. *** (1984), *Geografia României, II, Geografia Umană și Economică*, Edit. Academiei R.S. România, București.
28. http://apmnt.anpm.ro/reteaua_de_monitorizare_a_radioactivitatii_in_judetul_neamt-4353, accessed: 30th January 2016.
29. <http://apmbv.anpm.ro>, accessed: 30th January 2016.
30. <http://apmbc.anpm.ro>, accessed: 30th January 2016.
31. <http://www.cnu.ro>, accessed: 30th January 2016.
32. www.minind.ro, accessed: 30th January 2016.

ACCOMMODATION INFRASTRUCTURE AND TOURISM FLOWS ON FELEACU HILL (CLUJ COUNTY)

DANIELA-LIVIA GHEORGHIÈŞ¹

ABSTRACT. – **Accommodation Infrastructure and Tourism Flows on Feleacu Hill (Cluj County).** Feleacu Hill experienced tourism development between 2001 and 2015. The INS data indicates that the number of accommodation units increased from one (2001) to four (2015) and there are a few more which are not registered in the INS database. The accommodation capacity increases, as many guesthouses are expanding their premises to receive more tourists and new accommodation units emerge, such as Hotel Premier in Vâlcele (Feleacu commune). Tourism flows also registered a highly positive trend. The number of arrivals increased from 95 tourists in 2002 to 7791 tourists in 2015. However, there was a downturn between 2009 and 2012, due to the economic crisis and the opening of the Turda – Gilău motorway (A3), which redirected transit routes outside the region and led to the closure of Paradis Hotel in 2012. Since 2012, the number of arrivals and overnight stays increased steadily due to the development of new forms of tourism – rural tourism, agrotourism, extreme tourism and complex tourism, materialized in growing numbers of tourists at the two guesthouses in Ciurila commune (“La Mesteceni” and “Domeniul Regilor”). Tourism brings obvious benefits to the rural communities on Feleacu Hill, even if the average duration of stay is still low.

Keywords: *accommodation units, tourism flows, Feleacu Hill, rural tourism, overnights, accommodation capacity.*

1. INTRODUCTION

Feleacu Hill is a part of the Transylvanian Basin, located between Someşul Mic Corridor to the North, the Transylvanian Plain to the East, Hăşdate Basin to the South and Săvădisla-Luna de Sus Corridor to the West (P. D. Idu, 1969, Al. Savu, 1983, 1987, Gr. P. Pop, 2001, 2007). Administratively, it comprises the entire communes of Feleacu, Tureni and Aiton, about half of Ciurila commune and the village of Tăuţi (part of Floreşti commune). It rises at 832 m high in Peana Peak and 825 m in the summit of Măgura Sălicii. The main range, oriented roughly West-East, dominates the surrounding areas by a few hundred meters.

¹ “Babeş-Bolyai” University of Cluj-Napoca, Faculty of Geography, 5-7 Clinicilor Street, e-mail: danielagheorghies@yahoo.com

The hilly terrain and the natural environment consisting mainly of forests and grasslands contributes to its tourism value, especially for week-end outdoor breaks for the urban inhabitants of the nearby cities, especially Cluj-Napoca, and to a lesser extent, Turda and Câmpia Turzii. Făget Forest is a very popular picnicking, walking and hiking area. The lakes on Racilor Valley, Hășdate and Micuș provide opportunities for fishing and other water-related activities.

Transit tourism is also important, given the fact that the A3 motorway as well as DN 1 and DN 1N (Vâlcele-Apahida bypass) national roads cross the region.

Cultural and religious tourism is increasingly significant in the region because of the presence of Feleacu and Florești/Tăuți monasteries, the medieval churches of Feleacu, Aiton and Gheorghieni, the wooden churches of Săliște and Tăuți, the manor in Aiton.

Adventure tourism and other types of recreational tourism have developed much lately with the emergence of Adrenalin Park (Casele Micești), Fun Park (Feleacu), “Moara de Vânt” Zoo Park (Sălicea). The ski slope in Feleacu is very popular in winter.

2. TOURISM ACCOMMODATION INFRASTRUCTURE

In order to ensure quality tourism, a good infrastructure is needed, comprising accommodation and food units, leisure facilities and, not in the least, access routes to tourist attractions. One should also add the quality of the technical infrastructure – power lines, water supply, sewerage system (Alexandra Tătaru, 2008, p. 306).

On Feleacu Hill, tourism potential is well capitalized by means of different units that try to meet the multiple demands of today tourists. A brief analysis of statistical data shows that not all the accommodation units that exist and can be found in the field are included in the databases of the National Institute for Statistics (INS). Therefore, the results of a detailed analysis on the data provided by the INS might be slightly different from the reality in the field.

Table 1.

The evolution of the number of accommodation units in Feleacu Hill communes between 2001 and 2015

Commune	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ciurila	-	-	-	-	-	-	1	1	1	2	2	3	1	2	2
Feleacu	1	1	1	1	1	1	1	1	1	1	-	1	1	1	1
Tureni	-	-	-	1	2	2	2	2	2	2	2	1	1	1	1
Total	1	1	1	2	3	3	4	4	4	5	4	5	3	4	4

Source: INS, TEMPO-ONLINE database (2016)

After 1990, tourism on Feleacu Hill experienced a positive dynamics of the number of accommodation units due to the ever growing number of tourists and therefore a higher and more diversified demand.

Until 2000 there were no accommodation units, at least not officially. Between 2001 and 2015 the number of accommodation units grew from one (in 2001) to four (in 2015) and there were even five statistically registered units in 2010 and 2012. One notices the increasing number of agrotourism guesthouses, peaking at four units in 2015. This trend is likely to continue in the future as more and more tourists prefer such structures. On the other hand, Paradis Hotel in Tureni, which existed in the statistical databases between 2005 and 2011, disappeared as such after 2011; as a consequence, since 2012, agrotourism guesthouses have represented 100% of the accommodation units in the studied area according to INS data.

This fact is not entirely true as four-star Hotel Premier in Feleacu commune (Vâlcele village), near the DN1/E60 road, has received tourists at least since 2015 but it is strangely missing from the INS data regarding accommodation units, while it is present in their data regarding arrivals.

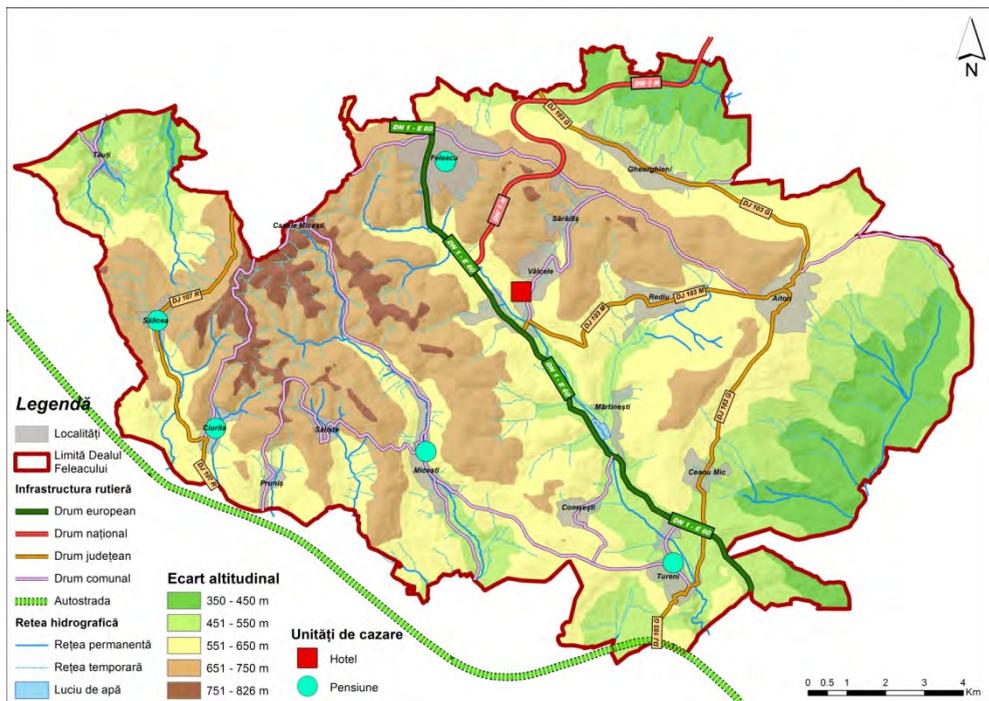


Fig. 1. Map of the accommodation infrastructure on Feleacu Hill

In Tureni commune there are also accommodation units that are not present in the INS statistical data. There are three accommodation units that can be identified in the field: three-star Paprika Inn, two-star Imperial Guesthouse and two-star Gold Fayen House. They also have functional websites where one has the possibility to book his or her stay. However, only one guesthouse appears in the INS statistical data.

There are no accommodation units in Aiton commune because of the lower number of tourist attractions and the larger distance to the national road and the main cities issuing tourist flows, especially Cluj-Napoca.

The number of accommodation beds has grown directly proportional to the number of accommodation units. However, one remarks the increase of the accommodation capacity of certain units.

The total number of beds increased from 5 in Feleacu commune (Teleschi Guesthouse) in 2001 to 80 in 2015, when the majority of beds (50) were located in the two guesthouses (“La Mesteceni” and “Domeniul Regilor”) in Ciurila commune. A peak was registered in 2010-2012, when about 100 accommodation beds were available, of which 40 at Paradis Hotel in Tureni and 20 at a third guesthouse in Ciurila commune.

In certain cases, the guesthouses increased their accommodation capacity. For instance, at Teleschi Guesthouse in Feleacu, the number of beds grew from 5 (between 2001 and 2010) to 14 (since 2012). The number of beds at the two guesthouses in Ciurila commune increased from 38 in 2010 to 50 since 2014.

Table 2.

Evolution of the accommodation capacity of the units in Feleacu Hill communes between 2001 and 2015 (bed places)

Commune	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ciurila	-	-	-	-	-	-	18	18	18	38	50	70	30	50	50
Feleacu	5	5	5	5	5	5	5	5	5	5	-	14	14	14	14
Tureni	-	-	-	16	56	56	56	56	56	56	56	16	16	16	16
Total	5	5	5	21	61	61	79	79	79	99	106	100	60	80	80

Source: INS, TEMPO-ONLINE database (2016)

The only decline is registered in Tureni commune as a result of the closure of Paradis Hotel, which led to a decrease of the accommodation capacity from 56 (between 2005 and 2011) to 16 since 2012. However, this situation is based only on the INS statistical data. As shown before, there are several other accommodation units in Tureni which are not included in the INS databases. For instance, Paprika Inn practically replaces the former Paradis Hotel, as it inherits the building. According to its website, it has 28 single, double and triple rooms

as well as a flat (for four people), which suggests an accommodation capacity of more than 50 beds. Imperial Guesthouse is probably the one which appears in the INS data with 16 accommodation beds, although its website states that there are 9 double rooms, so 18 beds. Gold Fayen House has, also according to its website, 21 beds in 8 rooms. “Lacul Micești” Guesthouse near Micești (in Tureni commune, too) provides 11 rooms to tourists, which accounts for about 22 beds, and a chalet for groups of 8 to 10 people. It comes out that the real accommodation capacity in Tureni commune is about 120 beds, compared to just 16 that are registered by the INS.



Fig. 2. Teleschi Guesthouse and the starting point of Feleacu ski slope

Nevertheless, the growing trend of the accommodation capacity is set to continue in the near future, both statistically and in reality. As the data regarding the number of arrivals and overnight stays at Hotel Premier in Feleacu commune (Vâlcele village) are already registered by the INS since 2015, the data regarding the accommodation capacity of this hotel should be available soon. The data concerning the functional tourism accommodation capacity (table 3) suggest an accommodation capacity of more than 80 beds in this four-star hotel.

The *functional* accommodation capacity, measured in beds-days, represents the result of the multiplication of the number of beds by the number of days when these beds are available (in one year). Generally, if all the accommodation places are available all year round, then the number should be the result of the multiplication of the accommodation capacity by 365 days (or 366 in leap years).

Such a situation is registered for instance at Teleschi Guesthouse in Feleacu, where the number of 5110 beds-days in 2014 is obtained by multiplying its capacity of 14 beds by 365 days. An identical situation was recorded at the same guesthouse between 2003 and 2010, when there were only 5 beds. In 2004 and 2008 the functional accommodation capacity increased by 5 beds-days as they were leap years and one day was added.

Table 3.

The evolution of the functional accommodation capacity in Feleacu Hill communes between 2002 and 2015 (beds-days)

Commune	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ciurila	-	-	-	-	-	-	-	1159	13055	17601	23200	12970	16206	15750
Feleacu	1070	1825	1830	1825	1825	1825	1830	1825	1825	-	3430	5200	5110	33273
Tureni	-	-	5360	14400	20440	20440	20496	20440	20440	20501	11062	6476	6236	6570
Total	1070	1825	7190	16225	22265	22265	22326	23424	35320	38102	37692	24646	27552	55593

Source: INS, TEMPO-ONLINE database (2016)

On the contrary, in some years, no numbers are registered for the functional accommodation capacity despite the fact that a certain accommodation capacity is registered by the INS. It is the case of the year 2001 in Feleacu commune, where 5 beds were registered, but no functional accommodation capacity, or in the years 2007 and 2008 in Ciurila commune, where an accommodation capacity of 18 beds seems not to be functional according to statistical data. In other cases, a lower functional accommodation capacity suggests that the accommodation units were closed for certain periods throughout the year or certain rooms were not available for tourists. Usually, these periods are off-season when the owners have time to perform certain restoration, renovation and improvement works. Sometimes, these works extend over longer periods – for instance, Teleschi Guesthouse was closed in 2011 all year round.

The functional accommodation capacity registered the same trend as the accommodation capacity but the increase was more spectacular – from 1070 beds-days in 2002 to 55593 beds-days in 2015. In 2015 nearly 30000 beds-days appeared “out of nowhere” in Feleacu commune at a different unit than Teleschi Guesthouse, most certainly Hotel Premier. This value represents more than 50% of the functional accommodation capacity in the analyzed region. Before this, the highest value was registered in 2011, 38102 beds-days, of which 14600 beds-days corresponded to Paradis Hotel in Tureni, which functioned only for a couple of months more in 2012 before disappearing from the INS data. As mentioned above, the real functional accommodation capacity is higher in Tureni commune.

3. TOURISM FLOWS

On Feleacu Hill, tourism flows registered a positive trend between 2002 and 2015, the period for which INS provides data (by means of TEMPO-ONLINE database). It must be said that these statistical data strictly concern those tourists who were accommodated and registered as such at the accommodation units in the studied area. In reality, the number of tourists is much higher: on one hand, there are many transit tourists who visited certain attractions in the area but preferred to accommodate somewhere else (for example, in Cluj-Napoca City); on the other hand, the week-end tourists from Cluj-Napoca or Turda might prefer to go back and sleep over night in their own homes.

In terms of the number of tourist arrivals at the accommodation units on Feleacu Hill, the value increased exponentially from 95 tourists in 2002 (all registered at Teleschi Guesthouse in Feleacu) to 7791 tourists in 2015 (of which 5657 in Feleacu commune: 980 at Teleschi Guesthouse and 4677 at Hotel Premier).

Table 4.

The evolution of the number of tourist arrivals in the accommodation units in Feleacu Hill communes between 2002 and 2015 (people)

Commune	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ciurila	-	-	-	-	-	-	-	18	399	550	502	793	1053	1656
Feleacu	95	241	293	336	537	702	1037	627	383	-	40	175	351	5657
Tureni	-	-	502	1382	4172	4651	4947	3376	2844	3635	680	512	433	478
Total	95	241	795	1718	4709	5353	5984	4021	3626	4185	1222	1480	1837	7791

Source: INS, TEMPO-ONLINE database (2016)

A more detailed look highlights a significant rise between 2002 and 2005, and then a leap from 1718 arrivals in 2005 to 4709 arrivals in 2006 due to the opening of Paradis Hotel in Tureni, preferred by the vast majority of tourists (79.16%) in the region. Given the specificity of the hotel, one may assume that they were either transit tourists or arrived for certain events, celebrated at the hotel's restaurant (weddings, baptisms, anniversaries).

The total number of people arrived and accommodated in the analyzed region continued to increase until 2008, when it reached 5984 people, of which 1037 at Teleschi Guesthouse in Feleacu, 4134 at Paradis Hotel in Tureni and 813 at Imperial Guesthouse in Tureni, the peak for each of these accommodation units. The share of tourists staying at Paradis Hotel decreased however to 69%.

It seems that the economic crisis and the opening of Turda-Gilău A3 motorway had an impact on the number of tourists in the following years, 2009 and 2010, as it dropped at all the accommodation units in the studied area. A small revival in recorded in 2011 but only in the case of Imperial Hotel in Tureni, just

before its closure (or anyway before it disappeared from the INS data) in 2012. As a result, the number of arrivals registered between 2012 and 2014 is three to four times lower than the ones recorded between 2006 and 2011.

The positive trend registered since the lowest point in 2012 is caused by the development of new types of tourism – especially rural tourism, agrotourism, extreme tourism and complex tourism. This materialized in the growing number of arrivals at the two guesthouses in Ciurila commune, which came to represent more than 50% of all the people that arrived and were accommodated in the studied region in 2013 and 2014.

The data of 2015 suggest a new significant and very high leap, as the values increased approximately four times compared to 2014 due to the registration of people accommodated at Hotel Premier in Vâlcele (Feleacu commune), a location known mainly for organizing large events as it has a hall for 400 people.

This very high value masks other improving numbers for 2015, as the rise in the number of arrivals at all the accommodation units according to INS data: from 1053 tourists in 2014 to 1656 tourists at the two guesthouses in Ciurila commune; from 351 tourists (2014) to 980 tourists (2015) at Teleschi Guesthouse in Feleacu; from 433 tourists (2014) to 478 tourists (2015) at Imperial Guesthouse in Tureni.

We estimate that this growing tendency will be maintained in the years to come, both due to the increase of the number of tourists at the existing accommodation units and to the opening or “officialization” of new accommodation units in the studied area in the context of higher demand.

As expected, the number of overnights at the accommodation units in the studied area experienced a similar evolution to that of the number of arrivals, as sojourns were generally short and very short (1 to 3 nights) for the majority of tourists. The number of overnights was significantly higher between 2005 and 2011, when Paradis Hotel in Tureni functioned. The values peaked in 2007 and 2008 before the economic crisis and the opening of the motorway sector Turda – Gilău (A3), when all the traffic concentrated on the DN1/E60 national road passing through Tureni.

Table 5.

The evolution of the number of tourist overnights in the accommodation units in Feleacu Hill communes between 2002 and 2015 (overnights)

Commune	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ciurila	-	-	-	-	-	-	-	36	544	998	695	1098	1896	2515
Feleacu	190	482	586	672	1074	1404	1783	1229	766	-	40	279	565	10547
Tureni	-	-	988	2191	6497	7371	6996	4324	3524	4910	1015	614	653	478
Total	190	482	1574	2863	7571	8775	8779	5589	4834	5908	1750	1991	3114	13540

Source: INS, TEMPO-ONLINE database (2016)



Fig. 3. “La Mesteceni” Guesthouse in the newly-built part of Sălicea village

After 2012, one noticed the same constant growth, based primarily on the ever higher number of overnights at the two guesthouses in Ciurila commune. In 2015, the values rise more than four times due to the overnights registered at Hotel Premier (Feleacu commune), more than 10000, representing almost 78% of all the overnights in the studied region.

The computation of the average duration of stay in the analyzed period leads to certain statistically unbelievable results. For instance, both at Teleschi Guesthouse in Feleacu and at Imperial Guesthouse in Tureni, the recorded average duration of stay is exactly 2 nights for several years in a row, which is probably a “calculated” error. The average duration of exactly one night looks similarly erroneous at the same guesthouses in the years 2012 (Teleschi) and 2015 (Imperial). Is it possible that all the tourists stayed there for just one night?

Certainly, the values for Tureni commune between 2005 and 2011 are largely due to the overnights registered at Paradis Hotel, and that is why an identically “suspect” row of the number 2 does not appear in table 6 for Tureni commune. However, one may rise the issue of the valability of the statistical data provided by the INS starting from these numbers.

Table 6.**The evolution of the average duration of stay at the accommodation units in Feleacu Hill communes between 2002 and 2015 (nights)**

Commune	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ciurila	-	-	-	-	-	-	-	2	1.36	1.81	1.38	1.38	1.80	1.52
Feleacu	2	2	2	2	2	2	1.72	1.96	2	-	1	1.59	1.61	1.86
Tureni	-	-	1.97	1.59	1.56	1.58	1.41	1.28	1.24	1.35	1.49	1.20	1.51	1
Total	2	2	1.98	1.67	1.61	1.64	1.47	1.39	1.33	1.41	1.43	1.35	1.70	1.74

Source: INS, TEMPO-ONLINE database (2016)

If we are to believe these statistical data, the average duration of the sojourn declined from 2 nights in the years 2002 and 2003, when the only accommodation unit was Teleschi Guesthouse in Feleacu, to 1.33 – 1.43 nights in 2009-2013, when probably registrations were more carefully conducted. The lowest value, 1.33, was registered in 2010, at the height of the economic crisis.

Since then, one remarks a growing trend of the average stay. This fact is first due to the increasing average duration of stay at almost all guesthouses, even if they are still based mainly on week-end and transit tourism. However, there are more and more tourists who prefer to stay at these guesthouses for longer periods, either for leisure (rural tourism) or because they considered them a better option during longer events taking place in Cluj-Napoca or nearby, such as Untold Festival (since 2015), Electric Castle Festival, Transylvania International Film Festival (TIFF), when hotels in Cluj-Napoca are fully-booked.

On the other hand, the higher value of 2015 does not reflect only the higher number of events in Cluj-Napoca (city which was the European Youth Capital that year), but also the statistical inclusion of Hotel Premier in Vâlcele (Feleacu commune). This hotel focuses on events and some of them (conferences, symposia, congresses) have a longer duration. As a consequence, the average duration of stay increased to 1.86 days in 2015 for Feleacu commune and to 1.74 nights for the entire analyzed region.

The analysis of the seasonality on the basis of INS statistical data indicates a relative stability of the values and some exceptions from the usual situations. On the one hand, the best month, August, has more than double than the number of arrivals in the worst month, which is surprisingly May. Lower values are registered, also somewhat surprisingly, in January. On the other hand, February has the highest values in the first five months of the year but lower than any month between June and December.

One remarks a slight peak in summer but people arriving in September and October are almost as many as in July, which is rather paradoxical. Even the number of arrivals in November, usually considered among the “worst” off-season months in tourism industry, is higher than the values in spring or winter.

Table 7.**The monthly evolution of the number of tourist arrivals at the accommodation units in Feleacu Hill communes between 2010 and 2015 (total number of people)**

Commune	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Ciurila	193	243	291	551	345	534	378	500	540	428	423	527
Feleacu	360	485	458	70	142	739	799	615	545	708	645	657
Tureni	591	710	583	625	566	550	882	1193	926	913	643	400
Total	1144	1438	1332	1246	1053	1823	2059	2308	2011	2049	1711	1584

Source: INS, TEMPO-ONLINE database (2016)

Some explanation may be provided starting from the manner in which certain accommodation units functioned between 2010 and 2015, the only years for which the INS provides monthly statistical data. For Tureni, the values recorded at Paradis Hotel between 2010 and 2012 were decisive in the configuration of seasonality, as they peaked in summer and autumn. For Feleacu, the values for Hotel Premier in 2015 were also decisive as they were much higher than the ones recorded at Teleschi Guesthouse between 2012 and 2015 (there were no arrivals at this guesthouse in 2010 and 2011, at least according to INS data). But Hotel Premier started to receive higher flows of tourists only since June 2015 and in the previous two months it had no tourists. This explains the low number of arrivals in April and May in Feleacu commune, as they were registered only at Teleschi Guesthouse, which is less crowded outside the winter season.

In terms of seasonality, one may conclude that for the moment it does not seem to determine major variations in the tourist flows, as long as the region relies on types of tourism which are not so much dependent on seasonality – events that may occur any time throughout the year, week-end tourism, transit tourism, rural tourism and extreme tourism (N. Ciangă, 2007, P. Cocean and Șt. Dezsi, 2009).

4. CONCLUSIONS

Tourism may bring several improvements in the economic life of rural areas, in the structure of the active population and even for its physiognomy. If initially tourism represented only an additional source of income for the people who are involved in the business, in time this may become their main job. The long-term effects are multiple and benefits are shared with the entire rural community. Therefore, the villages on Feleacu Hill may experience a restructuring of the active population as the population engaged in the primary (agricultural) sector declines and the population working in the tertiary sector, specifically tourism and hospitality services, multiplies.

The migration of young people may be reduced as they may become involved in tourism activities and new families may move to these rural settlements as new jobs are available (Aurelia Susan, 1980, p. 191). Agrotourism and rural tourism also favors the development of agriculture, as there is an increasing demand for “bio” fresh and additive-free products, made and eaten on the spot. Tourism generates the development of retail, the emergence of small grocery stores, bakeries, craft shops, and sometimes restaurants, cafeterias and coffee shops, very much to the benefit of both the tourists and the local community.

The changes in the physiognomy of the village buildings is the most striking result of the impact of rural tourism in these settlements. As noticed in the field, traditional ancient houses are renovated, modernized and included in the tourism circuits. The functionality of the houses is increased by the introduction of centralized water and sewerage systems, satellite TV, internet connection and other means of communication. New modern urban-like houses are built, which provide models for other members of the community to renovate their own buildings. There are increasingly more secondary homes, owned by people living in the city, used temporarily by their landlords and sometimes rented for short periods to tourists. Finally, improvement in the road infrastructure makes these villages more accessible and attractive to tourists.

Tourism on Feleacu Hill is developing slowly but steadily. The “great outdoors” represent the main attraction for the city dwellers nearby. Accommodation structures are emerging in an attempt to meet the ever higher and diverse demands of the tourists, whose numbers increase every year.

REFERENCES

1. Ciangă, N. (2007), România. Geografia Turismului, Edit. Presa Universitară Clujeană, Cluj-Napoca.
2. Cocean, P., Dezsi, Șt. (2009), Geografia Turismului, Edit. Presa Universitară Clujeană, Cluj-Napoca.
3. Idu, P.D. (1969), Feleacu, un “sat de coastă” din sudul Clujului, Anuarul Muzeului Etnografic al Transilvaniei 1965-1967, Cluj-Napoca.
4. INS (2016), TEMPO-ONLINE database, available at <https://statistici.insse.ro/shop/>, last accessed on 14 February 2016.
5. Pop, Gr. P. (2001), Depresiunea Transilvaniei, Edit. Presa Universitară Clujeană, Cluj-Napoca.
6. Pop, Gr. P. (2007), Județul Cluj, Edit. Academiei Române, București.
7. Savu, Al. (1983), Depresiunea Transilvaniei, în Geografia României, I, Edit. Academiei RSR, București.
8. Savu, Al. (1987), Depresiunea Transilvaniei, în Geografia României, III, Edit. Academiei RSR, București.
9. Susan, Aurelia (1980), Geografia Turismului, curs litografiat, Universitatea “Babeș-Bolyai”, Cluj-Napoca.

THE SUSTAINABLE DEVELOPMENT OF TOURISM IN THE LAND OF BEIUȘ THROUGH RECREATIONAL ACTIVITIES AND TOURIST ANIMATION

LAURA ANDREEA LAZĂR¹

ABSTRACT. – **The Sustainable Development of Tourism in the Land of Beiuș through Recreational Activities and Tourist Animation.** The issue of sustainable development has lately encroached several areas including tourism, due to the strong impact it had on this environment and local culture. By linking the concept of sustainable tourism with recreational and tourist animation we wanted to highlight a new way to change the concept of tourism as a “destructive factor” of the natural environment and highlight an area less known for its elements that targets tourism. What Beiuș Land has to offer to become a sustainable tourism destination is reflected in the outstanding cultural values, crafts still well-preserved, natural resources that can be exploited through hiking, speleology, cycling and, not least, dowry-related people and ancestral traditions. Habitat development strategy targets the idea of meeting the needs of present tourists keeping in mind the protection of the environment and providing opportunities for future sustainable development strategies under the auspice thought of durable development.

Keywords: *sustainable tourism, tourism animation, entertainment, Beiuș Land, cultural values.*

1. INTRODUCTION

The vast tourist phenomenon has been associated over time with various fields, but the current trend of tourism offers a new dimension, that of sustainable development. The idea of sustainable tourism in Romania appeared relatively recently and is most often associated with rural tourism. The latter is defined as a type of tourism that is based on values and promoting the Romanian village without damaging their authenticity, ideal for a sustainable tourism. The land of Beiuș transformation into a sustainable tourist destination can be an opportunity to promote the tourism market, recreational and tourist animation through various forms of ethnographic approach that can shape a recognized local tourist attraction and its values.

¹ Babeș-Bolyai University, Faculty of Geography, str. Clinicilor, nr.5-7, Cluj Napoca;
lazarlaura90@yahoo.com

The implementation of sustainable tourism in the area of Beiuș recreational and tourist animation is the optimal solution that can ensure the survival of local traditions and cultural values to future generations so the village identity is not lost. Despite the fact that most times habitat conservation conflicts with the desire of people to enjoy modern elements imposed by society globally, rural development through tourism has proven to be one of the best ways to keep rural identity. The village's cultural heritage is the hearth of our ancestors, and the preservation and promotion of key traditional items, we keep alive the legacy left by past generations.

It can be seen that lately the attention of tourism specialists has a new orientation. From the economic point of view the nature of tourism activities, turned to a new dimension regarding the phenomenon. Recently, tourism takes into account the social side and the impact that it has on both the tourist activity, especially on the local population and the environment. These new approaches are the way to achieve a sustainable development, thus creating a bridge between the concept of sustainable tourism and rural tourism. Awareness of the importance "man" has both in the consumption of tourism products, especially in their promotion specialists today an increased interest towards creating sustainable tourism destinations.

2. MATERIALS AND METHODS

The Beiuș Land, one of the 18 "countries" of Romania (Cocean, 2011) is located in the south - eastern part of Bihor County, being crossed, throughout its territory by Crișul Negru River and its tributaries (fig. 1).

The geographical boundaries of the area are not very clear; the land of Beiuș is about 1,900 km² in area and is defined mostly by ethnographical aspects.

The defined space consists of 127 villages grouped into 21 communes (Răbăgani, Pomezau, Roșia, Căbești, Remetea, Pocola, Uileacu de Beiuș, Șoimi, Finiș, Curățele, Budureasa, Drăgănești, Tărcaia, Lazuri de Beiuș, Buntești, Rieni, Pietroasa, Câmpani, Lunca, Cărpinet și Criștioru de Jos) and 4 towns: Beiuș, Ștei, Vașcău and Nucet. Through their characteristics these places have managed to shape one of the most beautiful "countries" Romanians have, fully respecting the concept of "country" as a geographic area that has common values but retain varying dimensions: ethnic homogeneity, economic organization, politics, both social and cultural (Surd,1993). Given the premise of social individualization, this "country" takes into account the ethnic and religious characteristics, where the majority of the population is Romanian and Orthodox and maintains its integrity in relation to neighbors.

Overcoming the mental borders of the "country" Beiuș and the territory as a physical medium of relations between all the components mentioned above, the land of Beiuș is distinguished as a region, bordered on three sides by mountains:

in the northern region Pădurea Craiului mountain group, Bihor and Vlădeasa to the east and the Codru Moma group to the south and south-east which highlights the beautiful interweaving of two major landforms: the Apuseni Mountains and the Criș Plain.



Fig. 1. The geographical location of the land of Beiuș in Romania

The geographical elements that are bordering the land of Beiuș, the mountains and the plains give it a special status: thus taking one of the general characteristics of Romania relief: variety and with a sublime exaggeration we could say and proportionality if we limit ourselves to the lowland and mountainous regions (Berindei *et al.*, 1977). Even if the lowlands of the Land of Beiuș have less representative tourism resources, this is compensated through the complexity and variety of morphological forms of the mountains bordering the region. Be it the outstanding panoramic vistas for tourists or various forms of exokarstic or endokarstic elements, we can see the beauty of the picturesque landscape that gives visitors a variety of attractions capable of boosting cultural tourism, scientific and largely on the recreational part. A special feature is given by the narrow sectors that are formed along the valleys, and the gorges of Crișu Negru River.

The natural landscape is enriched by the groundwater components, rich in mineral waters from Stâna de Vale, Finiş, Cusuiuş, Albeşti, Criştiorul de Sus and the thermal waters of Beiuş and especially the streams - Crişul Negru and its key tributaries, also the two fishing lakes "la Niţu" and "Crăiasa" together contributing to Beiuş's attractiveness. Other important aspects which help establish the land of Beiuş's tourism potential is its biogeographical elements, that shelter a number of natural reserves who protect the heritage left by nature in this region.

Moving on, in the analysis of Beiuş region being a possible tourist attraction we turn our attention to the most representative component to support the development of sustainable destinations namely local culture and tradition.

The Beiuş region is a unique ethnographic area which over the years has shaped its own identity through culture, traditions and crafts sacredly preserved in places. Notice how, in these parts, the wares and authentic folk music form constant elements, some of which are protected for centuries (fig. 2). These can be added to complement the tourist potential of a number of crafts, each more diligent. The famous chests crafted at Budureasa, the lime that burned for years in Izbuc, the stairs of Cresuia famous in Transylvania and Banat and even the red pottery from Lehecenii, prove that the land of Beiuş offers the durability of the people's occupations as real tourism attractions and also a valuable material basis for a future sustainable tourism. A key feature for this land is certainly the best known fair in Beiuş, popularly nicknamed „fair in Binş" where every Thursday peasants come from the villages down to the town to sell or buy something (fig.3).

From the early days, long past, the fair represented the place where goods are exchanged between peasants and today it retains its former character sometimes. And now we see people who bring hand-crafted products: wooden tubs, pitchforks and rakes, some flour sieves stairs and herbs gathered in the village of Poienii de Jos. The anthropogenic potential of the region is closely linked to historical cultural monuments (City Museum of History and Ethnography in Beiuş, the Fortress of Finiş, the museum „La Fluturi" from Chişcău), especially the religious buildings: the wooden churches. There are 29 wooden churches in Beiuş Land, some built as early as the seventeenth century.

Even if only a few of them today maintain the original architecture, the beauty of these holy places is given by several aspects: durability over time, the history of the paintings or unique elements, that define them. For example, the wooden church from Rieni is adorned with crosses of the heroes from the area. Located on a hill, the church dominates the space around her being situated on a hill. Around her lies the eternal world of the cemetery, with numerous crosses made of wood or stone that were painstakingly carved by hand (fig. 4). The wooden churches of Beiuş Land together with ethnographic elements: tradition and crafts are the living proof that in this region, the local community is linked to the ancestral land, and could thus shape the idea of sustainability in the territory.



Fig. 2. Traditional costumes of Beiuș Region



Fig. 3. The 2015 craftsman fair – Beiuș



Fig. 4. The wooden church in Rieni

Based on traditional research methods, direct and indirect observation, which refers both to the territory studied and the concepts debated, the present study has the purpose to broadly outline the idea that Beiuş Land can become a sustainable tourism destination based on the concept of quality, continuity and balance between the institutions involved, the environment and local community. This idea is supported by longstanding approach to habitat and actions taken by various organizations aimed at promoting the region. Beiuş Land was addressed often lately. A variety of tourism resources and the location of the region in an area wide opening to the West have made scientific reaserches over time to shape new ideas that will promote the tourism market zone.

Quantifying the number of attractions was performed in several stages, depending on the category they each fall into: nature objectives, wooden churches, elements of ethnography, accommodation and catering. Attention shifted towards several aspects: the state of preservation for these elements, accessibility, attractiveness relative to age, uniqueness, conservation we managed through this method to establish a coefficient of attractiveness for the region of Beiuş.

Considering that tourism development in the area must be sustainable environmentally, profitable economically, especially constant and lawful from an ethnical and social point of view for the local population, one may observe the manner in which, based on a promotion strategy with sustainable goals, the region can become a top destination in Bihor County, Romania and, why not, an international attraction for lovers of art, culture and history.

3. RESULTS AND DISCUSSIONS

The statements above basically show some of the reasons underlying the idea that Beiuş Land can become a sustainable tourism destination, that the area has tourism objectives which can be capitalized. In what follows, in summary form we will try to answer a new question, namely: how can become the Land of Beiuş a tourist destination using its tourism resources in a sustainable way, without negative effects on the environment, involving the local community and contributing to economic prosperity?

If we are to start with the definition of sustainable tourism given by the World Tourism Organisation, we notice that this refers to tourism that ensures meeting the needs of present tourists, and the receiving unit without compromising future tourists and more so, protecting and increasing opportunities for the future. Also it aims at maintaining cultural integrity, biological diversity and maintaining a healthy and clean environment. Taking into account the economic factor, the third pillar in sustainable development, one can say that sustainable tourism contributes to the economic welfare of the local society and the development prospects are much more viable.

Over the past few years, every tourist destination in Romania tried to follow international models, and to this end ANTREC (National Association for Rural, Ecological and Cultural Tourism) issued several objectives aimed at sustainable development of destinations. From these, several promotional strategies and solutions for the transformation of a region emerge, a model that the land of Beiuș can follow through advertising campaigns as a sustainable tourism destination that has recreational and animation activities:

- ▶ identifying tourism resources in rural areas;
- ▶ rational exploitation of tourism resources;
- ▶ the adequate planning of routes and objectives without harming the environment or the smooth development of elements;
- ▶ ensure the safety of protected areas, caves and wildlife parks;
- ▶ renewal of material and technical basis in order to ensure a competitive and ecological tourism;
- ▶ stimulating government institutions in the development of tourism infrastructure;
- ▶ promotion through workshops and craft centers of local values;
- ▶ maintaining a healthy and environmentally friendly lifestyle;
- ▶ preparing local community for the coming tourists and their involvement in recreational programs and animation;
- ▶ promoting local values in schools;
- ▶ the attraction of nongovernmental organizations (NGOs), volunteers with the purpose of promoting the region.

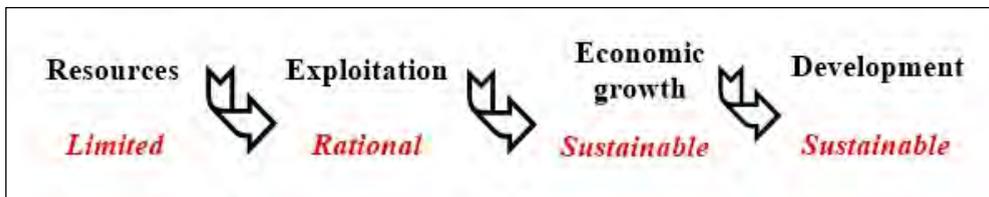


Fig. 5. Sustainable development scheme

These are just some measures that can be taken at regional level on the promotion of the region of Beiuș as a sustainable tourism destination (fig. 5). Certainly, an important role is played by local community interests to preserve and pass on the cultural and natural heritage for future generations. In the interest of promoting a sustainable development in Beiuș Land, a number of tourist information centers currently operate. Their mission is to identify more destinations and possible offers in order to promote the region while also taking

into account the factors imposed by sustainable development: maintaining the natural balance of the environment, strengthening ties between the local community and tourists and, not least, increase the economic capital, so that the number of investors in tourism will grow in the future.

4. CONCLUSIONS

As a final note, one can say that Beiuș Land as a future tourist destination must take into account the environmental problem and keep it within normal parameters and also resolve the local community issues. The current context of sustainable development requires that the region must follow the safest route to continuity, to maintain and transmit the "spiritual" assets to future generations so that they can benefit from the local heritage at least as much as previous generations. Sustainable tourism comes as a loophole to revive tourism in Romania, which, as we know, suffers lately when it comes to international recognition.

REFERENCES

1. Berindei, I.O., Măhăra, Gh., Pop, Gr.P., Posea Aurora (1977), *Câmpia Crișurilor – Crișul Repede – Țara Beiușului: cercetări în geografia României*, Editura Științifică și Enciclopedică, București.
2. Ciangă, N., Deszi, Ș., Fodorean, I. (2008), *Geografia în contextul dezvoltării europene contemporane – Turismul și dezvoltarea durabilă*, Editura Presa Universitară Clujeană, Cluj Napoca.
3. Cocean, P. (2011), „Țările” regiuni geografice și spații mentale, Editura Presa Universitară Clujeană, Cluj Napoca.
4. Godea, I. (1981), *Zona etnografică Beiuș*, Editura Sport - Turism, București.
5. Filimon, Luminița (2012), *Țara Beiușului: studiu de geografie regională*, Editura Presa Universitară Clujeană, Cluj Napoca.
6. Mazilu, Mirela, Dumitrescu, Daniela (2012), *Identity and Sustainable Development in Rural Tourism*, Forum geografic. Studii și cercetări de geografie și protecția mediului Volumul IX, pag. 7-11, Editura Universitaria Craiova, Craiova.
7. Petrea, Rodica, Petrea D. (2001), *Turism rural*, Editura Presa Universitară Clujeană.
8. Năstase, Carmen (2007), *Dezvoltare durabilă și turism durabil*, Revista de turism, no. 3, p. 54-59, Universitatea „Ștefan cel Mare” Suceava, România.
9. Stănculescu, Gabriela, Jugănar, I.D. (2006), *Animația și animatorul în turism*, Editura Uranus, București.
10. Surd, V. (1993), *Forme tradiționale de organizare a spațiului geografic în Transilvania - „țările”*, Analele Universității din Timișoara, Seria Geografie, vol.II, Timișoara.
11. http://www.antrec.ro/index.php/index.php?option=com_content&view=article&id=3&Itemid=25&lang=hu accessed on 28.09.2015.

THE DISTRICT OF CODRU – DISTRICT OR LAND?

SIMONA-MONICA CHITA¹

ABSTRACT. – **The District of Codru – District or Land?** The main objective of this paper is to demonstrate why the ethnographic Codru is a “district” (*ținut*) and not a “land” (*țară*) – the term used by most people. To achieve this goal, we analyzed the significance of the two concepts, as well as their characteristic elements. Following the first part of the paper we presented connotations that have known “district and land” over time, and in the second part we presented the differences between the two concepts, with application to the District of Codru. Presentation and analysis of the situation eventually led to support the fact that the ethnographic Codru is a “district” – a unique mental space.

Keywords: *district, land, The District of Codru, mental space, centrifugal polarized area.*

1. THEORETICAL ASPECTS

The two names: “land” and “district” have been used within the Carpathian-Danubian-Pontic space since a long time ago, when the “land” was used to designate actual spaces (Seneslau’s Land, The Land of Amlaș, Litovoi’s Land etc), and the “districts” mentioned by Dimitrie Cantemir were considered subdivisions of Moldova’s districts.

Throughout the years both names took multiple meanings (fig. 1): “land” is defined as a state, province (in the old political and administrative organization of Romania), territory, lowland, land, region (Boțan, C., 2010, p. 19), and the “district” took multiple meanings of territory, fragment, mental space, political and administrative unit.

For the term of “land” (from the Latin word terra=earth) the definition brought by the Explanatory Dictionary of the Romanian Language (DEX 1998) is: *territory inhabited by an organized people from a political and administrative*

¹ Babeș-Bolyai University, Faculty of Geography, 5-7 Clinicilor Street, Cluj-Napoca, Romania, e-mail: sgeografie@yahoo.com

point of view within a state;...unoccupied space between two fronts of battle; neutral zone...province (in the old political and administrative organization of Romania)...region, land, territory, lowland...the place where someone was born or is living; homeland...rural environment (in opposition to the town), village...the inhabitants of a country, nation....the village population; peasantry.

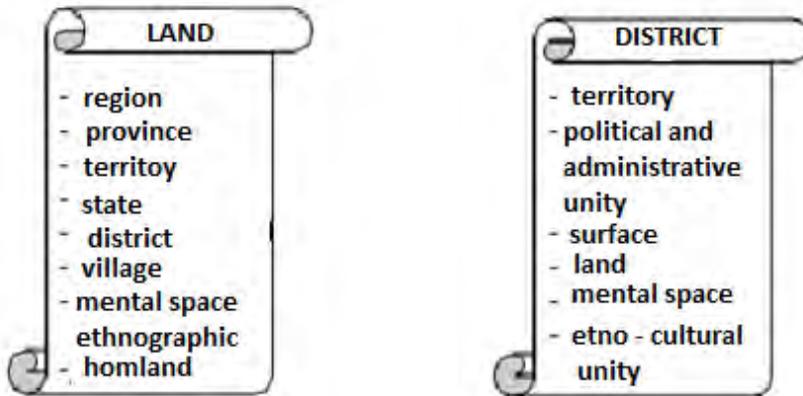


Fig. 1. The meanings of the terms “land” and “district”

For Cocean P. (2010, p. 70) “the land” represents “typical geographical regions of Romania, mental ethnographical spaces humanized by a population with the same traditions, customs, traditional/folk wear”.

The name “land”, used more and more in the specialized literature, is a very broad concept which takes historical, geographical, semantic and psychological connotations. From a semantic point of view, “the land” is regarded as a state – being politically and administratively organized, sovereign and independent; as a territory – being delimited by borders and inhabited by a population; as a motherland – being the native place of birth, the place where you grew up; and the meaning of village – being a rural settlement in which the main activity is agriculture. Psychologically, the name “land” refers to the people’s membership to a space, is the environment where man grows up.

The 18 lands present in the Romanian territory represent fragments of the old Romanian civilization, which offer evidence regarding the unity of the Romanian language throughout the Carpathian – Danubian – Pontic territory, being novelty ethnographic structures which keep with a great sanctity the customs, traditions and Romanian folk wear, as well as authentic mental spaces.

For the term “district”, the Romanian Language’s Explanatory Dictionary (D.E.X 1998) attributes the following meanings: *administrative-territorial unit according to the district from Wallachia...place, region...land*. From an etymologic point of view, the word “district” comes from the transitive verb “to hold”, with certain features generated by his derivatives to belong, to own, to maintain (Cocean, P., 2010, p. 5).

From all the connotations the term “district” has had, the most spread was that of territory, notion defined like a span of land in which a certain authority is exerted. Starting from this definition one can observe that in his work *Descriptio Moldaviae*, Dimitrie Cantemir specifies the district as being a subdivision of the provinces, equivalent to districts at that time. “In the past Moldavia was made up of three parts: Lower Moldavia, Upper Moldavia and Basarabia, in which 23 smaller lands were counted. Moldavia Inferior is made up of 12 smaller regions, which they call districts (The District of Iasi, Cârlișturii, Putna, Vaslui etc)” (D. Cantemir, 1973, p. 73). The districts received an organized unitary structure after the accomplishment of the first union of the Romanian countries, in 1600, by Michael the Brave and after the 1859 “Union” of Moldavia and Wallachia.

Making an incursion into history, to Dimitrie Cantemir’s districts and those from Carol the 2nd’s period, one can observe that they represented political and administrative entities in their time. Why this significance? Because Dimitrie Cantemir’s Moldavian districts were ruled by governors of different ranks (Suceava was ruled by the great hetman, the District of Vaslui was ruled by a chief magistrate, the District of Putna by a chief), and in the time of Carol the 2nd they were ruled by governors according to royal decrees.

The last administrative reform which took place after the installation of Carol the 2nd dictatorship by adopting a new constitution on February 24th 1938, had as a main effect the associations of the counties within new macroterritorial structures named “districts”, fact sanctioned by the administrative law on August 14th 1938 (Săgeată, D, 2013, p. 8). As per this law, which was enforced for 2 years, the territory of Great Romania was divided in 10 districts, made up by counties: Suceava with the residence at Cernăuți, Prut with the residence at Iași, Nistru with the residence at Chișinău, Someș with the residence at Cluj, Mureș with the residence at Alba Iulia, Timiș with the residence at Timișoara, Olt with the residence at Craiova, Bucegi with the residence at Bucharest, Danube with the residence at Galați, the Sea with the residence at Constanta. Widely circulated lately is the fact that the district is a mental spatial entity – of the membership of a man to a territory, mentally being a very important criterion in the delineation of a district. Why a mental space? Because „man became the main forming factor of the surrounding reality and the way in which he foreshadows and sustains it depends in an overwhelming manner on his adhesion degree to the space, on the transcendence of his characteristics in its own spirit.” (Cocean, P., 2010, p. 88).

Apart from all these meanings presented above, the district can also be analyzed as an *ethno-cultural unit*. In Romania there is such a district – the Szekler District, which is more special than other Romanian districts due to the fact that the inhabitants belong to the Hungarian ethnic group. The Szekler District is overlapping the territory from the East of Transylvania, in which the Szekely people were colonized beginning with the 13th century. As opposed to the Szekler District, the other ones distinguish themselves due to their ethnographic customs and traditions.

Analyzing all the connotations of these two terms – “land and district” – one may notice that between them there are similarities, but also differences. As a mental spatial entity, the district – a territory inhabited by a population with a spiritual and material culture tightly anchored in the reality of the place, comes very close to the regional system of the land, yet there are differences between them. As a result, we tried to explain in this study why this wonderful District of Codru is a district and not a land, as it appears in the majority of works.

2. WHY A DISTRICT AND NOT A LAND?

If in the case of land the birth pattern is represented by depressions either between or alongside mountain chains, except for the Land of Nasaud which is a slope land, and the Land of Moți which is formed on mountain peaks and slopes, the districts do not extend on a certain landform, they do not have a preference for a certain landform. Regarding the District of Codru, it is grafted on a land of hills (The Silvano-Somesan Hills), on a land of plains (a reduced portion of the Western Plain) and depressions (in the southern extremity of Culmea Codrului).

This territory develops on both sides of Culmea Codrului, named “the spine of the District of Codru”. Culmea Codrului (Codru Range) is a landform of hummocks, reminder of the crystalline mountains sunk in tertiary deposits, appearing as a giant horst, with a maximum height of 580 meters in the peak of Lespezi and 551 meters in the peak of Tarnita. Towards the peripheral areas, the altitude drops even under 400 meters. The specific climatic conditions favored the presence of forests (beech, sessile, oak) on wide spaces imposing in the toponymy of this space the name of Culmea Codrului “codru” means “woodland”), which is also known as Culmea Făgetului (“Beech Range”). The Homoroade Hills (Colinele Codrului) and the Hills of Asuaj (Piemontul Codrului) flank the two sides of Culmea Codrului, the first one to the West, and the second ones to the East. They are characterized by the presence of some vast meadows and pastures which favored the raising of cattle and have about 200-250 meters. The Hills of Sălaj situated between the corridor of the Somes River to the East and the valley

of Sălaj to the West, with altitudes that exceed 300 meters, are made of a crystalline base which appears under the shape of some islands in the Țicău Massive, and a sedimentary cover.

Lately the sustainable territorial development phrase is frequently conveyed as a fundamental component of the European Union's politics. This concept is designed to reduce the existing discrepancies between the European Union's country members or territories that belong to the same area.

If the lands constitute themselves "as models of territorial cohesion" (Cocean, P., 2011, p. 210), in the case of the districts the territorial cohesion is barely sketched. The territorial major force lines develop in different directions, do not work together, the mini-systems that comprise it do not form a single system, but diverge in different directions.

Within the District of Codru, placed on the territory of three counties – Maramureș, Satu Mare and Sălaj, the territorial development politics are different. This is also stated by the fact that there is not a Local Action Group (LAG) for the entire district, but there are such groups for every (mini-land) within every counties (LAG Someș-Codru in Satu Mare, LAG West Maramureș in Maramureș, LAG Tovishat in Sălaj), even though the district's inhabitants resemble through folk wear, traditions, customs, practically the only ones that state their membership to the District of Codru.

It is a well-known fact that the District of Codru is a disadvantaged area, but it is a compact ethnographic and folkloric area, argument which could be the starting point in the process of taking this unique land out of anonymity, which could be realized by the cooperation of the local public authorities of the three counties. A meeting of the local public authorities in work sessions is necessary with the purpose of establishing a local development plan, which would have as a starting point the district's ethnography and folklore, to which one can add the area's tourist objectives, the fertile fields (motivating the young people to establish agricultural farms), as well as the encouragement of young people to get involved in the cultural development of the district (wearing folk clothes, keeping traditions and customs).

The appearance of land in basin areas is a factor that determines the natural and human gravitation from the peaks of mountains towards their heart, convergent towards polarizing centres. In the case of the "land"-type territories, at least one polarizing centre is present, represented by an urban or rural settlement, a centre of attraction to which the whole region reports and manages the economic, social and cultural activities of the „land". The individualization of the polarizing centres "appeared at the same time as the human communities' crossing from the autarchy given by the village community to the one of well-articulated and hierarchical social and political structure" (Cocean, P., 2011, p. 19).

If the “land” type formations have at least one polarizing centre, within the “district” type formations there is the possibility that these centres do not exist on their territory. This is the situation for the District of Codru, a land polarized by centres localized outside their limits (fig. 2). Being placed on the territories of three counties, this district is polarized by the centre of each county: Satu Mare City, Baia Mare City and Cehu Silvaniei town.

From the discussions held with the district’s inhabitants one has realized that they consider each county to have its own District of Codru and each one has its problem and do not mingle, even though during the great fairs and festivals (ex. Asuaj onion market, Oțeloaia Codru Song Festival) all participate and there is no more difference between the Codru of Sălaj, Maramureș and Satu Mare.

The District of Codru specificity comes from the fact that its centre, marked by Culmea Codrului, that “spine”, comes from a spiritual centre which has the role of installing the moral values, to sustain the maintaining of traditions and customs, being the one that sustains the „codrean” concept, but it is not the centre towards which the natural and human gravitations takes place. This „*spiritual centre*”, the District of Codru covered by forests of beech and evergreen is in fact the one which offered shelter to the population from the invaders, it is the one to which the name of the autochthonous population’s name is tied up to – “codrean”, meaning that someone belongs to “Codru”.

The fact that the District of Codru is a district polarized by centres placed outside its territory is also sustained by the firms’ setup (with the sphere of action – agriculture or industry) towards the district’s exterior and not towards the “*spiritual centre*”. Why did the small entrepreneurs place their small firms in this area? The answer is simple. Because the closeness to the big urban centres (in our case Satu Mare, Baia Mare, Cehu Silvaniei) offer different advantages to small manufacturers: a marketplace for products, smaller amounts of time for the goods’ transportation, the promotion of products, a larger group of consumers, the competition which leads to the challenge of entrepreneurs to obtain high quality products for a higher consumption. To all of these one may add that the three polarizing centres also offer a larger number of jobs to the population, offer more possibilities to the young people who in their personal development search to study in those areas where the possibility of standing out is greater.

It is said that „the countries are genuine mental spaces” (Cocean, P., Ciangă, N., 2000), but are the districts really not mental spaces? The mental space represents a territory fragment, of extremely varied dimensions, where the real and imaginary become one unmistakable, unique entity. It exists, functions and evolves through the means of man. The mental space partially overlaps the geographical territory, ennobles it with new valences derived from adding elements of a spiritual order (Cocean, P., 2011, p. 34).

THE DISTRICT OF CODRU - DISTRICT OR LAND?

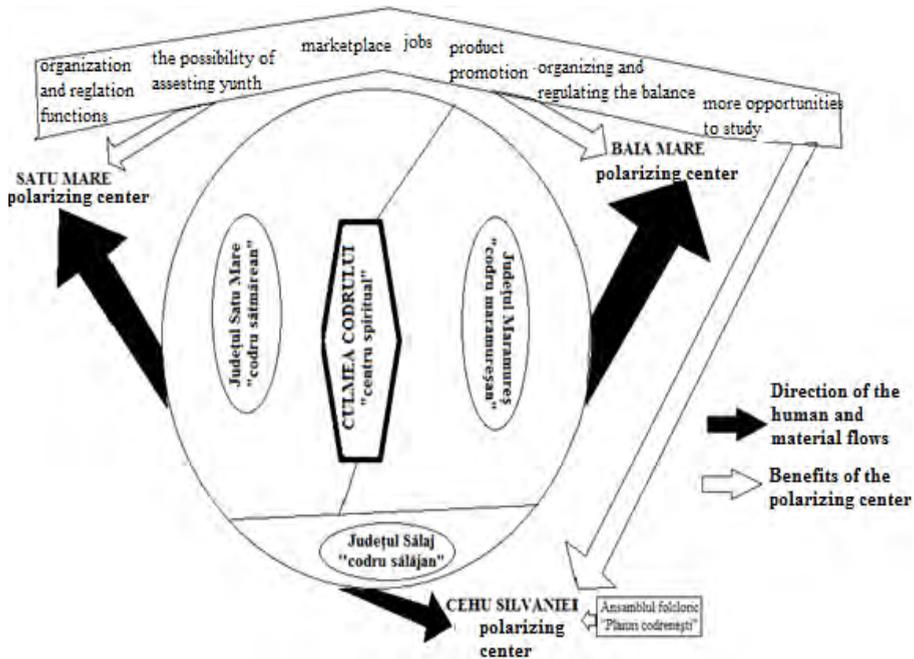


Fig. 2. The polarizing centres of the District of Codru and the directions of gravitation

The lands' mental space is formed around some elements, according to Cocean P, as it follows: the earth, the house, the people, the custom, the myth, the divinity (fig. 3). One can also find these components in the mental space of the district, in our case the District of Codru, because the land is the one that determines the Romanian in battle, as Mihai Eminescu also says „We do not have armies, but the love for the land is a wall/ Which is not frighten of your fame, Baiazid”; the house, a basic element in the organization of the village world; it represents the place of birth, of happy memories and mischief, the family is the one that represents the family relationships' nucleus of cementation, that important element in the life of the Romanian peasant, the one who kept from generation to generation an unwritten law – the custom, given from the parents to the children, a law that gives individuality, a law represented by the customs, traditions and folklore (The District of Codru is renowned for its celebrated folklore dances within the „Codru Folklore Festival” from the Forest of Oteloiaia, as well as the Sânzieni customs or the renowned „barn dance”). On top of all there is the Divinity summoned in all of the peasant's works as God is summoned in the wedding, christening, funeral, carol songs.

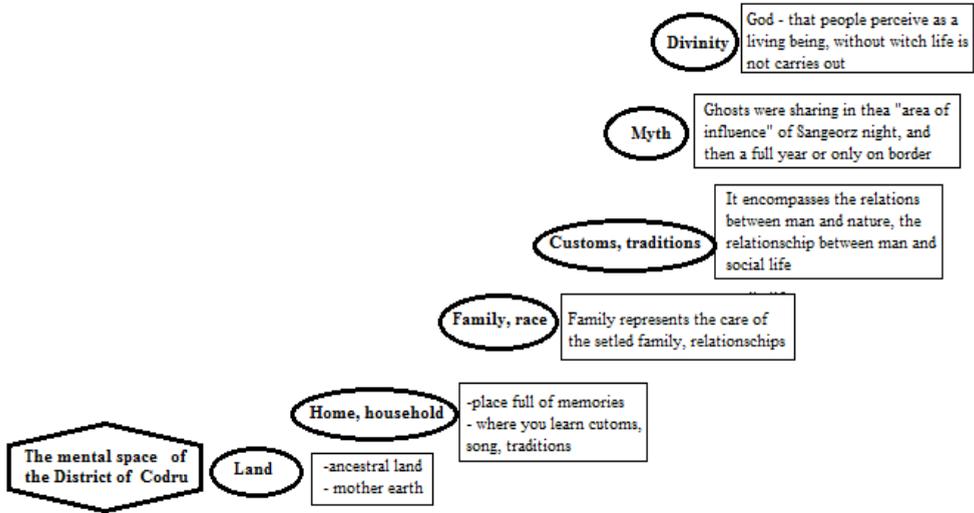


Fig. 3. The District of Codru –the structure of the mental space

If the elements which make up the structure of the lands' mental space are also the ones that are at the basis of the mental space contouring the District of Codru, however there is a difference among them. In the case of Romania's lands, the mental space is well put together, the inhabitants from a border to another certainly state that they belong to that land, have the same customs and traditions inherited from their ancestors. In the case of the District of Codru, the situation is a little bit different, maybe due to the historical and political events that took place on this territory, knowing that the villages within this territory once were part either from Satu Mare and Sălaj counties, either from Maramureş, Sălaj and Satu Mare counties, situation that left a mark on the inhabitants' membership to the District of Codru. A mark upon the inhabitants' identification to this territory with the term of „codrean” also has put its influences from outside the territory as well as the young people's modernization for the ones “who still wear a linen shirt and cioareci (pants that are specific to peasants) are considered obsolete”, as the Romanian teacher Bejan Adrian from Tohat tells.

The feeling of individualizing or not to this territory has been brought forward through the answers that were given to the applied questionnaire, whose purpose was that to mentally set out this district and to present the “Codrean” characteristics. The analysis of the answers obtained as a result of applying the questionnaire brought into attention the fact that being a “Codrean” and to belong to the District of Codru means that on the territory of the village in which

3. CONCLUSIONS

The problem of the dissipation of the customs and traditions of this ethnographic area is due to the fact that the majority of the young population has left and only the elders remained in the area. The area's inhabitants, especially the ones who are placed at the outskirts of the territory have been taken by this "urbanization process", which has brought them further from the traditions. As the professor Bejan Adrian said "you are traditional if you dress in the folk wear every day, like in old times, not just for the holidays".

According to a functional analysis of this micro-region, polarized centers are outside its limits, the presence of a "spiritual center" – Culmea Codrului (who gave his name) and the existence of a mental space, are some elements that support the idea that the ethnographic region of Codru is a "district" and not a "land".

REFERENCES

1. Boțan, N. (2010), *Țara Moșilor. Studiu de geografie regională*, Editura Presa Universitară Clujeană, Cluj-Napoca.
2. Cantemir, D. (1973), *Descriptio Moldaviae*, Edit. Academiei RSR, București.
3. Cocean, P., Ciangă, N. (1999-2000), *The „Lands” of Romania as mental spaces*, Revue Roumaine de Géographie, Tomes 43-44, pag. 199-205, Bucuresti.
4. Cocean, P., Boțan, N. (2005), *Specificitatea individualizării spațiale a Țării Moșilor*, Studia UBB Geographia, L, 1, Cluj Napoca.
5. Cocean, P., Ilovan, Oana-Ramona (2009), *Genesis of a “slop” land, The Land of Năsăud*, Studia UBB Geographia, LIV, 1, Cluj-Napoca.
6. Cocean, P. (2010), *Geografie Regională*, Edit. Presa Universitară Clujeană, ediția a III-a (revăzută și adăugită), Cluj-Napoca.
7. Cocean, P. (2011), *„Țările”. Regiuni geografice și spații mentale*, Editura Presa Universitară Clujeană, Cluj-Napoca.
8. Cocean, P. (2010), *Ținutul – un taxon regional tradițional, specific României*, Geographia Napocensis, anul IV, nr.1, Cluj-Napoca.
9. Giurescu, C., Giurescu, D. (1976), *Istoria Românilor. De la mijlocul secolului XIV până la începutul secolului XVII*, Edit. Științifică și Enciclopedică, București.
10. Pascu, Șt. (1971-1989), *Voievodatul Transilvaniei*, Editura Dacia, Cluj-Napoca.
11. Săgeată, R. (2013), *Organizarea administrativ teritorială a României. Evoluție. Propuneri de optimizare*, www.geopolitic.ro.

ENGLISH AS A FOREIGN LANGUAGE. WHAT CHALLENGES DO TEACHERS OF ENGLISH FACE?

SILVIA IRIMIEA¹

ABSTRACT. – **English as a Foreign Language. What Challenges Do Teachers of English Face?** The article undertakes to suggest ways in which English as a foreign language should be taught as a consequence of English becoming a global language and its being spoken in different parts of the world. The article goes out from three prerequisites: David Crystal's statement that the 'the greatest challenge for the teachers' is that 'they must keep pace with the language change, given that languages change so fast' (2013), it is studied and used everywhere in the world, and the need to eliminate the mismatch between the language taught in the classroom and the language spoken by natives or in professional environments. The present study is focused on the discussion of textbooks, the variety of English to be taught, cultural background, and pronunciation issues.

Keywords: *global English, language varieties, textbooks, cultural background, pronunciation.*

1. INTRODUCTION

English as a foreign language is nowadays more a commodity than an advantage. As a global language it develops very fast and it is both studied and used everywhere in the world as an official language, a second or a foreign language. What people or children study in the classroom or at home can hardly be qualified as the language spoken by natives. It is our aim to hereby demonstrate that classroom English fails to provide learners with every day, informal speech practice and to suggest ways of combating this phenomenon.

This is the experience faced by Romanian students who learn a foreign language, mainly by books and have few or no interactions, when they are thrown into real life situations in which they must interact with natives. The

¹ Babeş-Bolyai University, Faculty of Geography, Centre for Tourism Training, 400006 Cluj-Napoca, Romania, s_irimiea@yahoo.com

difficulties students encounter range from pronunciation differences, vocabulary differences, through grammar and communication issues to cultural ones. The variation learners experience is as broad as the spread of English and continues to change day by day. In this respect, David Crystal recognized that 'even the best teaching materials provide learners with texts which are far from the real, informal kind of English, which is used very much more than any other during a normal speaking lifetime' (Crystal, 1978).

First, the listening exercises learners hear in the classroom are different from what they hear in real life situations. The recorded voice does not speak spontaneously, using an ordinary, casual vocabulary, with an acceptable language and it does not present the real life situations of normal people. The recordings often use a standard language, underline some grammar or vocabulary features and their purpose is mainly to help the learner solve an exercise or do some tasks. It does not familiarize the student with real, spontaneous conversations. For example, the learner will not hear an utterance which contains mistakes or people who swear, lose their temper, get angry, judge in a wrong way a situation or a person, use jargon and slang and many other non-formal or less formal language varieties.

Second, learners of English who get employed and work for multinational companies in their own countries or overseas need further in-company communication and culture-bound training or more practice in order to be able to cope with professional non-formal interactions. This happens when a customer support representative or a sales assistant who works for a multinational call center talks to a customer whose native language is English and the latter switches on to an informal register or greets him with 'Hi'. One such employee, a former student of English (27 years old), admitted that 'I had some problems in my first days at work'. The same former student noted that 'What I did not appreciate was that we were asked to have at least a standard intro and ending for the call, but this depended on the style of the team specialist'.

Tourism students need more hands-on practice in order to function efficiently in the professional environment where the conversations are both formal and casual. Imagine a young executive who wishes to get closer to the employees and approaches them in an informal manner and the adaptation process the employees go through to fit into the exchange. At the same time, imagine a waiter interacting with the customers, can he switch on to a slang language variety without being awfully inappropriate? Such questions arise from the need to prepare the future employees for every day professional interactions, where activities are based on both formal or more casual, friendlier human interactions, which can be verbal or written.

Textbooks, even the most recommended language proficiency books, prepare learners mostly for formal encounters. They offer the students the opportunity to carry out language and profession-related tasks that are less encountered in casual professional interactions.

Textbooks have come a long way and have developed well in consonance with several teaching and linguistic principles. However, textbooks cannot cover the broad array of teaching issues required by different target groups for which yet solutions must be found.

Finally, what variety of English should learners be taught to help them come to grips with the kind of English they need, help them cope with different verbal encounters and use the language efficiently for communication and professional purposes?

What the learners are prepared to understand and use is a formal, rather academic language, and not an ordinary conversation, which is the language that changes permanently and very fast. This is the greatest challenge faced by teachers as they must 'keep pace with it and expose the learners to it'. According to Crystal (2013), the fast language change is the result of two reasons: the first reason is represented by the internet, which is fostering new varieties of language and experiences, thus exposing the learners to language varieties which are more frequently used or which the learners prefer. These varieties are not controlled by any grammatical correctness filter and thus generate new word forms or uses which may not necessarily conform to accepted grammar rules.

The second reason which accounts for the fast language change is the globalization of English (Crystal, 2013). This phenomenon has also had many effects on language teaching. Thus, amid this phenomenon the teachers may be confused and overwhelmed and the question they may ask themselves is 'What is the language variety that should be taught?' The answer to the question was given by Crystal in his speech on 'English as a global language' delivered for the British Council in Serbia 2013.

First of all, if we refer to Romania, the English taught is the RP (Received Pronunciation) or 'Queen's English'. Today RP is spoken by 2% of the population of Britain (Crystal, 2013), while it is replaced in many parts of the world by other geographical varieties such as American English, Indian English, and so on. David Crystal (2013) asserts that even on Oxford Street in London, which should be a Mecca of Englishness, many different accents and dialects are heard, spoken and used.

Given these premises, it is the purpose of this study to ask how should English be taught to bring it closer to the variety spoken by natives, or the learner's own preferred variety and thus to eliminate the mismatch between what is taught by books and real-life interactions' needs. At the same time, we shall focus on the

changes that affect the teaching of English, as a consequence of its becoming a global language. In order to find a suitable and expert answer, we turned to David Crystal's (2013) views on the issues. To serve this purpose, the present study is focused on the discussion of textbooks, the variety of English to be taught, cultural background and pronunciation issues.

2. CLASSROOM ENGLISH

The purpose people learn a foreign language for will influence the choice of variety they will be taught. Since the boost of the ESP (English for Specific Purposes) approach, the learners can get the teaching materials, including textbooks, that help both learners and teachers focus not only on the kind of English the learners need but also on the professional issues that characterize the field in question. For example, English for Tourism materials provided by a wealth of publishing houses and written by several excellent authors are tailored to meet the professional and linguistic needs of those who undertake to work in the tourism industry. The materials, and here reference is made mainly to textbooks, can be successfully used by tourism employees, tourists and learners who wish to become acquainted with tourism issues and the appropriate, specialized language. Besides, almost all published English for Tourism books prepare the tourism learners for international English language examinations or professional work environments. However, the same question arises: to what extent do they teach the professionals or other interested target groups the issues and the language used in professional interactions that are likely to occur in real, every day conversations, and what can teachers do to alleviate this gap?

A language is learned in many ways and sometimes it takes even an experienced teacher a while to find the right teaching approach and the means that would help him teach the learners the kind of language they need in the most efficient way and in the shortest period of time. A means that teaching a foreign language is based on is the *textbook*.

Textbooks have developed as a consequence of the advancement of English for Specific Purposes (Hutchinson, T & A. Waters, 1987; Dudley-Evans, Tony, 1998), a branch of applied linguistics which has flourished in the 1980s and has had a considerable contribution on language teaching throughout the next decades (Robinson, P., 1991; Trimble, L., 1985). ESP and the development of ESP textbooks received a great impetus from the contribution of the teachers of English and were greatly assisted by the British Council, its local mentors and libraries, which have spread the teaching of ESP all over the world. This phenomenon swept over Romania in the 1990s.

Indeed, textbooks rarely present real life situations in a common, spoken language, which expresses normal feelings and contains mistakes. This gap can be compared with what children face upon their growing up: the perfect life described by cartoons, and stimulated or simulated by toys, a pink-coloured, blissful life with happy-endings which later on, upon adulthood, turns into a more colorful life, with difficult situations, deceptions, mistakes, and all the bad things that one cannot understand as a young, immature individual. Henceforth, reality must be felt and experienced, it can neither be captured in textbook texts, nor studied or learned. Theoretically, this assumption can be applied to any foreign language, but if the language becomes a global one, learning a language from texts may have different effects on learning. In order to combat the undesirable effects, the teachers must know all the risks that this process might involve.

Another factor which accounts for the learners' lack of preparation for verbal interactions with native speakers is their own *cultural and linguistic background*, which is most often different from that of the host people, and for which they may not have been prepared adequately. According to Goddard and Wierzbicka (1997, p. 231), 'In different societies people not only speak different languages and dialects, they use them in radically different ways.' The authors agree that 'In some societies, normal conversations bristle with disagreement, voices are raised, emotions are conspicuously vented. In others, people studiously avoid contention, speak in mild and even tones, and guard against any exposure of their inner selves. In some parts of the world it is considered very bad to speak when another person is talking, while in others, this is an expected part of a conversationalist's work. In some cultures it is *de rigueur* to joke and banter obscenely with some people but to go through life not saying a word to others' (Goddard and Wierzbicka, 1997).

Non-verbal communication is also very important for communication. For example, represented by facial expressions and gestures it can alter the intended message in different ways and with different effects on the receiver. These misuses of non-verbal communication techniques may endanger the partnership or even damage it. For example, the Europeans consider that it is rude to talk at the same time or interrupt someone when she/he is speaking, but other people consider that doing the opposite is rude, and not intervening in conversation would indicate boredom or lack of interest. The same applies to laughing, smiling, or frowning when the listener concentrates on the speaker and he/she may understand that he is not understood, or that the listener does not agree with him. Politeness is something that can very easily be interpreted and this happens in many different ways. A pause in a wrong place, a falling or rising tone, a different intonation can easily change the meaning of what has been said and also the impression made on the other person.

Learners groups, especially groups of international students, are heterogeneous and so are the levels of their mastering or speaking a foreign language. Such a situation will set up several teaching problems to the teacher, who will be guided by the training needs of the group, given that the group was formed according to a common reason or purpose, such as, for example, learning to socialize or to acquire a specialized language.

In addition, learners come from different educational backgrounds and have enjoyed a different way of learning the English language. The teacher of English must understand the situation and deal with it in the most efficient and adequate way. In this respect, there are several aspects that must be tackled. First of all, the difference between what a learner should study and what he will experience is a difference that cannot be ignored. The English teaching books include recorded conversations and listening exercises, which have proven to be rather formal. This difference was reported on by the students who went abroad to an English-speaking country and who experienced difficulties or needed a while to get used to the native-speakers' speech variety and pronunciation. However, once they noticed the difference and became aware of the unfamiliar language features, they could improve their speaking skills and performance. After they have overcome this barrier, they had no problems acquiring those features of the foreign language which brought their speaking performance closer to that of the native speakers.

All these examples suggest that spoken English has to be practiced a lot in circumstances that come as close as possible to conversational situations and verbal reactions practiced by natives. In addition, language must be taught in relation to the cultural context to which it belongs. Intensive and guided tuition whereby the teacher raises awareness of the native language environment and the speakers' linguistic behavior helps learners cope easily with the verbal interactions with native speakers and become fluent speakers without jeopardizing the relationship.

From the mentioned aspects it should not be understood that nowadays teaching English as a foreign language is not managed adequately, because it does not prepare the learners for informal conversations in an English-speaking country. The conversations that are not presented in a book, are not scripted or previously prepared, are not controlled, are not grammatically correct and are not censured. These real conversations are human, with pros and cons, with mistakes and so on.

3. SOLUTIONS TO CHALLENGES

People learn English for various reasons and the language they learn should be exactly the language they need. However, any variety is subject to great variations which range from pronunciation to vocabulary and grammar. Some people need a language for travel purposes, others to study, work, socialize or entertain. This needs analysis will tell the teacher what 'special' language he must teach the learner. It also tells the teacher how he should teach the particular variety of language, since the teacher's mission is to satisfy his customer, to provide him with the variety of English that will satisfy his general and specific learning needs.

To begin with, the teachers' challenges are multiple. David Crystal (2013) agrees that the most demanding and difficult jobs are those of translators-interpreters and of teachers. Amid the confusion that has been created by so many challenges and pressures, the teachers must find the right method and teaching materials, and create a relaxing teaching environment in which the learners get what they need and want. These are the major assets that the teaching of English must be based on.

The first puzzling question for teachers is what *variety* of English should they teach from among the varieties spoken in the world. Would RP satisfy the post-modern world needs or should the teacher turn his attention to other dialects and varieties? David Crystal (2013) argues that the RP accent is, what 'you hear and respect', 'it is a respectable dialect, but it is not the only one'. If teachers think it is the only one and correct language variety that should be taught they are 'so wrong'. He also agrees that 'the old notion that there is only one correct English is a philosophy that must be abandoned' (Crystal, 2013). So if the teachers teach RP or American English it is 'fine', he admits, but if the teachers 'let the students go away thinking that there is only one accent and dialect in the world you do them a disservice' he agrees (Crystal, 2013).

The teachers of English have always taught RP English as a standard variety. As a foreign language RP has been taught in Romania for several decades as the only English variety, particularly in the communist years. It used to be the only variety learned by teachers and transmitted to their students. It was mainly acquired from very good teachers, who may have had more experience in verbal interactions with native speakers and from textbooks. It was the only used variety for a long time and had no rival variety to compete with since the mass media, represented only by the national television channel, used to broadcast and promote British English through English language learning programs. During the communist period, all economic, cultural or social interactions were carried out mainly with Europeans and only rarely with Americans.

Consequently, British English, as RP was broadly taught and used by the people in tourism and by most south-eastern European nations.

After the fall of communism in Romania, the teachers of English have been widely trained by the British Council methodological advisors and regional councilors for the use of 'specialized languages' and for 'communicative language teaching' in line with the advancement of ESP studies and Dell Hyme's (1972a, 1972b) 'communicative competence' approach to applied linguistics (Stern, 1983).

In the period following the fall of communism, the mass media, the internet and the movies in particular, exposed the Romanian teenagers to American English, which acquired a privileged status beside British English. At the same time more and more teachers of English taught American English during the English classes, given the general interest in American English and also their exposure to it. Economic and business culture was also more and more influenced by the prevailing American model. Many areas of professional concern were taken over gradually and dominated by the American boost.

In the years to follow, the teachers of English enjoyed a wide exposure to the use of English language, its culture, linguistics, applied linguistics, and benefited from scholarships abroad, formal and private visits to UK, and from other options that language teachers could benefit from.

Even though nowadays the RP variety has started its acknowledged decline (Crystal, 2013), the world-wide learners of English need a guiding or standard language to tune to. It is our firm belief that a model accent and pronunciation, a grammar and rules of the use of English should be retained in a standard form. Otherwise the off-springing varieties or dialects would develop in an uncontrolled manner, very much like distinct languages adapted to the local needs and uses and that would jeopardize the future of English. If the example of Spanglish would soon be followed by many other linguistic adaptations, we must admit that the future of English as a global language is in danger, and what people shall get, would be dialects of English which would be difficult to understand and impossible to learn, let alone to teach.

'For the teachers it is important to show respect to RP' argues David Crystal (2013). It is 'one accent you hear and respect', but what the learners should be taught, though, is that 'this is not the only variety of English that is spoken'. To follow the same thread of thought, David Crystal (2013) recommends that 'teachers should tune the ears of their students to the variety the students need', and 'get the ear ready for change'.

In response to this challenge, Crystal suggests that teachers should train their learners for the diversity of dialects and use of English, that they should expose them to listening and reading comprehension exercises from the very beginning and to as much variations as possible. What variety the teacher will

choose will depend on the 'view as to where the students are going to go or do with the English', or on 'how likely they are to encounter such a variety' (Crystal, 2013).

Fluency is associated with another aspect which must be understood and practiced: pronunciation. Pronunciation is more significant than it seems, because, if ignored at an earlier learning stage it might be more difficult to be improved at a later stage.

The second issue faced by the teacher is how to eliminate the mismatch between the formal English, taught by books, and the everyday, casual talk of the native speakers. On the one hand, the world we live in is different from that of our parents'. Business, technology or science, and any other field, are conducted in a looser way, in a way in which the most effective approach that guarantees the success will be used. On the other hand, in order to be promoted and receive a salary raise, an employee must certify his competences and skills, which are always reflected in certificates and obtained through examinations. The standards used by examination boards are, depending on the geographical region, British English, American English or any other variety. Crystal (2013) asserts that examination boards are 'notoriously conservative' in respect of following the rigours of RP English and grammar.

An informal English material can be easily criticized by the students, but the idea is to understand it, not to correct it and make it formal. More debates and discussions, some spontaneous conversations between the students on many ordinary situations are *useful* exercises. The reason would be that the written language is different from the spoken one. The difference between conventional and real has to be very well presented and understood by the teacher and the student, because then its importance is easier taken into consideration. However, this is not the only aspect that the students have to understand and use. This is just a bonus, a second part that helps them to prepare for life, and the sooner the better. This does not mean that the teachers have to change their teaching methods and materials. They only have to take care of all the situations that an English speaker who is not a native speaker should know.

It is not necessary for an individual who speaks a grammatically correct English language to permanently control himself, because such a control would result in long pauses or incoherence. On the other hand, this does not mean that observing grammar rules is not important or that learners do not have to control their language, as spontaneous and free talk can sometimes go in the wrong direction.

Given the difference between the learner's culture and the target culture, one of the teacher's major concerns must be to raise awareness of the native speakers' culture-specific ways of expressing themselves. Teachers should turn their attention to the research on culture-specific discourse and linguistic behaviour.

Goddard and Wierzbicka (1997, p. 231) suggest that 'describing and explaining such culture-specific ways of speaking is the task of 'discourse and culture' studies. The authors admit that it is a rather difficult task to fulfill, a task that can be approached through different methods that focus both on linguistic or speech patterns and behavioural attitudes. Further, the authors claim that 'the greater challenge is to show the links between particular ways of speaking and the culture of the people involved', and continue that to do this the teachers 'have to be able to establish the relevant cultural values and priorities independently of the speech patterns themselves' (Goddard and Wierzbicka, 1997).

Cultural variation is rendered in discourse styles, some of which are visible and can be noticed both by the teacher and the students. Some other features are less obvious and should be treated sensitively. To understand cultural variation, Goddard and Wierzbicka (1997, p. 245) say that 'it is necessary to go below the surface of the speech patterns themselves and uncover the values and norms which explain them', but then this might also be a research that the teacher might not be able to undertake. Perhaps, a friendlier and more hands-on solution both for the teacher and student is to have access to such information, to have the speech and culture-specific styles integrated in a friendly manner in the textbooks.

The major challenge for English teaching and teachers is that it varies a lot at a fast pace. According to Crystal (2013, *The Biggest Challenges for Teachers*, <https://www.youtube.com>, retrieved 5 July 2016), the teachers must 'keep pace with the language change', in particular as it 'changes so fast' and the learners are always one step ahead of their teacher. Consequently, internet language, slang, the other varieties of English must be pointed out to the learners.

Textbooks play an important part and have a decisive contribution to the learners' learning English. They must be the learner's support when the teacher is not with him and provide him with the necessary language practice. No textbook can bring to the classroom the diversity of formal and informal spoken and written English. In general, textbooks offer a raw model of professional issues and formal language that should be used in diverse circumstances and encounters. However, given the mentioned limitations of the textbooks, it is then the teacher who must decide what textbook he can use, how to use it and how to combine different sources in order to provide the learner with the kind of language he needs and he has paid for.

Indeed, if only one or two decades ago the teacher relied entirely on the use of textbooks, nowadays he can use many on- and off-line sources in the classroom. In spite of the apparent advantage they bring to the learner, such as a spoken or written internet language shared by the specific community, updated, hot professional issues, comments and exciting interaction, they rarely keep up the RP standards of English.

In the end, it is most important for teachers to foster a good background knowledge and deal with all the potential situations, since the learners need to use the appropriate language for each situation, at school, at work, at the supermarket, with a stranger in the street. Any situation requires a different language and behavior, which is not similar to the speaker's native language and specific interactions.

Psychology plays a very important role in teaching. Most of the time, students do not feel so comfortable in being honest in front of the others and say all they do not understand. But, when the atmosphere is less conventional, when they play or learn a language without being constantly aware or reminded of their stringent need to study, the students' involvement changes. To create a friendlier classroom atmosphere, the teachers can use games that involve a winner or an award. By promising a reward, the teacher creates a competitive environment in which the student will forget that he is studying the verbs, the nouns or some vocabulary items. A second option would be to make students feel lucky by introducing some lucky guess games or some lottery type games. Such games may excite them, but, at the same time, they could make them think unimportant and unlucky. In order to compromise and maintain a learning-friendly, participatory environment, the teacher should offer a participation award to every participant.

Theatre or role-play is a method that develops the speaking, interpreting skills and students' imagination. A spontaneous role play with a written script and lines for each character would really be both entertaining and useful. Through such exercises the student will learn how to think and use all his experience in order to react and adapt to different circumstances. In addition, imagination has to be tested and practiced in order to enhance the student's more spontaneous and fast reaction to different formal or informal professional situations. These role-plays will prepare students to cope with different situations that may occur. Teaching is important and can make the difference in students' life and can prepare them to face reality.

4. CONCLUSIONS

The article went out from three assumptions: (1) English as a global language develops very fast, (2) it is studied and used everywhere in the world as an official language, a second or a foreign language, and (3) what people or children study in the classroom or at home is different from the language spoken by natives. David Crystal in his 2013 speeches in Serbia referred to the *fast change*

of languages and the teachers' need to keep pace with the changes. English, for example, is spoken in the whole world and the varieties of English turn into locally adapted hybrid languages. This is why many people or students experience language difficulties when they first come in touch with the language spoken by natives or speakers of a different variety of English.

The difficulties encountered by students range from pronunciation differences, vocabulary differences to grammar and cultural background issues. The existence of so many varieties will pose teaching problems, and influence the way English is taught.

Thus the purpose of the study was to discuss some reasons that would account for the mismatch between classroom English and the everyday, informal, language practice of native speakers, and to suggest ways of combating this.

The first issue discussed was the variety of English to be taught. What variety should the teacher teach his students in a fast changing world in which many English varieties are used? Should they keep teaching RP English or should they approach another variety of English? The answer to this puzzling question was given by David Crystal, who argued that the teachers should 'expose the students to as much variations possible as there exist' and that the variety they will teach would 'depend on their view as to where the students are going to go or do with the English' (2013, *The Biggest Challenges for Teachers*, <https://www.youtube.com/> visited on 6 July 2016).

Another dazzling question for teachers is what and how should they bring to the classroom the spoken language? This question opens up another linguistic area: should they focus their attention on the formal register or on the informal register? What the teachers should do is to expose the learners to as many situations and scenarios as they may encounter in real-life professional interactions and develop their intercultural adaptation and communication strategies.

Textbooks have developed greatly and offer a wealth of teaching materials both for spoken and written interactions, and for practically almost any professional field but they provide the standard form of English which also serves for the preparation of performance tests. However, textbook rarely introduce the language variety spoken by natives in informal or quasi-formal professional encounters. Consequently, the teacher's task will be to choose the materials, texts and exercises he thinks best suit the variety of English needed by the students.

Last but not least, the teacher should create a friendly, relaxed learning environment, capable of enhancing the students' reaction and adaptation capacity to specific professional or other situations.

REFERENCES

1. Chira, D. (2005), *Aspects of English Lexicology*, Clusium.
2. Cook, G. (1989), *Discourse*, Oxford University Press.
3. Cook, G. (2000), *Language play, language learning*, Oxford University Press.
4. Crystal, D. (1978), *Advanced conversational English*, Longman.
5. Crystal, D. (1994), *An encyclopedic dictionary of language and languages*, Penguin Books.
6. Crystal, D. (2012), *English as a Global Language*, Cambridge University Press.
7. Goddard, C. and Wierzbicka, Anna (1997) *Discourse and culture*, in *Discourse as social interaction*, Sage Publications.
8. Hutchinson, T. and Waters, A. (1987), *English for Specific Purposes: A learning-centered approach*, Cambridge University Press, Cambridge.
9. Hymes, D. (1972a), *On communicative competence*, in Pride, J.B. and Holmes, J. (eds) *Sociolinguistics: Selected Readings*, Penguin Books, Harmondsworth, p. 269-93.
10. Hymes, D. (1972b) *Models of the integration of language and social life*, in Gumperz, J.J. and Hymes, D. (eds), *Directions in Sociolinguistics: The Ethnography of Communication*, Holt, Rinehart and Winston, New York, p. 35-71.
11. Irimiea, Silvia and Bradea, Livia (2009), *Teaching English for Tourism at the Centre for Tourism Training: Course Design and Evaluation*, Studia UBB Geographia, LIV, 1/2009, p. 209-216.
12. Irimiea, Silvia (2008), *Tracing the Evolution of English for Tourism Purposes at the Faculty of Geography*, Studia UBB Geographia, LIII, 2, pg 163-170.
13. Robinson, P. (1991), *ESP Today: A Practitioner's Guide*, Prentice Hall, New York & London.
14. Stern, H.H. (1983), *Fundamental Concepts of Language Teaching*, Oxford University Press.
15. Trimble, L. (1985), *English for Science and Technology. A Discourse Approach*, Cambridge University Press, Cambridge.
16. Van Dijk, T. A. (1997), *Discourse as social interaction*, Sage Publications.

Online sources

- Crystal, David – Will English Always Be the Global Language?; The Effect of New Technologies on English – Video Interviews in Belgrade, 2013
(<https://www.youtube.com/watch?v=5Kvs8SxN8mc>)
- Crystal, David – Documentary British Council – History of the English Language, 1943
(https://www.youtube.com/watch?v=_fjiHmR85cU)
- Crystal, David – Documentary British Council – What do you most enjoy about the English language? 2013 (<https://www.youtube.com/watch?v=SqkIv79KBTw>)
- Crystal, David – Documentary British Council – World Englishes, 2013
(https://www.youtube.com/watch?v=2_q9b9YqGRY)

Crystal, David – Documentary British Council – The Biggest Challenges for Teachers, 2013 (<https://www.youtube.com/watch?v=ItODnX5geCM>)

Crystal, David – Documentary British Council – The Effect of New Technologies on English, 2013 (<https://www.youtube.com/watch?v=qVqcoB798Is>)

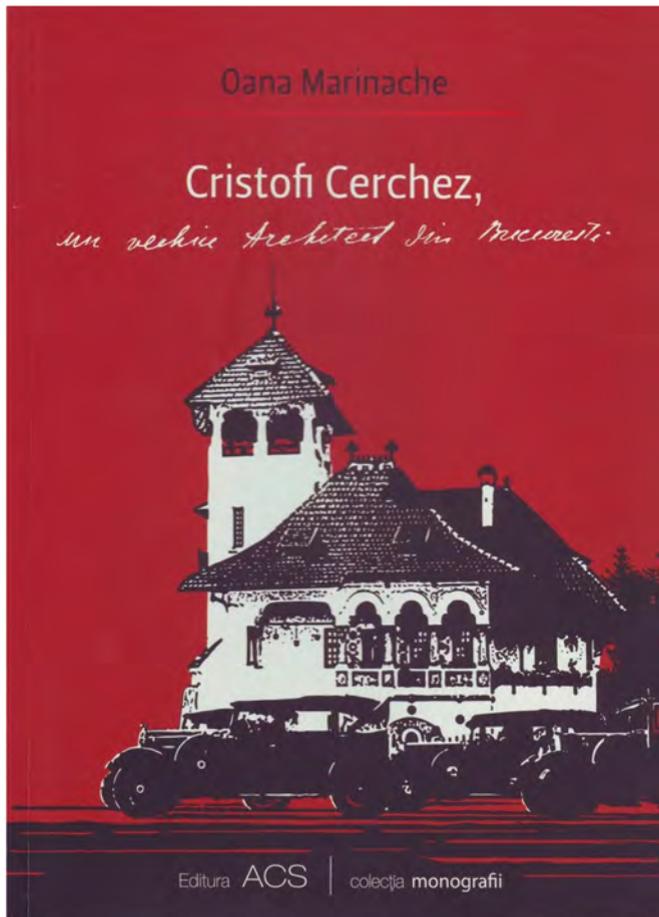
READING NOTES

Campaigns for the maintenance of national, regional and local identities and for the retrieval of our tangible and intangible cultural heritage represent commendable initiatives after the long, dark night imposed by the omnipotent ideology of proletarian internationalism, which promoted the dissolution and destruction of these values. The guild of the architects in Romania has distinguished itself among the professional categories that have waged the above-mentioned campaigns. Acting individually, in groups, in associations or in NGOs, Romanian architects have vigorously advocated the recovery, preservation and development of our architectural heritage, all the more so as their forerunners succeeded in imposing a “national style in architecture.” An enumeration of these names, associations or NGOs would be superfluous and unfair on account of its inevitable omissions.

The magnitude of the restoration efforts targeted at monuments of architecture and urban ensembles has brought to light true jewels that leave us speechless and pleasantly surprise us, so we could ask ourselves: did we really have such architectural gems? How come we never knew about them?! Many published graphic materials, ranging from advertisements to archival or contemporary images, blueprints, sketches, posters and books, attest an interest in the retrieval of heritage as an identity marker. Whether they are complex studies on urban ensembles and/or architectural monuments, monographs on architects and collections of memoirs, these publications have made readers aware of their cultural heritage, awakening and consolidating their sense of belonging to a cultural space with a strong identity, making them love their cities and become more attentive to the “story of the houses” and of the buildings that surround them. One of the authors with outstanding works in the field of art history, Oana Marinache delights us with each publication bearing her authorial or editorial signature. Without having met her personally, but only through her books, I am impressed, in the case of this prolific author and doctoral student, with the effervescence of her publishing and civic projects and the maturity of her studies, which are the result of her exceptional power of work. Her professional dedication and her passion for shedding light on our architectural and biographical heritage have materialized in her monographs on architects like Cristofi Cerchez,

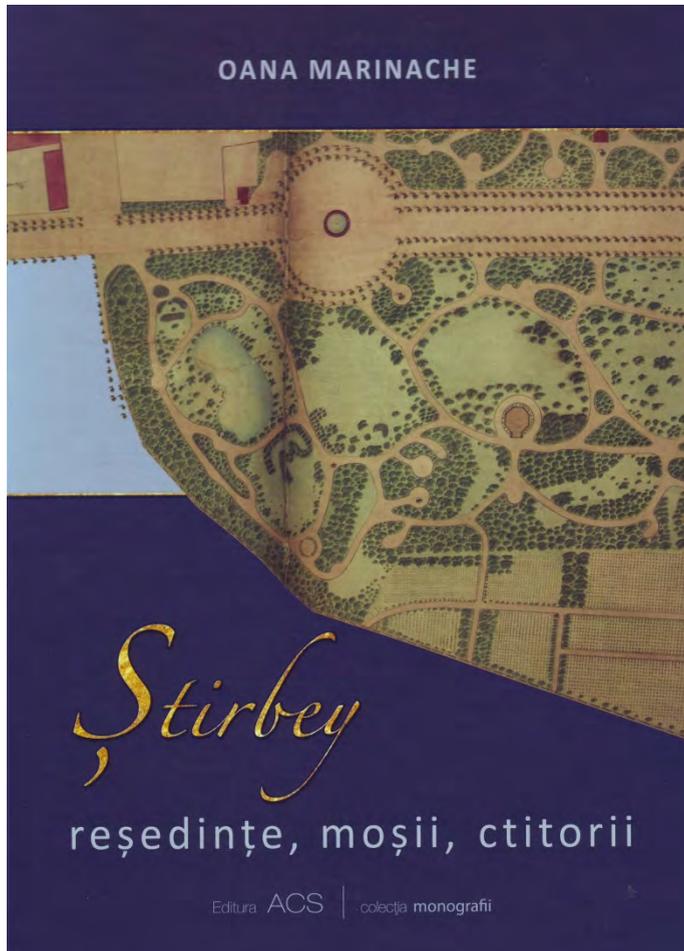
Louis Pierre Blanc and Edmond Van Saarinen-Algi, in her presentation of the heritage of several important Romanian families, like the Știrbey family, and in her editing of the memoirs of outstanding individuals like Nadeja Știrbey and Elisa Brătianu. The impressive volume of her publications, which are the result of large-scale archival and field research, is grounded in her teamwork with collaborators like Cristian Gache, Anca Dină, Ovidiu Baștea, Ion Marinache and Irina Gudană. At the same time, the author has consulted and has been guided by well-known architects-publicists, like Ioana Beldiman, Ruxandra Nemțeanu, Ruxandra Juvara Minea and others.

In 2012, Oana Marinache published a beautiful and refined monograph dedicated to the architect Cristofi Cerchez, who designed in Bucharest the “Villa with Bells by the Highway,” belonging to the physician Nicolae Minovici.



READING NOTES

Written with passion and being very well documented, this work is a model in its field as it provides a wealth of information, some of it unpublished before. It is richly illustrated with blue-prints, sketches, pictures of buildings, of their furniture and ornamental fittings, containing also various records, documents and photographs, all of these printed in an elegant layout. The book caught my attention and after reading it, I realized that its author is an exceptional scholar and that it would be worthwhile tracing her publicistic evolution. It seems that I was not wrong in my assumption for one year later, in 2013, she published a volume in English at ACS Press in Bucharest, entitled *Știrbey Residences in Bucharest and Buftea: architecture and interior decoration*.



This is an impressive study, comprising 301 pages in large-size format, with a preface signed by Ioana Beldiman. Dedicated “To my parents,” the volume exceeds the sphere of architecture, as it includes elements of genealogy and social history, remarkable archival pieces, such as old documents and records, including ads and historic photographs. In other words, this is a *tous azimuts* foray into the past of this great family, which played a decisive political, economic and social role in the evolution of Wallachia and, later on, of Romania. Sometimes placed in a mirror, the images of the buildings belonging to the patrimony of this family, captured both during their period of glory and in their lamentable present-day condition, is the best proof of our involution... The author manages to awaken interest in this illustrious family and its members, some of them, like Barbu Bibescu Știrbey or Barbu Al. Știrbey, being little known. This volume was organically continued with a sequel, *Știrbey: reședințe, moșii, ctitorii* (*Știrbey: Residences, Estates, Foundations*), which saw the light of print in 2014 at the same publishing house in București, with a preface by art historian Ioana Beldiman and a “Foreword” by architect Ruxandra Nemțeanu, both of them academics with reference works in the field. The author, Oana Marinache, dedicated this massive volume of 495 pages in large format to “my professors.”

It continues the presentation of the heritage of this family, a great commissioner of artworks. A mischievous reader might be tempted to say: residences! estates! hmm!, but reading the book carefully sheds light on the social role played by this family, who were founders of religious and social institutions (hospitals and schools), of cultural institutions (libraries), of economic enterprises (model farms and agricultural holdings, as well as agro-industrial or pharmaceutical companies, carpentry workshops, weaving mills, etc.), where there were hundreds and hundreds of employees. Patriotic and determined in their actions, the members of this family assiduously promoted Romanian products and Romanian creations. They were the authors of a genuine social project! The present-day status of some institutions, such as the Brătianu Foundations, suggests the imperative necessity of finding solutions for their use after their sorely needed restoration from the ground up. Romania would be much richer if these treasures were brought back into the cultural and social circuit.

After the publication of these volumes, Oana Marinache edited two books of memoirs written by illustrious women, members of the Știrbey family. These were Nadeja Știrbey's *Jurnal de prințesă: (1916-1919) (A Princess's Diary)* (2014) and Elisa Brătianu's *Memorii (Memoirs)* (2015), the first two books in the collection series *Carte de nu mă uita (Books That Should Not Be Forgotten)* that Oana Marinache launched at Istoria Artei Press. We wish a long life to this collection, with many books of memoirs and correspondence! Published in a special format, the two volumes are most welcome, as they grant readers the possibility of becoming acquainted with these authors' personalities and forming a correct image

about them, in the context in which, for a very long period of time, Communist historiography totally distorted their cultural contribution. These were patriots of high standing, who vibrantly exulted at every achievement of their country, which they loved enormously. Without being very extensive, these books are particularly dense in information, providing descriptions of events, situations, personalities and experiences. They are written in a beautiful, smooth, delicate style, especially in the case of Nadeja. The realities it presents, the events it records are a good opportunity for the author to engage in personal reflections of a disturbing lucidity, high patriotism and great sympathy for our country. Usually reserved, with an exquisite education, these great ladies of our culture were overwhelmed at some crucial moments in our history.



For example, Nadeja Știrbey reflects, in her diary, on the end of World War I thus: “30 October [1918, *our note*] Hurrraaaah! We are avenged now! We are truly avenged! Lord, how beautiful this is! How grand! It’s too beautiful and too grand to be able to grasp the whole extent of our glory, so I thank Thee, Lord, on my knees, for this sublime moment! How good it is to live so as to feel this divine intoxication, our beautiful ideal fulfilled! This awful war ends in a permanent success! I feel like embracing all those in whose eyes I can see this spark that I feel

glowing in my own” (p. 71). Published in 2014, a year that “marks, at European level, the beginning of commemorations dedicated to the centenary of World War I,” Nadeja Știrbey’s journal is certainly a relevant effort in this regard!

Of a somewhat different nature, Elisa Brătianu’s *Memoirs* are important because the heroine lived in the highest circles of the Romanian society, leaving memorable descriptions of personalities from the forefront of our political and economic life who made history and including references to events that took place behind the scenes! And thus, the first two books of the collection *Carte de nu mă uita* fully belong to this category! They are also excellently illustrated with iconographic material, which is a constant characteristic of the publications written or edited by Oana Marinache.

In the same years, 2014-2015, this tireless author published in collaboration two monographs on architects: *Louis Pierre Blanc: o planșetă elvețiană în serviciul României* (*Louis Pierre Blanc: A Drawing Board in the Service of Romania*) (2014), together with Cristian Gache, and *Edmond Van Saanen-Algi, de la Baletele rusești la Palatul Telefoanelor* (*Edmond Van Saanen-Algi, from the Russian Ballets to the Telephone Palace*) (2015), together with art historian Gabriel Badea-Păun, opening thus the collection series *Arhitecți de neuitat* (*Unforgettable Architects*) as Istoria Artei publishing house in Bucharest. In these monographs, the authors present Louis Pierre Blanc’s Swiss origins and his training as an architect. He was a fellow student of Ion Mincu’s during their studies in Paris. The Romanian architect encouraged Blanc to come to Romania, where he became naturalized and accomplished impressive works of architecture. Suffice it to mention some of them: the building of the University of Iași, the Botanical Institute, the greenhouses of the Botanical Garden, the Institute of Bacteriology, the Faculty of Medicine, the Ministry of Agriculture and Estates in Bucharest, as well as numerous villa-type residences commissioned by Nicolae Filipescu, Ion Lahovary, Maurice Blank, Herman Speyer, all of them in Bucharest, which have become emblematic buildings! The unprecedented economic boom of our country led to territorial expansion of Bucharest, so Louis Pierre Blanc was the author and co-author of the so-called “parcelări” (land parcelling), a process by which vast plots were parcelled (divided) depending on the topography of the land in order to build villas on them. It was the case of the parcelling projects from Șoseaua Bonaparte, Dudești, Comarnic-Isvor and Băneasa. There were many others, conducted by other architects. Accessible to the middle class, whose members were commissioners of exquisite architecture, villas came to form entire neighbourhoods in Bucharest, giving it its peculiar charm. This volume is lavishly illustrated with a specific iconography in each chapter.

Edmond Van Saanen-Algi was born in Bucharest in 1882. He was the son of Robert Van Saanen, who had settled in Romania, a man of Dutch origins whose family from Hoorn had “conducted a notable commercial activity on the Baltic Sea and in the Ottoman Empire” (p. 17), and Luiza Bruzzesi, whose Italian

father had opened a shop on Calea Victoriei in 1852. The patronym Algi comes from his stepfather, his mother's second husband, Colonel Alexandru E. Algiu. The young man carried out his studies at the Munich Polytechnic and at the Higher School of Fine Arts in Paris, focusing on Architecture (1903-1914), with long periods of internship in architecture offices. A complex, sensitive personality, he was also a gifted drawer, painter and composer. The journeys he made to London and in New York shaped his architectural creation. Van Saanen-Algi is the author of the Antiquarians' House, of the palace housing the Academy of High Commercial and Industrial Studies and of the Telephone Palace in Bucharest, but also of the villas commissioned by Istrate Micescu in Cişmigiu Park and at Ciumeşti-Argeş, or the mausoleum of the Lenş family in Bellu Cemetery, as well as numerous projects that never materialized. This volume is richly illustrated, with ground plans and images of his buildings, but also with drawings, sketches and drafts, demonstrating his artistic qualities. Both of the above-mentioned monographs are valuable reconstructions of the creations belonging to these two great architects.

Finally, also in 2015, Oana Marinache published "a unique collection of ground plans and sketches" from the period 1830-1860, in what the author calls the "archive of architecture." Born from the desire to valorise her impressive archival documentation, Oana Marinache's book is dedicated to the beginnings of Romanian architecture in the period 1830-1860, from before the crystallization of the national style. After outlining the historical context of the period, with the first institutional and administrative regulations initiated and enforced by the Organic Regulations adopted in the Danubian Principalities under Pavel Kiselef, the author presents the ground plans and sketches of largely foreign architects. They can be grouped, as Marinache says, "into the great categories of public projects," but there are also a few private constructions and extra urban estates, namely: princely and administrative courts; military buildings; churches and monasteries; public buildings; cultural institutions; hospitals; streets and roads; hydro-technical works; gardens and cemeteries; inns and shops; houses; estates; that is to say, whatever was needed in order for the Danubian principalities to embark on the path of progress. Without analysing them in detail, but just highlighting them, the author points out, in her conclusions, that they "remain witnesses to a colourful era, waiting to be rediscovered and reinterpreted."

These books are definitely the result of a tenacious effort of research into the Romanian architectural and urbanistic phenomenon, conducted with youthful intensity and passion. A graduate of the School of Architecture in Bucharest, which gave a long series of valuable architects, Oana Marinache does honour to her *alma mater* and will certainly become a name of reference in her

field. Her books have strong educational values, attempting to retrieve the biography and creation of certain architects who have fallen into oblivion, as well as of some exceptional commissioners of architectural artworks, whose estates are thus restored into the public consciousness, awakening in us the pride of belonging to this nation and making us stronger through the knowledge they convey about our prestigious history in this domain! The education of the reader's gaze that Oana Marinache subliminally undertakes in her books, enriching our aesthetic sense, contributes to strengthening our civic spirit. In other words, we are richer after reading and looking at these beautiful works. They are useful for a wide range of specialists, including architects, land planners, historians, geographers, tour guides, men of culture or, simply, to all those who love their country and want to know the identity of its places.

ALEXANDRU PĂCURAR

*Department of Human Geography and Tourism
Babes-Bolyai University,
Cluj-Napoca*

BOOK REVIEW

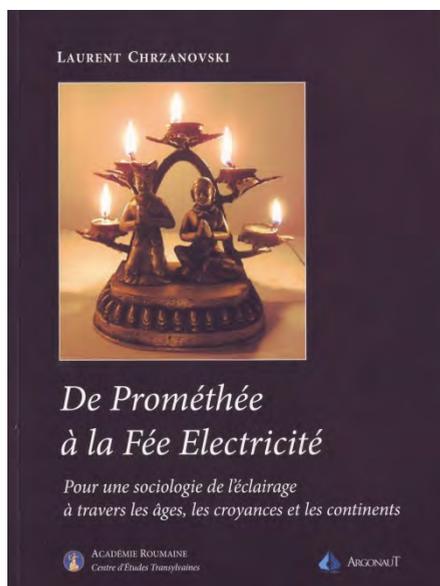
Laurent Chrzanovski, *De Prométhée à la Fée Electricité. Pour une sociologie de l'éclairage à travers les âges, les croyances et les continents*, Préface par l'académicien Ioan-Aurel Pop, Cluj-Napoca, Académie Roumaine, Centre d'Études Transylvaines et Argonaut, 2013

Le Centre d'Études Transylvaines de l'Académie Roumaine et la maison d'édition Argonaut ont publié en 2013 l'ouvrage de Laurent Chrzanovski *De Prométhée à la Fée Electricité. Pour une sociologie de l'éclairage à travers les âges, les croyances et les continents*. La démarche de l'auteur, incitante par sa thématique, est à la fois originale, trans- et interdisciplinaire, et témoigne d'un savoir étendu.

Réalisé dans le cadre d'une recherche post-doctorale coordonnée par l'académicien Ioan-Aurel Pop, qui signe d'ailleurs la préface, l'ouvrage ci-présent surprend par les connexions inédites que fait l'auteur en suivant le parcours du phénomène qu'on appelle «éclairage». Devenu un accessoire omniprésent, et donc banal, de l'homme contemporain, l'éclairage a estompé toute réflexion sur le début et l'évolution de son emploi. L'autocensure est, à notre avis, trop critique, car il ne s'agit pas d'une encyclopédie de l'éclairage, mais d'une étude sociologique très complexe.

Structuré en quatre grandes parties et en plusieurs chapitres, chacun suivi d'une bibliographie sélective, l'ouvrage comporte de nombreuses images liées au sujet mis en discussion, qui sont réalisées dans des conditions techniques d'exception et complètent heureusement le texte dense. La diversité des informations, l'approche à facettes de l'éclairage et la richesse de l'iconographie font de ce livre une lecture extrêmement agréable aussi bien pour les spécialistes du domaine que pour le grand public.

Dans la première partie, «Les techniques d'éclairage à travers les âges et les continents», l'auteur fait une incursion dans l'évolution de l'éclairage à travers le temps



et l'espace, depuis les moyens primitifs, «bruts et semi-bruts», jusqu'à la «fée Électricité», en passant par «*les mèches, la cire d'insectes, les combustibles pauvres et de qualité*», «les lampes», depuis celles de la pré-histoire jusqu'aux celles des temps modernes. Il évoque également l'invention du Genevois Ami Argand qui a révolutionné l'éclairage pré-moderne, de même que l'introduction et la généralisation de l'électricité dans l'éclairage moderne, contemporain.

La deuxième partie, «*Flammes, lampes lumière et religions*», est centrée sur la signification et l'utilisation de la lumière sacrée en différents milieux religieux et culturels. On nous présente le judaïsme, qui «*est de loin la religion qui a accordé le plus d'importance à établir une liste stricte et détaillée des conditions nécessaires à obtenir une lumière sacrée ainsi qu'à son utilisation*», le christianisme catholique et orthodoxe, le protestantisme, l'islamisme, l'hindouisme et le bouddhisme. L'auteur met en relief pour chacun de ces cultes les symboles de la lumière sacrée et les rituels liés au luminaire.

La troisième partie, «*L'éclairage et la société*», est dédiée à la production des objets d'éclairage au fil du temps, à leur monopole et aux taxes afférentes. L'auteur présente l'introduction et l'évolution de l'éclairage public en Europe, l'utilisation des

phares maritimes pour guider les navires, l'apparition et l'usage des lampes professionnelles dans l'industrie minière, les transports ferroviaires, les métiers liés à la production, l'utilisation et l'entretien de ces équipements. Il réfléchit sur le comportement de la société vis-à-vis de l'éclairage, que certaines communautés ont adopté, d'autres ont rejeté ou adapté à leurs besoins.

La dernière partie, «*Quel futur pour la lumière artificielle?*», porte sur les disparités régionales du phénomène d'éclairage, en s'arrêtant même au «sur-éclairage» ou à «la pollution lumineuse» dans le clivage régional Nord/Sud des inégalités sociales et en proposant des mesures «anti-gaspillage».

Étant rédigé et publié en français, avec un «Abstract» en anglais, cet ouvrage compte 327 pages grand format, étant recommandé à tous ceux qui s'intéressent à la culture et aux exercices de réflexions trans- et interdisciplinaires. C'est un livre unique dans le paysage culturel et journalistique roumain et utile par ses multiples valences éducatives. La traduction en roumain jouira certainement bien accueillie par le public roumain.

Alexandru PĂCURAR

*Department of Human Geography and Tourism,
Babes-Bolyai University, Cluj-Napoca*