

## A STATISTICAL OVERVIEW ON THE AGROTOURIST GUESTHOUSES VERSUS TOURIST GUESTHOUSES OF THE COUNTY OF SIBIU, ROMANIA

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### *Abstract*

*The paper analyzed the main indicators of the tourism offer and demand in the county of Sibiu in the period 2007-2016 in order to point out the development of tourist and agro-tourist guesthouses and of their role in the local and national tourism. Fixed basis indices, structural indices, regression models, coefficient of correlations have been the main procedures to process the statistical data supplied by the National Institute of Statistics. The tourism in the county of Sibiu and mainly in the rural tourism had a high dynamics in the analyzed interval. In 2017, in the Sibiu county there were 338 accommodation units, of which 91 tourist guesthouses and 138 agro-tourist guesthouses, whose capacity in terms of places was 10,902 beds at the county level, of which 22.79 % in agro-tourist guesthouses and 18.18 % in tourist guesthouses. In 2016, the Sibiu county registered 503,620 arrivals, of which 75,277 in tourist guesthouses and 54,448 in agro-tourist guesthouses. Of the 830,295 overnight stays in the county, 119,778 were in tourist guesthouses and 92,258 in agro-tourist guesthouses. The number of arrivals and overnight stays in guesthouses, mainly in the agro-tourist guesthouses increased 2 times. The highest average length of stay, 1.99 days was registered in agro-tourist guesthouses, followed by 1.73 days in tourist guesthouses. The rural tourism in the county of Sibiu offers 6% of the guesthouses and 6 % places in the guesthouses of the total existing in Romania. Also, 7.6 % of tourists and 7 % of overnight stays of Romania's tourism are recorded in the guesthouses of the Sibiu area. Tourism demand and offer indicators are closely related in the Sibiu county as proved by the regression models, the high value of the coefficients of determination and the coefficients of correlation. The sustainable development of the rural areas of the county of Sibiu depends on the new investments in infrastructure, the improvement of the managerial skills of the guesthouses' owners, on the promotion of the natural and cultural heritage, traditions, hospitality and high quality of services.*

**Key words:** statistic approach, agro-tourist guesthouses, tourist guesthouses, Sibiu County, Romania

### INTRODUCTION

Tourism is a benefic form of diversification of the activities of the local communities. The services of accommodation, board, entertainment and other services offered to the visitors could be an additional income and profit source. Also, tourism and travel services may support the activities of other "actors" who help the tourism such as transporters, small producers, retailers, artisans etc. Tourism is also an effective mean for promote the "treasures" of a country including natural resources, the historical and cultural heritage and the hospitality of its people [5].

The existence of a high percentage of people living in the rural areas of Romania (46%) has

encouraged the inhabitants, who usually practice agriculture, to think of rural and agro-tourism. More than this, people living in the urban areas are more and more attracted either to move their residence in the country side or to spend the holidays with their families in the middle of nature, far away from the noisy civilization, to taste fresh and healthy products directly from the source, to enjoy leisure and relaxation, to experience the country side life at a cheaper price [1].

This has stimulated the development of tourist and agro-tourist guesthouses in Romania during the last decade, for enlarging the tourism offer and for meeting much better the tourist demand [16, 17].

The increasing number of tourists who prefer accommodation and board in tourist and agro-

tourist guesthouses is a proof of their preference and orientation to this type of units with touristic function where the correlation between service quality and price is more convenient [9].

Nowadays, rural tourism is an important component of the sustainable development of the rural space assuring to visitors a harmonized combination between a pleasant stay, feeling and living the rural life, enjoying tasting delicious, fresh and healthy food and drinks and all these in a clean, peaceful and quiet environment full of fresh air and beauties of nature. In this way, both the tourists could benefit and also the owners of guesthouses.

The number of tourist and agro-tourist guesthouses has continuously increased reaching over 3,500 units in 2016, representing over 50 % of the total number of accommodation units with tourism function in the country [11].

Besides Brasov, Harghita, Arges, Maramures and Suceava counties, the Sibiu county plays a more and more important role on the touristic map of Romania [6].

The Sibiu County is situated right in the middle of Romania, in the South West part of the Transilvania region, in the proximity of the the Cindrel and Lotru Mountains, which are branches of the North part of the Southern Carpathians [13].

The Sibiu area is a charming depression with a plenty of small communities where traditions are well preserved and people is full of hospitality. Despite that at the county level, there are over 460 guesthouses, the National Tourism Authority sustains that only about 250 tourist units are operating in the rural area (54.34 %). Their offer includes 2,063 rooms and 4,518 places. Among the localities whose fame is well know it deserves to mention the following communes and villages: Sibiel, Rasinari, Poiana and Sadu as *localities with a rich ethnographic-folk heritage*, Gura Râului, Poiana and Saliste as *localities of the artisans*, Raul Sadului and Jina as *localities with beautiful landscapes and wonderful climate*, Poplaca, Cristian, Jina, Rod, and Raul Sadului as *localities of the shepards and pastoral activities* [3, 14].

Because the official statistics does not include all the exiting information about local tourism, many research studies are based on field survey using questionnaires on a panel of representative individuals. However, it is very difficult to assure a high precision to such a type of studies.

Even the impact of "Sibiu-The European Cultural Capital 2007", such an important event for Romania, the city of Sibiu and for Europe, was difficult to be assessed on the local tourism, economy in general and also from a social point of view. But what is sure is that it had a deep impact on the promotion of Romania at international level [4, 12].

The best known area where local traditions mainly connected to shepherds' life and customs is "Marginimea Sibiului" [15]. Here, agro-tourism is at home, farmers may promote their products and traditions and increase the living standard of their families, and visitors are delighted to have contact with the folk traditions (music, dance, costumes, events), rural life and gastronomy. The great atmosphere in the country side, the authenticity and unicity of the preserved traditions, habits, kindness and hospitality of the hosts, the local craft arts, are reasons to determine visitors to prefer to spend their holidays in tourist and agro-tourist guesthouses [2].

Therefore, rural tourism is a strategic option for sustainable development which could perfectly integrate rural economy, and life with the environment [8].

The development of the sustainable tourism in the Sibiu area requires investments in infrastructure and communication technology, entrepreneurial skills for the guesthouses' owners to enable them to diversify the local economy, to support eco-tourism and agro-tourism and to enhance the cultural heritage. [9].

In this context, the paper aimed to comparatively analyze: (i) the dynamics of the main tourist indicators: number of accommodation units for tourist reception, number of places, number of tourist arrivals, number of overnight stays, average length of stay at the county level, in case of tourist guest houses and in case of agro-tourist

guesthouses; (ii) the dynamics of the share of these indicators of the guesthouses in the county level; (iii) the relationship existing between these tourism indicators by means of regression function, coefficient of determination and Pearson coefficient of correlation in the period 2007-2016, based on the empirical data supplied by the National Institute of Statistics.

## MATERIALS AND METHODS

For setting up this paper, the following tourism indicators have been analyzed:

- the total number of accommodation units for tourist reception in the Sibiu county, of which the number of tourist and agro-tourist guesthouses;
- the number of places in the accommodation units at the county level, of which the number of places in the tourist and agro-tourist guesthouses;
- the average number of places/accommodation unit, the average number of places/tourist guesthouse and the average number of places/agro-tourist guesthouse;
- the number of tourist arrivals in the accommodation units at the county level, of which the number of arrivals in the tourist and agro-tourist guesthouses;
- the number of overnight stays in the accommodation units at the county level, of which the number of overnight stays in the tourist and agro-tourist guesthouses;
- the average length of stay in the accommodation units at the county level, of which the length of stay in the tourist and agro-tourist guesthouses.

These tourism indicators were analyzed in their dynamics in the period 2007-2017 using the data supplied by the National Institute of Statistics Tempo Online Data base [10].

In the study there were used different methods for processing the empirical data as follows:

- *The fixed basis index*,  $I_{FB} = (X_n/X_0)100$ , where  $X_n$  is the value of the variable X in the year n, and  $X_0$  is the value of the variable X in the first year taken into consideration.

- *The structural index*,  $S\% = (X_i/X_T) 100$ , where  $X_i$  = the value of the variable n and  $X_T$  = the sum of the values of the variables.

- *The absolute differences*,  $\Delta_x = X_1 - X_2$ , where  $X_1$  = the value of the variable 1 and  $X_2$  = the value of the variable 2.

- *The average length of stay*:  $D = \sum NO_i / \sum NT_i$ , where  $\sum NO_i$  = the number of overnight stays and  $\sum NT_i$  = the number of tourists.

- *The linear regression function*,  $Y_x = bx + a$ , where a is a constant and b is the regression. The graphically illustration was made using the Excel facilities.

- *The determination coefficient*,  $R^2$ , was also determined using the Excel facilities.

- *The Pearson correlation coefficient* was determined using the Excel facilities.

- *The comparison method* was also used to establish and comment the differences between various indicators in different types of accommodation units.

## RESULTS AND DISCUSSIONS

### **The accommodation capacity in terms of units with function for tourist reception.**

*The number of accommodations units for tourist reception* increased in the Sibiu County by 146 % from 137 units in the year 2007 to 338 units in 2017. The lowest level, 109 units, was registered in the years 2011 and 2012, but then, in the coming years, mainly since 2015, their number was higher and higher in order to keep pace with tourist demand, as long as the City of Sibiu and the county are among the most visited areas in Romania.

*The number of tourist guesthouses* had the most dynamics growth rate in the analyzed period, + 279.1 %, from 24 units in 2007 to 91 units in 2017. Their share in the total number of units for tourist accommodation increased from 17.5 % in 2007 to 26.9 % in 2017, that is 1.5 times, reflecting their importance in the structure of the accommodation units.

*The number of agro-tourist guesthouses* has followed a similar ascending trend. In the analyzed period, their number increased by 170.5 %, from 51 units in 2007 to 138 units in 2017. Their number was 1.5 times higher compared to the number of tourist

guesthouses in 2017. The share of the agro-tourist guesthouses in the number of accommodation units with tourist function registered the highest level in the years 2007-2010, then it declined to 18.3 % in 2011, but

after this year, it has continuously increased, reaching 40.8 % in 2017.

Therefore, the agro-tourist guesthouses had a higher share, 40.8 %, in the number of accommodation units compared to the tourist guesthouses, 26.9 %, in 2017 (Table 1).

Table 1. The evolution of the number of units with function for tourist accommodation, of which tourist and agro-tourist guesthouses in the Sibiu County, 2007-2016

	Number of accommodation units	Tourist guesthouses		Agro-tourist guesthouses	
		Number	Share in the number of units %	Number	Share in the number of units %
2007	137	24	17.5	51	37.2
2008	152	28	18.4	63	41.4
2009	172	32	18.6	74	43.0
2010	167	29	17.3	73	43.7
2011	109	27	24.8	20	18.3
2012	109	25	22.9	25	22.9
2013	112	26	23.2	25	22.3
2014	119	23	19.3	18	23.5
2015	315	90	28.6	118	37.5
2016	295	84	28.5	110	37.3
2017	338	91	26.9	138	40.8
2017/2007 %	246.7	379.1	-	270.5	

Source: Own calculation based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

### The accommodation capacity in terms of the number of places (beds).

The total number of places in the accommodation units with tourist function has recorded a continuous development in the analyzed period. The total number of places increased by 112.8 % from 5,123 places in 2007 to 10,902 in 2017.

The number of places in the tourist guesthouses was 4.08 times higher in 2017 compared to 2007. In the last year of the analysis, it accounted for 1,983 compared to 485 beds in 2007. The share of the places existing in the tourist guesthouses increased from 9.4 % in 2007 to 18.2 % in 2017 in the total number of places in the Sibiu county. But the most dynamic period was 2015-2017 when their share was over 19 %.

The number of places in the agro-tourist guesthouses also registered an ascending trend between 2007 and 2010, then it declined in 2011, but after this year, the number exploded, so that in the last three years 2015-2018, it exceeded 2,000 places. As a result, the share of the places in the agro-tourist guesthouses varied between 12.4 % and 18.8 % in the period 2007-2009, with the lowest

level in 2011, 8.9 %, but then, it has continuously increased exceeding 20 % in the period 2015-2017. The share of the number of places in the agro-tourist guesthouses is much higher than the share of places in the tourist guesthouses (Table 2).

Therefore, in 2017, in the Sibiu County, there were 229 guesthouses and 4,468 places, representing 67.75 % of the total number of the accommodation units and 40.98 % of the total number of places. This reflects the increased importance of guesthouses in the local tourism, as a business for the local population in order to get additional incomes and as a form of diversification of the accommodation offer.

### The number of places per accommodation unit, per tourist guesthouse and agro-tourist guesthouse

The average number of places per accommodation unit with function for tourist reception at the county level varied between 37.3 beds in the year 2007 to 32.2 beds in 2017, meaning a decrease by 13.68 %. The top number of places, 56.2 beds/unit was registered in 2012 and the minimum level, 32.2 beds, in 2017.

Table 2. The evolution of the number of places in the units with function for tourist accommodation, of which in the tourist and agro-tourist guesthouses in the Sibiu County, 2007-2017

	Number of places in accommodation units	Places in the tourist guesthouses		Places in the agro-tourist guesthouses	
		Number	Share in the number of places in the total units %	Number	Share in the number of places in the total units %
2007	5,123	485	9.4	634	12.4
2008	5,265	589	11.1	807	15.3
2009	6,013	580	9.6	1,135	18.8
2010	6,538	581	8.9	1,043	15.9
2011	6,065	548	9.0	543	8.9
2012	6,125	518	8.5	670	10.9
2013	6,247	532	8.5	670	10.7
2014	6,547	491	7.5	736	11.2
2015	10,473	1,827	18.5	2,119	20.2
2016	10,036	1,841	18.3	2,048	20.4
2017	10,902	1,983	18.2	2,485	22.8
2017/2007 %	212.8	408.8	-	391.9	-

Source: Own calculation based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

The average number of places per tourist guesthouse increased by 7.9 % in the analyzed period from 20.2 beds in 2007 to 21.8 beds in 2017.

In agro-tourist guesthouses, the average number of places registered the highest development, being by 45.16 % higher in 2017 compared to 2007. In the last year of the

analysis, it accounted for 18 places compared to 12.4 places in 2007 (Table 3).

The figures from Table 3 reflect that the average number of places per tourist and respectively per agro-tourist guesthouse is lower compared to the average at the county level. It is normal to be so as long as hotels have the highest share and capacity in the accommodation structure in the Sibiu county.

Table 3. The evolution of the average number of places per accommodation unit with function for tourist reception in the Sibiu County, 2007-2016

	The average number of places per			Absolute difference of average number of places per unit (±)		
	Accommodation unit at the county level (AUTF)	Tourist guesthouse (TGH)	Agro-tourist guesthouse (ATGH)	TGH-AUTF	ATGH-AUTF	ATGH-TGH
2007	37.3	20.2	12.4	-17.1	-24.9	-7.8
2008	34.6	21.0	12.8	-13.6	-21.8	-8.2
2009	34.9	18.1	15.3	-16.8	-19.6	-2.8
2010	39.1	20.0	14.3	-19.1	-24.8	-5.7
2011	55.6	20.3	27.1	-35.3	-28.5	+6.8
2012	56.2	20.7	26.8	-35.5	-29.4	+6.1
2013	55.8	20.5	26.8	-35.3	-29.0	+6.3
2014	55.0	21.3	26.3	-33.7	-28.7	+5.0
2015	33.2	21.4	18.0	-11.8	-15.2	-3.4
2016	34.0	21.9	18.6	-12.1	-15.4	-3.3
2017	32.2	21.8	18.0	-10.4	-14.2	-3.8
2017/2007 %	86.32	107.90	145.16	-		

Source: Own calculation based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

This is reflected by the negative differences between the average number of places/tourist guesthouse and the average number of places/accommodation unit at the county level, and also between the average number of

places/agro-tourist guesthouse and the average number of places/accommodation unit at the county level.

But, if we comparatively study the average number of places per guesthouse, we may

easily notice that the differences are smaller, in favor of tourist guesthouses, but in the years 2011-2014, the average number of places in the agro-tourist guesthouses was higher than the average number of places per tourist guesthouse, and in the period 2015-2018, the differences were very small, just 3.3 - 3.8 places (Fig.1).

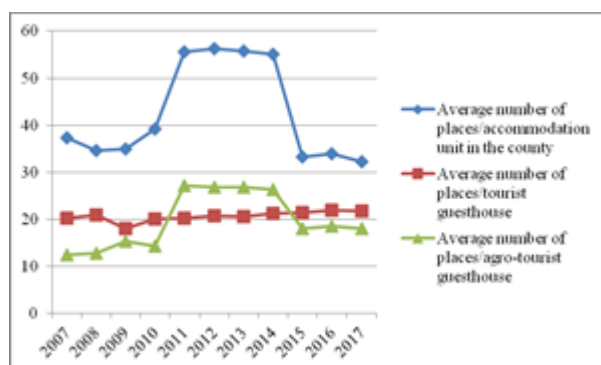


Fig.1. The comparative evolution of the average number of places per accommodation unit, per tourist guesthouse and per agro-tourist guesthouse in the Sibiu County, 2007-2016 [10]

Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018

**The number of tourist arrivals.**

The tourist arrivals in the accommodation units in the Sibiu county increased by 53.57 % in the analyzed period from 327,925 in 2007 to 503,620 in 2016. The lowest number of

arrivals, 228,195, was registered in 2010, due to the negative impact of the economic crisis on the people's income and their availability for travelling in general.

The arrivals in the tourist guesthouses increased much more, + 127.46 %, from 33,094 in the year 2007 to 75,277 in the year 2016. This happened because the highest share of tourists belongs to the Romanians who are looking for lower accommodation tariffs and preferred lodging in guesthouse. The share of the tourist arrivals in the tourist guesthouses in the total number of tourists accommodated in units with tourism function in the Sibiu county registered a general decline from 10.1 % in 2007 to 7.4 % in 2016, with the lowest level, 1.5 %, in the year 2011 and the highest one, 11.5 %, in the year 2015.

The arrivals in the agro-tourist guesthouses registered the highest growth rate in the analyzed period, + 141.78 %. It increased from 22,519 arrivals in 2007 to 54,448 in 2016. The share of the tourist arrivals in the agro-tourist guesthouses in the total number of tourists accommodated in units with tourism function recorded, in general, an increasing trend from 6.8 % in 2007 to 19.8 % in 2016, with the minimum value, 3%, in the year 2011 (Table 4).

Table 4. The evolution of the number of arrivals in the units with function for tourist accommodation, of which in the tourist and agro-tourist guesthouses in the Sibiu County, 2007-2016

	Arrivals in accommodation units in the county	of which, tourist arrivals in:			
		Tourist guesthouses		Agro-tourist guesthouses	
		Number	% in the total arrivals	Number	% in the total arrivals
2007	327,925	33,094	10.1	22,519	6.8
2008	287,103	28,600	9.9	26,884	9.4
2009	244,708	14,021	5.7	19,771	8.1
2010	228,195	5,347	2.3	9,885	4.3
2011	263,684	4,046	1.5	7,916	3.0
2012	285,136	7,415	2.6	15,167	5.3
2013	329,986	13,714	4.1	24,813	7.5
2014	355,698	15,433	4.3	25,975	7.3
2015	438,611	50,577	11.5	36,506	8.3
2016	503,620	75,277	7.4	54,448	10.8
2016/2007 %	153.57	227.46	-	241.78	-

Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

**The number of overnight stays.**

The number of overnight stays in the Sibiu county increased by 56.62 % from 530,100 in the year 2007 to 830,295 in 2016.

The number of overnight stays in the tourist guesthouses also recorded an increasing trend, in 2016 accounting for 119,778, being 2.2 times higher than in 2007, when it accounted

for 54,058. As a result of its dynamics, the share of the overnight stays in the tourist guesthouses in the number of overnight stays at the county level registered a slight increase from 10.2 % in 2007 to 14.4 % in 2016. The lowest levels were recorded in the years 2011-2014 varying between 2 and 3.4 %.

*The number of overnight stays in the agro-tourist guesthouses increased by 115.17 %*

from 42,876 in 2007 to 92,258 in 2016. The lowest number was recorded in 2011, 18,117 overnight stays. The share of the overnight stays in the agro-tourist guesthouses in the total overnight stays at the county level increased from 8% to 11 %. The lowest share was 3.9 % recorded in the year 2011 (Table 5).

Table 5. The evolution of the number of overnight stays in the units with function for tourist accommodation, of which in the tourist and agro-tourist guesthouses in the Sibiu County, 2007-2016

	Overnight stays in accommodation units in the county	of which, overnight stays in:			
		Tourist guesthouses		Agro-tourist guesthouses	
		Number	% in the total overnight stays	Number	% in the total overnight stays
2007	530,100	54,058	10.2	42,876	8.0
2008	459,342	48,120	10.5	54,267	11.9
2009	381,672	26,845	7.0	43,854	11.5
2010	401,578	11,078	7.0	25,409	6.3
2011	461,636	9,167	2.0	18,117	3.9
2012	490,260	15,139	3.0	30,499	6.2
2013	540,507	19,714	3.4	39,449	7.3
2014	581,505	19,798	3.4	42,050	7.2
2015	740,946	77,986	10.5	69,335	9.3
2016	830,295	119,778	14.4	92,258	11.1
2016/2007 %	156.62	221.57	-	215.17	-

Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

**The average length of stay.**

*The average length of stay of the tourists in the accommodation units in the Sibiu county remained relatively stable at 1.6 days, in 2016*

compared to 2007, but with a peak of 1.8 days in 2010 and with the lowest level, 1.5 days, in 2009.

Table 6. The evolution of the average length of stay in the accommodation units with function for tourist reception in the Sibiu County, of which in tourist guesthouses and agro-tourist guesthouses, 2007-2016

	The average length of stay in			Absolute difference of average length of stay (±)		
	Accommodation units at the county level (AUTF)	Tourist guesthouses (TGH)	Agro-tourist guesthouses (ATGH)	TGH-AUTF	ATGH-AUTF	ATGH-TGH
2007	1.6	1.6	1.9	0	+0.3	+0.3
2008	1.6	1.7	2.1	+0.1	+0.5	+0.4
2009	1.5	1.9	2.2	+0.4	+0.7	+0.3
2010	1.8	2.1	2.6	+0.3	+0.8	+0.5
2011	1.7	2.2	2.3	+0.5	+0.6	+0.1
2012	1.7	2.0	2.0	+0.3	+0.3	0
2013	1.6	1.4	1.6	-0.2	0	+0.2
2014	1.6	1.3	1.6	-0.3	0	+0.3
2015	1.7	1.5	1.9	-0.2	+0.2	+0.4
2016	1.6	1.6	1.7	0	+0.1	+0.1
2016/2007 %	100.0	100.0	89.5	-	-	-

Source: Own calculation based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

*The average length of stay in the tourist guesthouses also remained at the same level, 1.6 days in 2016 like in 2007.*

But across the time, it registered a peak of over 2 days in the years 2010-2012 and the shortest stay of 1.3 days in 2013.

In the period 2008-2012, the average length of stay was higher in the tourist guesthouses compared to the average length of stay at the county level.

The average length of stay in the agro-tourist guesthouses declined from 1.9 days in 2007 to 1.7 days in 2016, therefore by 10.5 %. But, it registered the top value, 2.6 days in 2010, and the lowest value 1.6 days in 2013 and 2014 (Table 6).

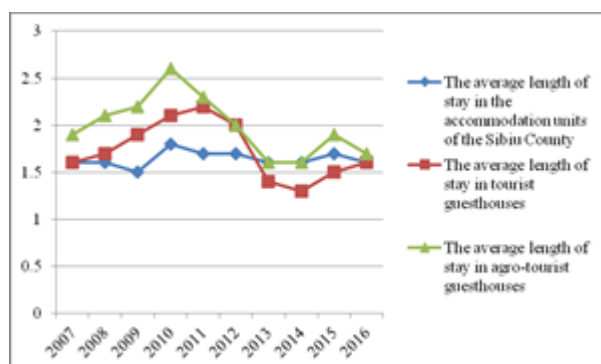


Fig.2. The comparative evolution of the average length of stay in the total accommodation units, in the tourist guesthouse and in the agro-tourist guesthouse in the Sibiu County, 2007-2016

Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

Looking at the figures presented in Table 6, one can easily notice the differences in favor of tourist and agro-tourist guesthouses regarding the average length of stay compared to the average length of stay at the county level.

Table 7. The share of the tourism indicators of the tourist and agro-tourist guesthouses of the County of Sibiu in Romania's tourism (%)

2007	2016	2007	2016	2007	2016
<b>The share of the accommodation units with function for tourist reception of the Sibiu county (%)</b>					
<i>At the county level</i>		<i>Tourist guesthouses</i>		<i>Agro-tourist guesthouses</i>	
5.08	4.61	3.26	5.95	3.94	6.15
<b>The share of the number of places of the Sibiu county (%)</b>					
<i>At the county level</i>		<i>Tourist guesthouses</i>		<i>Agro-tourist guesthouses</i>	
1.80	3.18	3.61	6.01	4.10	6.02
<b>The share of the tourist arrivals in the Sibiu County (%)</b>					
<i>At the county level</i>		<i>Tourist guesthouses</i>		<i>Agro-tourist guesthouses</i>	
4.70	4.57	7.32	7.22	7.80	7.84
<b>The share of the overnight stays in the Sibiu County (%)</b>					
<i>At the county level</i>		<i>Tourist guesthouses</i>		<i>Agro-tourist guesthouses</i>	
2.57	3.26	5.82	6.12	7.23	7.88

Source: Own calculation based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

The number of overnight stays in the Sibiu County accounts for 3.26 % of the overnight

The length of stay is higher in the agro-tourist guesthouses compared to the average at the county level, and also compared to the average length of stay in the tourist guesthouses (Fig.2.).

**The share of the tourism indicators of the guesthouses of the Sibiu County in Romania's tourism.**

Taking into account the evolution of the indicators mentioned above regarding the tourism and offer in guest houses in the Sibiu County, it was analyzed the place of tourism in this area in Romania's tourism.

The number of units with accommodation function in the Sibiu County represents 4.61 % of the total number of accommodation units in Romania's tourism. The number of tourist and agro-tourist guesthouses represents 5.95 % and respectively 6.15 % of guesthouses existing in the country.

The total number of places of the Sibiu County represents 3.18 % of the places existing in Romania's tourism, and the number of places existing in the tourist and agro-tourist guesthouses represents 6.01 % and respectively 6.02 % in the total number of places in the tourism of the country.

The tourist arrivals in the Sibiu County accounts for 4.57 % of the total arrivals in Romania. The tourist arrivals in tourist and agro-tourist guesthouses account for 7.22 % and respectively 7.84 %.

stays in Romania's tourism, and the number of overnight stays in the tourist and agro-tourist



guesthouses accounts for 6.12 % and 7.88% (Table 7).

Therefore, it is easy to notice that the share of the analyzed tourism indicators in the Sibiu County in the level of statistical indicators at the county level has increased since 2007 till 2016, reflecting the development of tourism in the County of Sibiu emphasizing the high dynamics of tourism at the level of tourist guesthouses and mainly at the level of the agro-tourist guesthouses.

Agro-tourism is well represented in the county of Sibiu and it is a higher and higher attraction for tourists.

**The relationship between the number of tourist arrivals and the number of places in the tourist guesthouses** is reflected by the linear regression function and the value of the coefficient of determination as presented in Fig. 3. The regression equation tells us that the increase of the number of places by 10 in the tourist guesthouses will determine an increase of 347 tourist arrivals. The determination coefficient confirmed that 73.95 % of the variation of the number of tourist arrivals in the tourist guesthouses is determined by the variation of the number of places in this type of accommodation units in the Sibiu County (Fig.3.)

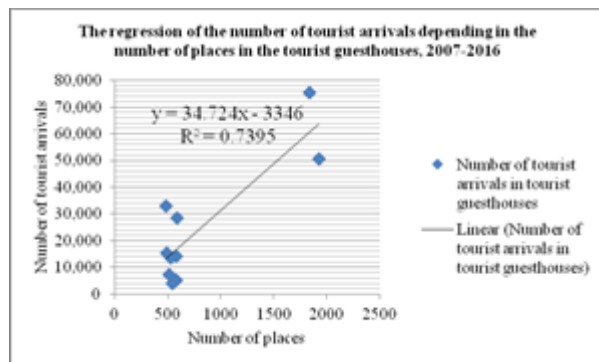


Fig.3. The regression of the number of tourist arrivals depending on the number of places in the tourist guesthouses in the Sibiu County, 2007-2016

Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018, [10]

**The relationship between the number of tourist arrivals and the number of places in the agro-tourist guesthouses** is shown by the linear regression function and the value of the coefficient of determination as presented in

Fig. 4. The regression equation shows that the increase of the number of places by 10 in the agro-tourist guesthouses will led to 178.8 tourist arrivals. The coefficient of determination attested that 58.52 % of the variation of the number of tourist arrivals in caused by the variation of the number of places (Fig.4.)

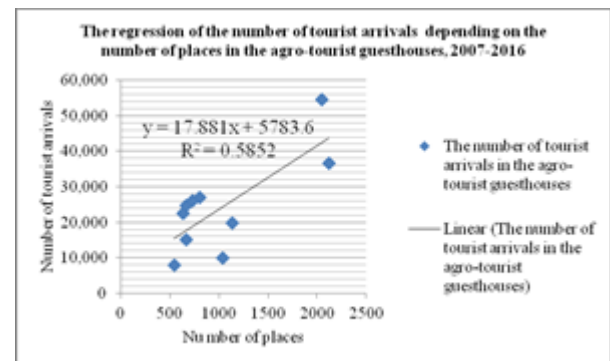


Fig.4. The regression of the number of tourist arrivals depending on the number of places in the agro-tourist guesthouses in the Sibiu County, 2007-2016

Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

**The relationship between the number of overnight stays and the number of places in the tourist guesthouses** is enough strong (Fig.5).

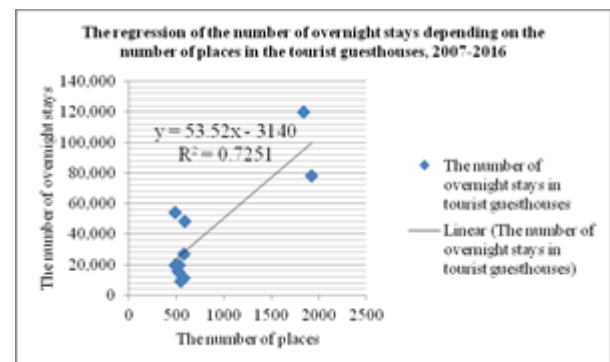


Fig.5. The regression of the number of overnight stays depending on the number of places in the tourist guesthouses in the Sibiu County, 2007-2016

Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

This is confirmed by the regression function and the coefficient of determination presented in Fig.5.

The regression function showed that an increase by 10 places in the tourist

guesthouses will determine an increase by 535.2 of the number of overnight stays. The determination coefficient reflected that 72.51 % of the variation of the number of overnight stays in the tourist guesthouses is caused by the variation of the number of places ( Fig.5). **The relationship between the number of overnight stays and the number of places in the agro-tourist guesthouses** is a strong one, and the regression equation allows us to affirm that an increase by 10 places in the agro-tourist guesthouses will induce a growth by 311.3 overnight stays in this category of accommodation units. The coefficient of determination confirmed that the regression function is valid and that 68.66 % of the variation of the number of overnight stays is influenced by the variation of the number of places in the agro-tourist guesthouses (Fig.6).

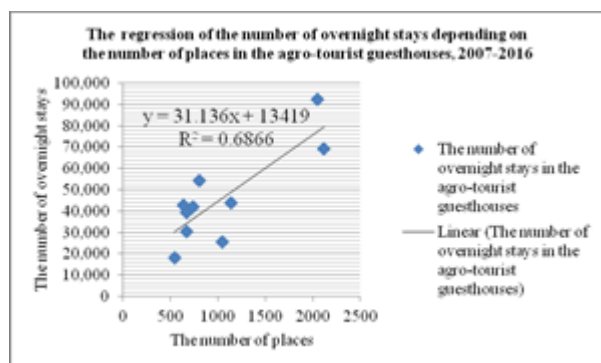


Fig.6. The regression of the number of overnight stays depending on the number of places in the tourist agro-guesthouses in the Sibiu County, 2007-2016  
 Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

**The relationship between the number of overnight stays and the number of tourist arrivals in the tourist guesthouses** was confirmed by the linear regression equation and the coefficient of determination as illustrated in Fig.7. An increase by 10 arrivals in the tourist guesthouses will cause an increase by 155.1 of the number of overnight stays. About 99.35 % of the variation of the number of overnight stays is caused by the variation of the number of arrivals in the tourist guesthouses in the Sibiu County (Fig.7).

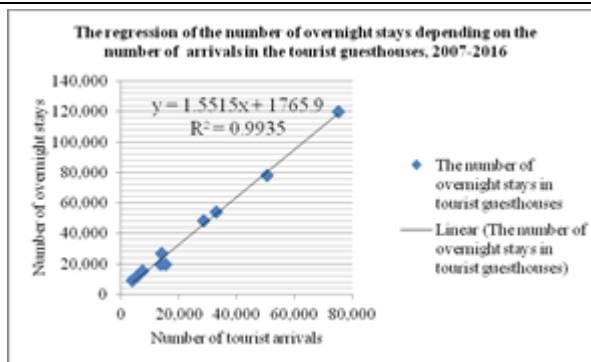


Fig.7. The regression of the number of overnight stays depending on the number of arrivals in the tourist guesthouses in the Sibiu County, 2007-2016  
 Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

**The relationship between the number of overnight stays and the number of tourist arrivals in the agro-tourist guesthouses** was also confirmed by the linear regression function and the determination coefficient. For an increase by 10 tourist arrivals it is expected an increase by 157.5 of the number of overnight stays in the agro-tourist guesthouses. About 96.09 % of the variation of the number of overnight stays is determined by the variation of the number of arrivals in the agro-tourist guesthouses (Fig.8).

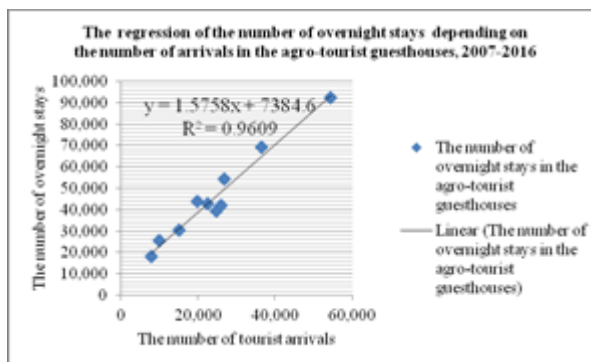


Fig.8. The regression of the number of overnight stays depending on the number of arrivals in the tourist agro-guesthouses in the Sibiu County, 2007-2016  
 Source: Own design based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

**The Pearson correlation coefficient.**

This strong relationship between the analyzed tourism indicators at the level of tourist and agro-tourist guesthouses was also confirmed

by the coefficient of correlation which had high positive values as presented in Table 8.

Table 8. the correlation coefficients between the main tourism indicators characterizing the tourist and agro-tourist guesthouses in the Sibiu County in the period 2007-2016

Pairs of indicators	Coefficient of correlation, $r_{xy}$
The number of tourist arrivals and	
(a)The number of places in the tourist guesthouses	$R_{XY} = 9.859$
(b)The number of places in the agro-tourist guesthouses	$R_{XY} = 0.765$
The number of overnight stays and	
(a)The number of places in the tourist guesthouses	$R_{XY} = 0.851$
(b)The number of places in the agro-tourist guesthouses	$R_{XY} = 0.829$
The number of overnight stays and:	
(a)The number of arrivals in the tourist guesthouses	$R_{XY} = 0.996$
(b)The number of arrivals in the agro-tourist guesthouses	$R_{XY} = 0.980$

Source: Own calculation based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [10]

## CONCLUSIONS

The tourism in the county of Sibiu has recorded a high development during the analyzed period reflecting its importance in the tourism of Romania.

The accommodation capacity in terms of units with reception function for tourist has increased 2.46 times at the county level, 3.7 times in case of tourist guesthouses and 2.7 times in case of agro-tourist guesthouses. In 2017, the Sibiu county had 338 accommodation units, 91 tourist guest houses and 138 agro-tourist guesthouses.

In terms of places, the accommodation capacity increased even more: 2.1 times at the county level, 4 times in tourist guesthouses and 3.9 times in case of agro-tourist guesthouses. In 2017, the total offer of places in the tourism of Sibiu county was 10,902, of which 1,983 beds in tourist guesthouses and 2,485 beds in agro-tourist guesthouses.

The average number of places at the county level was 42.53 beds/unit, and in tourist guesthouses accounted for 20.65 beds and in agro-tourist guesthouses for 19.67 beds.

The tourist demand in terms of tourist arrivals has increased 1.5 times at the county level, 2.2 and respectively 2.4 times in tourist and agro-tourist guesthouses. In 2016, in the county of Sibiu there were registered 503,620 arrivals, of which 75,277 in tourist guesthouses and 54,448 in agro-tourist guesthouses.

The tourist demand in terms of overnight stays has also increased 1.5 times at the county level, 2.2 times in tourist guesthouses and 2.1 times in agro-tourist guesthouses. In

2016, there were recorded 830,295 overnight stays, of which 119,778 in tourist guesthouses and 92,258 in agro-tourist guesthouses.

The average length of stay accounted for 1.64 days at the county level, and 1.73 days in tourist guesthouses and 1.99 days in agro-tourist guesthouses.

The importance of the rural tourism in the county of Sibiu has increased year by year. In 2016, in the county of Sibiu there were around 6 % guesthouses, offering about 6 % of places of the rural tourism capacity in Romania. Also, the guesthouses offered accommodation for 7.6 % of tourists visiting Romania, and the overnight stays in the guesthouses of Sibiu accounted for 7 % of the total overnight stays in the country.

The relationship between the analyzed tourism indicators: accommodation capacity and tourism demand in terms of arrivals and overnight stays is a positive and strong one as proved by the regression models, the coefficients of determination and the Pearson coefficients of correlation.

Even thou the rural tourism in the Sibiu County is very dynamic, its development in the coming years depends on the infusion of investments in infrastructure, the improvement of the managerial skills of the owners of guesthouses, the diversification of the tourist offers in terms of accommodation, board and entertainment, the promotion of the historical and cultural heritage, of the traditions and habits, gastronomy, the right ratio between service quality and price, and hospitality.

Only in this way, rural tourism and mainly agro-tourism could become a strong component of the sustainable development of the rural areas in the County of Sibiu.

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