

The Role of Infrastructure and Touristic Traffic in Romania's Touristic Regionalization

Adrian Aurel BALTĂLUNGĂ^{1,*}, Daniela DUMITRESCU¹

¹ Department of Geography, Valahia University of Târgoviște, Regele Carol I Avenue, no. 2, Târgoviște, România

* Corresponding author, aa_baltalunga@yahoo.com

Received on <12-09-2012>, reviewed on <05-01-2013>, accepted on <30-03-2013>

Abstract

The touristic regionalization, in most cases, is performed by taking into account the tourism potential as main reference, in this respect numerous methodologies having attempted to quantify as balanced as possible both the natural tourism potential and the man-made one. Beyond its great theoretical importance, their actual, practical and statistical value is yet limited, given that all economic and socio-political analyses, reports and comparisons have a mandatory administrative dimension, too. These present realities constitute the main reason why we believe that a deepening of regionalization which takes into consideration, more than others made so far, the administrative component, on the one hand, and the actual revaluation, on the other hand, embodied in the existence of specific infrastructure, which together with the tourism potential shall determine the attraction of tourist flows. In this respect, we tried to consider, to share and to model a large number of indicators to reach an outcome which provides a more real, synthetic and complete image (8 data sets were structured and combined, calculating 13 indicators, subsequently synthesized into 5, which led to the preparation of maps: afterwards these were overlapped for county level, respectively their average at the level of development regions. Such a regionalization also reflects the real role that tourism plays in the economic balance of counties, respectively development regions.

Keywords: *touristic regionalisation, touristic infrastructure, touristic traffic, spatial distribution, synthetic indicators, counties, development regions*

Rezumat. Rolul infrastructurii și circulației turistice în regionarea turistică a României

Regionarea turistică, în cele mai multe cazuri, se realizează având ca principal reper potențialul turistic, existând în acest sens numeroase metodologii care încearcă o cuantificare cât mai echilibrată a potențialului turistic natural și a celui antropic. Dar, dincolo de importanța teoretică deosebită, valoarea reală, practică, statistică a acestora este limitată, în contextul în care toate analizele, raportările și comparațiile din punct de vedere economic și social au și o dimensiune politico-administrativă obligatorie. Aceste realități prezente se constituie în motivul principal pentru care considerăm că este necesară o aprofundare a regionărilor care să ia în calcul, mai mult decât altele realizate până acum, componenta administrativă, pe de o parte, iar pe de altă parte nivelul de valorificare efectivă, materializat în existența unor infrastructuri specifice, care, împreună cu potențialul turistic determină atragerea unor fluxuri turistice. Pentru realizarea acestui demers am încercat să luăm în calcul, să ponderăm și să modelăm un număr cât mai mare de indicatori, pentru a ajunge la un rezultat care să ofere o imagine cât mai reală, completă și sintetică (8 serii de date au fost structurate și combinate, calculându-se 13 indicatori care ulterior au fost sintetizați în 5, ce au stat la baza întocmirii unor hărți, după care s-a realizat suprapunerea acestora la nivel de județe, respectiv media lor la nivel de regiune de dezvoltare. O astfel de regionare reflectă și rolul pe care îl are în mod real turismul în balanța economică a județelor, respectiv a regiunilor de dezvoltare.

Cuvinte-cheie: *regionare turistică, infrastructură turistică, circulație turistică, repartii spațiale, indicatori sintetici, județe, regiuni de dezvoltare*

Introduction

The tourism potential is the essential but insufficient prerequisite for the touristic exploitation of a territory. This is shown and proven in many cases; unfortunately Romania is a good example in this regard for a large part of it. The most significant references are provided by the existing infrastructure and touristic traffic. These shall be analyzed and interpreted based on the statistical data as well as the calculation and correlation of the most representative indicators. As it is natural in practical terms, statistics are reported at county level, so that regionalization based on the above criteria will make reference to the county, or the

development region in some cases. Such synthetic regionalization provides a higher relevance and practical applicability than the one based on natural components and units (Coccean, 1998; Cândea, Erdeli., Simon 2000; Ciangă, 2002; Dumitrescu, 2008; Baltălungă, 2008, Mazilu 2011), integrating natural conditions into the social and economic context, being able to form a basis for the analysis of the future development vectors. In this respect, it is necessary to perform such studies, given that, in financial terms, most development programs and projects have boundary at the level of the administrative units. Also, most times the natural regions overlap two or more counties. As an overview, at least at the regional and national level,

programs to both correlate and integrate the interests of each county could be made.

Method

Several methods have been used to achieve the proposed approach. First we started from six synthetic indicators:

- I_1 = No. of accommodation units / Total permanent population x 1000¹
- I_2 = No. of accommodation places / Surface
- I_3 = No. of catering units / Total permanent population x 1000
- I_4 = No. of catering places / Surface
- I_5 = No. of overnights / Total permanent population
- I_6 = No. of arrivals / Total permanent population

If initially (Baltunga, Dumitrescu 2011), their arithmetic mean led to a comprehensive index, which we called *Indicator of Touristic Revaluation* (I_{TR}), then others were added, being the starting point and providing the first overview of the *level of touristic revaluation* (fig. 1).

The correlation with the index of the usage of the accommodation capacity provides us with a picture of efficiency, in other words, the intensity of the exploitation of accommodation facilities (fig. 2 and fig. 3).

A second indicator which was calculated (table 1) refers to the ratio of the index of the usage of the accommodation capacity and the population density, embodied in the distribution of this report at county level - Fig. 4.

The following calculated indicators highlight as well as summarize accommodation capacity, catering establishments and touristic traffic related aspects, such as (table 1):

- I_C – *accommodation capacity index*, the result of the arithmetic mean between I_1 and I_2 ;
- I_A – *catering units' index*, the result of the arithmetic mean between I_3 and I_4 ;
- I_{CT} – *touristic traffic index* resulted from the arithmetic mean between I_5 and I_6 .

The results of the analyses can be seen in Fig. 5, 6 and 7, which show their spatial distribution at the county level.

To group the resulted values, four intervals have been set for all five indicators in order to facilitate the comparison in the next stage.

In the delineation of touristic regions as homogeneous ones *the method of territory delimitation in elementary areas* defined by one or more ("n") characters can be successfully applied. Since the aspects that characterize tourism are

various, for a detailed analysis as well as development of a more accurate regionalization the *procedure of distribution of "n" characters* shall be applied (five in this case, each being the result of a relationship/correlation between the other two).

Thus, by overlapping maps and calculating each county related value by the frequency of the presence in the four intervals², we obtained a complex synthetic indicator, which comprises the defining elements of infrastructure and touristic traffic, which we called **Tourism Activity Index** - I_{AT} (fig. 8).

For a higher level of detail, this time the values and comparability of the taxonomic units of were distributed into five intervals, thus resulting five categories of counties in terms of tourism intensity:

- very low tourism activity counties - $I_{AT} > 19.01$
- low tourism activity counties - $I_{AT} 16.01 - 19.00$
- moderate tourism activity counties - $I_{AT} 13.01 - 16.00$
- high tourism activity counties - $I_{AT} 10.01 - 13.00$
- very high tourism activity counties - $I_{AT} < 10.00$

This complies with the basic principles of the geographical regionalization which are applied in touristic regionalization, namely the principle of objectivity, the principle of the selection of guiding elements, the principle of functionality, complexity and comparability of the taxonomic units of regionalization.

The table below provides both the statistical data used and the indicators calculated for each county and development region (source: Romanian Statistical Yearbook, 2010, INS Bucharest; <http://www.mdrt.ro/turism/unitati-clasificate>).

Discussion

The analysis of indicators, both at county and regional level, reveals the differences in the distribution of tourism revaluation (Fig. 1). As a summary of the six indicators, we can notice that counties with high tourism potential (e.g. Harghita, Mureş, Argeş, Neamţ, Bistriţa-Năsăud, Maramureş, Suceava, Tulcea etc.) fit in last category, which shows that the existing touristic infrastructure and touristic traffic are currently not exploiting sufficiently their potential. At the opposite side are the counties of Constanta and Bucharest, followed by Brasov, the single presence in the second category. The fact that almost 74% of the counties are placed in the last category regarding the revaluation level is more than suggestive.

² Example of calculation: out of five graphic representations, county X fits twice the 1st position, once the 3rd position and twice the 4th position-thus, $(1 \times 2) + (3 \times 1) + (4 \times 2) = 13$. Because the more often the value fits the last positions, the greater the result obtained by multiplication with 3 or 4 is, the position held is inversely proportional to the resulted value.

¹ I_2 and I_5 – „The density of touristic equipping” (parţial) and „The density of touristic equipping”, Nicolae I., Dragomirescu Ş., Cernea D. (1977) – *Zonarea turistică a R.S.R.* – CCEPTI, Bucureşti.

Table 1. Romania – statistics of infrastructure, touristic traffic and spatial variations of tourist activity indicators

No	Region	County	Population (no.)	Surface (km ²)	Accommodation structures (no. unit.)	Accommodation capacity (no. places)	Structures catering (no. unit.)	Structures catering (no.places)	Arrivals (thousands)	Overnight Stayings (thousands)	Usage index (%)	Pop. density (inhabitants /km ²)	$\sum_{n=1}^6 I_n$	Usage index/ Pop. density	I _C (I ₁ +I ₂ /2)	I _A (I ₃ +I ₄ /2)	I _{CT} (I ₅ +I ₆ /2)
1.	Nord-Vest	Bihor	593.055	7.544	100	9.746	130	15.571	201,2	998,6	44,1	78,61	5,73	0,56	0,72	1,13	1,00
		Bistrița-Năsăud	317.205	5.355	25	2.689	35	4.890	52,0	178,9	25,4	59,23	2,31	0,42	0,28	0,51	0,36
		Cluj	690.299	6.674	224	7.352	574	37.845	267,6	495,5	21,5	103,43	9,01	0,20	0,71	3,25	0,54
		Maramureș	511.311	6.304	186	4.207	132	13.884	91,5	203,2	14,1	81,10	4,03	0,17	0,51	1,22	0,28
		Satu Mare	364.938	4.418	69	2.629	44	5.985	98,8	160,7	33,6	82,60	2,95	0,40	0,38	0,73	0,35
		Sălaj	241.840	3.864	41	1.263	23	2.561	21,4	61,7	16,0	62,58	1,56	0,25	0,24	0,37	0,16
Total region			2.718.648	34.159	645	27.886	938	80.736	732,5	2.098,6	27,7	79,58	4,77	0,34	0,52	1,35	0,51
2.	Centru	Alba	373.755	6.242	62	2.137	50	4.744	44,3	100,8	16,1	59,87	1,76	0,26	0,25	0,44	0,18
		Brașov	597.439	5.363	482	14.728	314	30.947	451,7	985,0	19,6	111,40	12,22	0,17	1,77	6,29	1,19
		Covasna	222.710	3.710	68	3.293	55	5.707	62,4	452,0	48,1	60,02	5,25	0,80	0,59	0,88	1,15
		Harghita	324.638	6.639	316	6.478	65	5.659	69,4	206,9	24,0	48,89	3,83	0,49	0,97	0,52	0,42
		Mureș	580.815	6.714	107	5.854	102	11.277	200,3	538,9	32,3	86,50	4,15	0,37	0,52	0,92	0,63
		Sibiu	425.134	5.432	172	6.013	110	15.279	244,7	381,7	23,8	78,26	6,02	0,30	0,75	1,53	0,73
Total region			2.524.491	34.100	1.207	38.453	696	73.613	1.072,8	2.665,3	24,8	74,03	5,48	0,33	0,79	1,21	0,73
3.	Nord-Est	Bacău	716.176	6.621	34	2.736	108	11.226	85,2	274,6	32,4	108,16	2,78	0,29	0,22	0,92	0,24
		Botoșani	448.423	4.986	12	790	20	3.008	27,9	54,3	21,2	89,93	0,99	0,23	0,08	0,32	0,09
		Iași	829.973	5.476	74	3.934	91	12.176	158,5	338,8	31,3	151,56	3,70	0,20	0,39	1,16	0,29
		Neamț	562.489	5.896	181	5.418	105	12.286	148,9	320,6	20,5	95,40	4,31	0,21	0,61	1,04	0,41
		Suceava	706.720	8.553	235	7.554	214	20.176	209,7	479,4	22,0	82,62	4,82	0,26	0,60	1,32	0,48
		Vaslui	450.269	5.318	12	689	27	3.253	26,3	41,9	17,4	84,66	0,94	0,20	0,07	0,33	0,07
Total region			3.714.050	36.850	548	21.121	565	62.125	656,5	1.509,6	24,5	100,78	3,11	0,24	0,35	0,91	0,28
4.	Sud-Est	Brăila	360.191	4.766	22	2.069	27	3.188	47,3	201,0	36,4	75,57	1,90	0,48	0,24	0,36	0,34
		Buzău	482.684	6.103	66	2.509	67	11.070	60,9	181,5	20,0	79,08	2,97	0,25	0,27	0,97	0,24
		Constanța	722.360	7.071	1.013	121.723	1.082	161.991	897,7	3.753,2	37,5	102,15	48,43	0,36	9,30	12,19	2,71
		Galați	609.480	4.466	21	1.452	44	6.755	44,1	98,9	30,6	136,47	2,16	0,22	0,17	0,79	0,11
		Tulcea	247.444	8.499	144	5.054	86	10.506	70,5	124,4	22,9	29,11	3,52	0,78	0,58	0,78	0,39
		Vrancea	390.596	4.857	45	1.816	49	5.948	36,6	64,7	15,5	80,41	2,07	0,19	0,24	0,67	0,12
Total region			2.812.755	35.762	1.311	134.623	1.355	199.458	1.157,1	4.423,7	34,7	78,65	12,25	0,44	2,11	3,02	0,99
5.	Sud-Muntenia	Argeș	640.871	6.826	125	5.189	108	19.351	110,1	189,9	17,3	93,88	4,40	0,18	0,47	1,49	0,23
		Călărași	312.879	5.088	8	463	10	1.675	10,2	27,0	15,8	61,49	0,57	0,25	0,05	0,17	0,05
		Dâmbovița	530.354	4.054	55	2.391	40	4.716	55,5	235,3	28,3	130,82	2,45	0,21	0,34	0,61	0,27
		Giurgiu	281.201	3.526	12	806	12	1.880	29,9	89,7	36,8	79,75	1,24	0,46	0,13	0,28	0,20
		Ialomița	287.780	4.453	17	2.612	29	4.277	42,8	273,8	47,4	64,62	2,78	0,73	0,31	0,53	0,54
		Prahova	815.657	4.716	230	9.465	223	24.737	329,7	816,8	23,5	172,95	9,19	0,13	1,14	2,75	0,70
		Teleorman	402.462	5.790	10	664	9	1.252	13,0	41,8	18,9	69,50	0,49	0,27	0,06	0,11	0,06
Total region			3.271.207	34.453	457	21.590	431	57.888	591,2	1.674,3	25,3	94,94	3,25	0,26	0,37	0,90	0,34
6.	București - Ilfov	Ilfov	312.317	1.583	43	2.326	52	4.788	70,9	125,3	20,2	197,29	5,39	0,10	0,79	1,59	0,31
		Mun. București	1.944.226	238	111	18.097	313	28.254	918,9	1.710,5	26,0	8.169,01	196,29	0,003	38,04	59,43	0,67
Total region			2.256.543	1.821	154	20.423	365	33.042	989,8	1.835,8	25,5	1.239,17	30,81	0,02	5,63	9,15	0,62
7.	Sud-Vest Oltenia	Dolj	705.345	7.414	24	1.400	50	9.066	33,5	71,7	14,0	95,13	1,64	0,14	0,10	0,67	0,07
		Gorj	377.718	5.602	61	1.967	34	3.904	59,1	116,0	20,0	67,42	1,74	0,29	0,25	0,39	0,22
		Mehedinți	292.917	4.933	30	1.537	30	4.525	54,1	141,0	27,7	59,37	2,08	0,46	0,20	0,50	0,33
		Olt	466.821	5.498	11	568	27	3.346	13,9	26,3	13,7	84,90	0,84	0,16	0,06	0,32	0,03
		Vâlcea	407.764	5.765	173	10.877	147	18.652	205,5	1.086,6	44,4	70,73	9,05	0,62	1,15	1,79	1,58
Total region			2.250.565	29.212	299	16.349	288	39.493	366,1	1.441,6	34,1	77,04	2,95	0,44	0,34	0,73	0,40
8.	Vest	Arad	455.952	7.754	122	5.101	89	7.668	173,8	333,3	27,0	58,80	3,19	0,45	0,45	0,49	0,55
		Caras – Severin	322.941	8.520	144	7.906	143	15.624	94,1	582,0	36,6	37,90	5,72	0,96	1,36	1,13	1,04
		Hunedoara	464.739	7.063	93	3.484	66	5.880	81,6	240,0	26,6	65,79	2,34	0,40	0,34	0,48	0,34
		Timiș	678.068	8.697	115	6.550	146	16.508	225,6	521,2	25,1	77,96	4,10	0,32	0,45	1,05	0,54
Total region			1.921.700	32.034	474	23.041	444	45.680	575,1	1.676,5	28,9	59,90	3,76	0,48	0,47	0,82	0,58
TOTAL ROMANIA			21.469.959	238.391	5.095	303.486	5.082	592.035	6.141,1	17.325,4	28,4	90,06	5,29	0,31	0,75	1,35	0,54

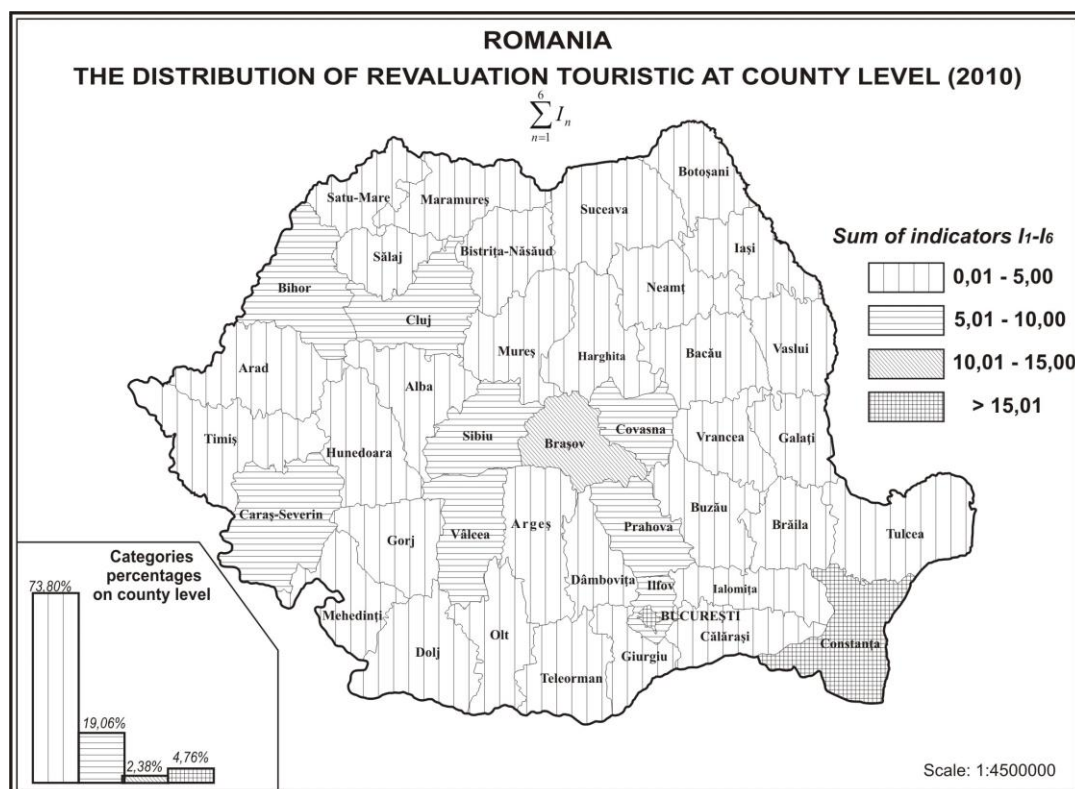


Fig. 1

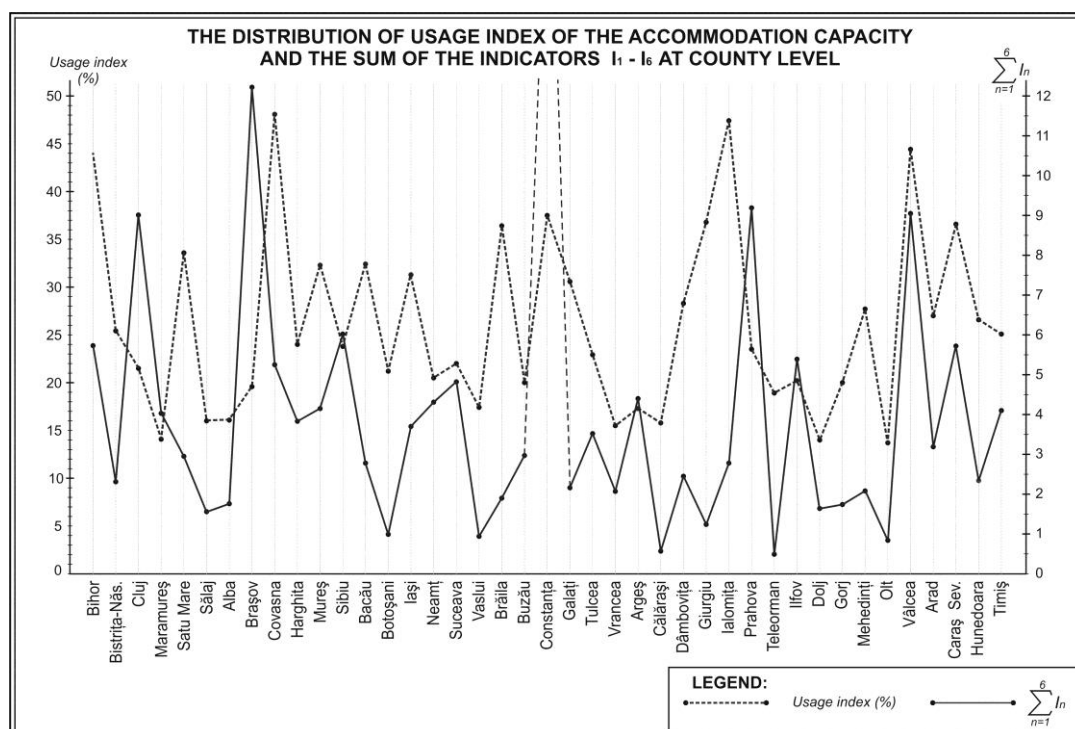


Fig. 2

We therefore took into account the correlation between the above mentioned indicator and the index of the usage of accommodation capacity (fig. 2) so as to observe and compare in terms of quality the level of the usage of accommodation with the intensity of the touristic traffic. Generally, there is an adequate endowment related to the touristic traffic and potential, except for counties such as Cluj, Maramureș, Brașov, Prahova, Sibiu, Argeș and Ilfov, where the intensity of tourism fails to justify the size of the existing accommodation capacity. Although all of them are counties with great tourism potential and major tourist flows, this aspect has yet encouraged the development of an accommodation capacity which proves, unfortunately, to be oversized. At the opposite end, there are Constanta (which is symbolically represented in Fig. 2 because the recorded values do not allow graphic representation within the context) and Bucharest (where, out of the same reasons, values do not appear on the graphic but can be found in Table. 1). In the development regions (fig. 3) a constant ratio in this respect can be noticed, except the region Bucharest-Ilfov where reality is "distorted" by its small size.

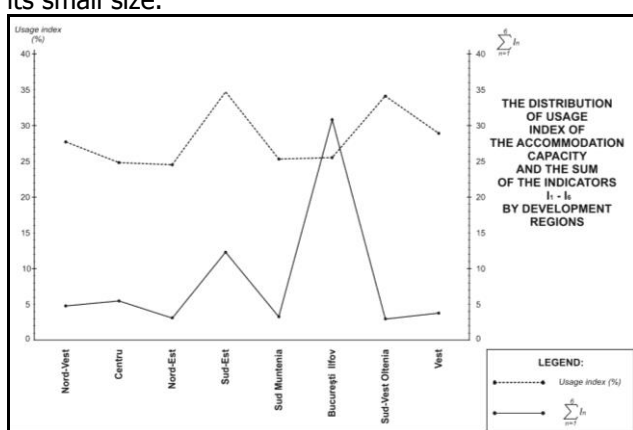


Fig. 3

Comparing the index of the usage of the accommodation capacity with the population density (fig. 4), a few counties such as Tulcea, Covasna or Caraș-Severin are generally characterized by low population density levels.

One might say this is a normal aspect, a simple outcome of some calculations yet this is overcome by the example of Covasna, from the first category, respectively Bihor, Ialomița and Vâlcea, from the second category, which have a higher population density than others, however, they stand out by resorts which, due to the treatment bases and health tourism, have a greater length of stay, which implies a more intensive use of the accommodation capacity. The remaining 85% of counties fit within the last two categories, which reveals, this time, a weak infrastructure usage level compared to the

population and the general economic life taking place here, i.e. a small share in the importance of tourism in the overall balance of revenues.

The Index of Accommodation Capacity (fig. 5), defining for the quantitative and qualitative appreciation of this type of infrastructure, records the highest values in the counties of Constanta, Brasov and Bucharest.

The second category comprises only three counties – Caraș-Severin, Prahova and Vâlcea – which leads to the idea that only about 15% of counties have relatively well structured and sized (both in number of places and type of comfort) accommodation units.

The Index of catering units (fig. 6), shows even greater quantitative discrepancies. In the first category, which reflects a balanced distribution, there are only three counties (Constanta, Brasov, Cluj) and Bucharest, while in the second category, there is only one, Prahova.

The Index of tourist flow (fig. 7) draws our attention by the proportion of approx. 93% of the counties which fit in the last two thirds of the spread of values. On the top two positions there are two counties Constanța and Vâlcea, followed by Caraș-Severin. In the category of "surprises" one can list counties such as Maramureș, Suceava, Harghita, Argeș and so on, which in this case indicates at least two aspects which are inconsistent with the reality or needs of the area: either the infrastructure (like location or sizing) or its characteristics, structure or the tourist flows.

The Tourism activity index (fig. 8), expression of all other indices formerly described, provides a pragmatic view on the intensity of tourism in our country. The analysis of the spatially recorded values, allowed us to group them as follows:

- very high tourism activity counties - 5% of them (București and Constanța) ;
- high tourism activity counties - 7% of them (Brașov, Caraș-Severin and Vâlcea) ;
- moderate tourism activity counties - about 14% ;
- low tourism activity counties - more than a half ;
- very low tourism activity counties - about 22% (Dolj, Olt, Dâmbovița, Călărași, Buzău, Vrancea, Galați, Vaslui and Sălaj).

The following average values have been recorded in the development regions (in the order of places held, the mean being the result of the average values of the counties):

- București - Ilfov region – 1st place – 13.50
- Center region – 2nd place – 15.66
- West region – 3rd place – 16.50
- South-East region – 4th place – 17.00
- North-West region – 5th place – 17.33
- South-West Oltenia region – 6th place – 17.80
- South-Muntenia region – place 7th – 18.28
- North-East region – 8th place – 18.66.

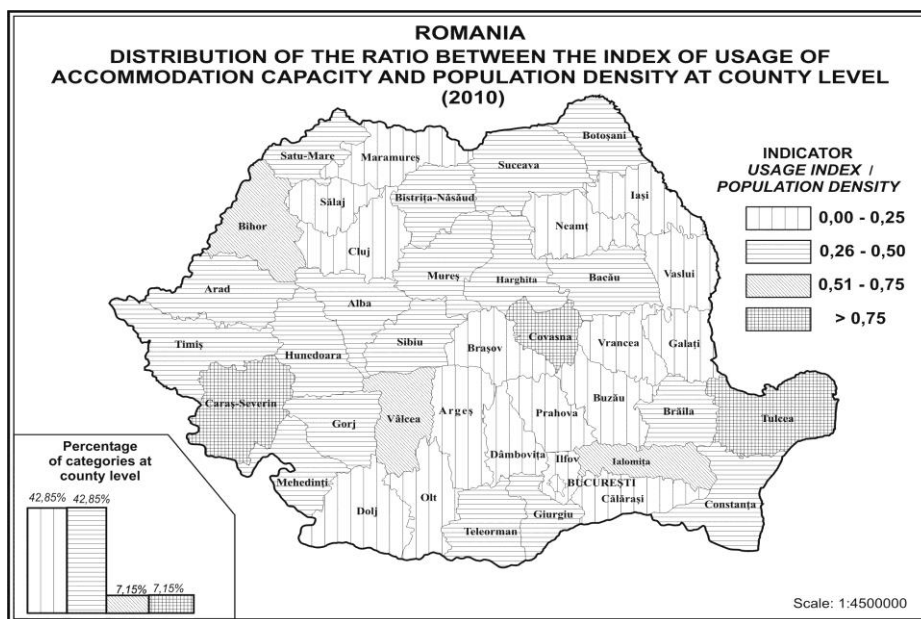


Fig. 4

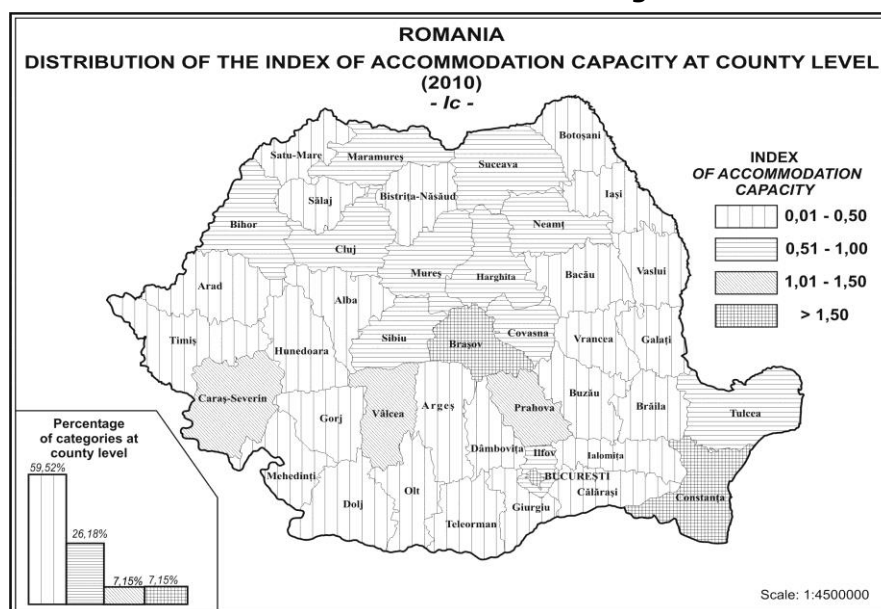


Fig. 5

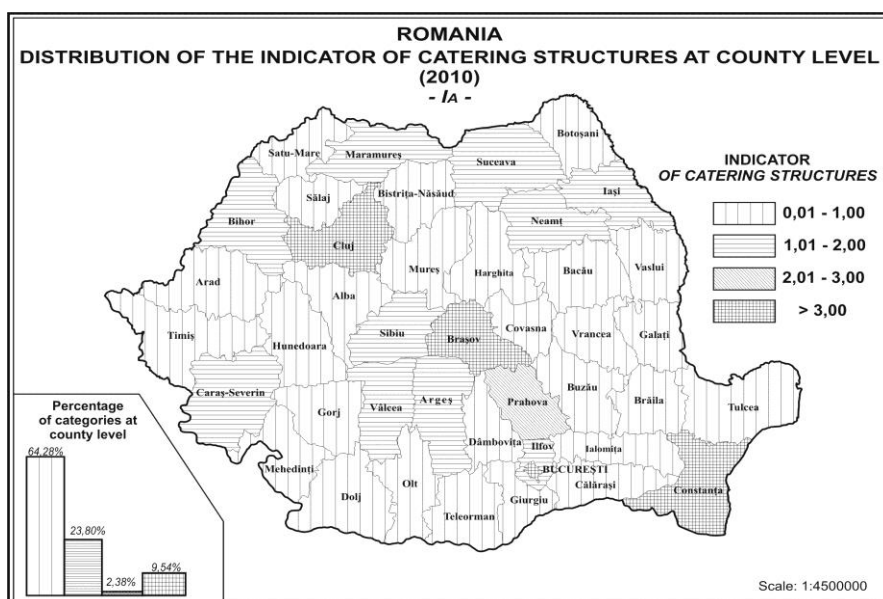


Fig. 6

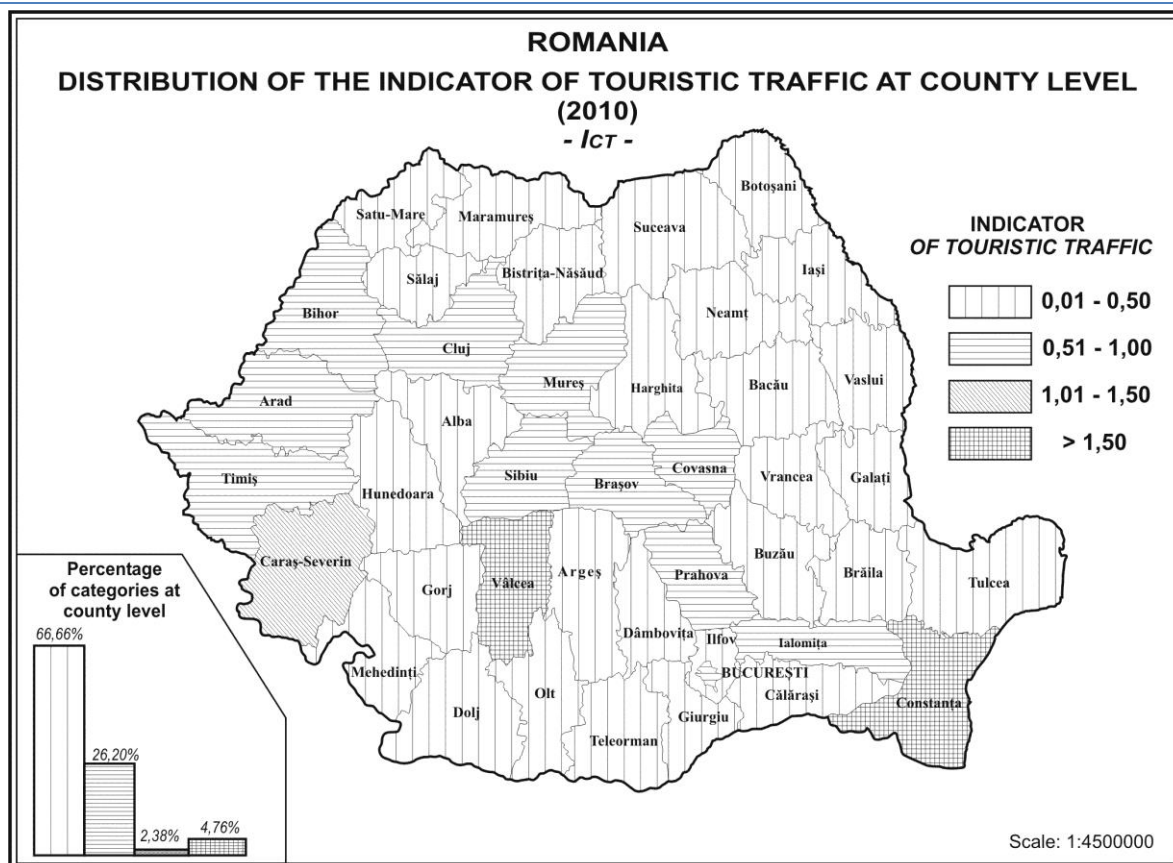


Fig.7

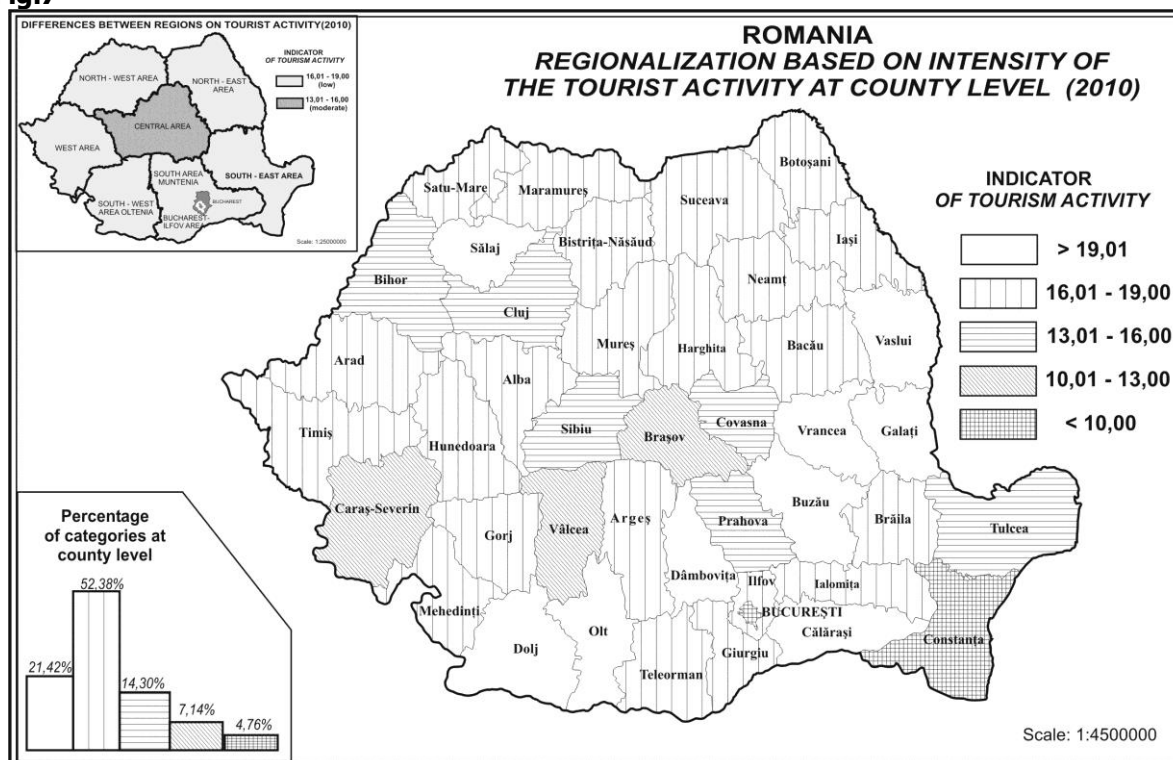


Fig. 8

According to the value of I_{AT} , the development regions of Romania are classified as follows:

- a. moderate tourism activity regions - Bucharest-Ilfov, Center Region;
- b. low tourism activity regions – the other regions.

Conclusion

The *tourism activity index* considers the existing balance between the touristic accommodation infrastructures and the catering ones and their revaluation level (and hence the tourism potential) through the touristic traffic (the number of arrivals and overnight stays). Its weighing by including in its structure items related to area, population, density, usage index, make it even more representative.

A common aspect which is not quantified is one day tourism activities or those in which accommodation is provided by relatives or friends yet, is less important because tourism activity basically resumes only to visiting touristic objectives and does not have a significant impact on the use of those mentioned facilities.

As compared to the "travel revaluation indicator" (the result of another study previously mentioned), indicating a ratio of about 80% of counties with very low or low revaluation, the *index of tourism activity*, being more complex, more detailed and more representative, shows a higher percentage of about 88% of counties with very low, low or moderate tourism activity. This stands for the actual weight and significance of tourism to the economy, which should be a warning sign, especially for the competent authorities.

The main cause leading to these results seems to be the oversized accommodation capacity which also causes a low usage index. This is not linked properly with the real tourist attraction capacity and ability to keep tourists in these areas for a longer period of time (in this regard an overestimate of certain categories of tourism potential can also be discussed). The importance of increasing the average length of stay is highlighted and proved by the presence in the first categories of counties where health tourism is maintained at significant levels, hence the need for paying more attention to

it than others, which are more encouraged, yet fail to reach (and cannot due to the competition from southern neighboring countries, which are advantaged naturally) the expected effect within the overall Romanian tourism.

The first step in the recovery of this situation would be to try to optimize the exploitation of the existing infrastructure, which can only be achieved by encouraging and stimulating certain types of investments and activities. The lack of balance, relationship, correlation between the components of tourism causes local disparities subsequently leading to regional differentiation. One must accept that reality may differ from the general perception and that such regionalization not only has a higher practical application but also enrolls in the actual trends of studies in the field, precisely due to these considerations.

References

- Baltălungă, A. A. (2008). *Turismul în România*, Valahia University Press. Târgoviște
- Baltălungă, A. A., Dumitrescu, Daniela. (2011). Regionarea turistică a României – indicatorul valorificării turistice. în *Analele Universității „Valahia” din Târgoviște, seria Geografie*, XI/2011, Târgoviște
- Cândeia, Melinda, Erdeli, G., Simon, Tamara. (2000). *România – Potențial turistic și turism*. Editura Universității din București, București
- Ciangă, N. (2002). *România. Geografia turismului (partea întâi)*. Presa Universitară Clujeană, Cluj-Napoca
- Cocean, P. (1998). *Geografia turismului românesc*. Editura Focul Viu, Cluj-Napoca
- Dumitrescu, Daniela. (2008). *România – Regiunile de dezvoltare. Disparități socio-economice*. Editura Cetatea de Scaun, Târgoviște
- Mazilu, Mirela. (2011). *Turism și dezvoltare durabilă*. Editura Universitaria, Craiova
- Nicolae, I., Dragomirescu, Ș., & Cernea, D. (1977). *Zonarea turistică a R.S.R.* CCEPTI, București
- xxx (2010). *Anuarul Statistic al României*, I.N.S. București
- <http://www.mdrt.ro/turism/unitati-clasificate>