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# The Concentration of Tourism Resources versus Accommodation Statistics in Localities in Romania

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## ABSTRACT

### **Purpose**

*In 2008 the Romanian government adopted the National Plan for Territorial Planning (rom. Planul de Amenajare a Teritoriului Național – PATN) section VIII – Areas with tourism resources. In this document a categorization of localities/municipalities that have tourism resources is undertaken based on tourism potential and other supply-side elements (e.g. tourism specific infrastructure and general infrastructure). The purpose of this paper is to see to what extent the categorization from PATN is reflected in the evolution of tourism flows (as part of demand) in the period 2001-2019. In other words, the aim is to see how the categorization from PATN is seen from the perspective of demand-side, a component that was not included in the methodology pertaining to PATN.*

### **Design/methodology/approach**

*Data from National Institute of Statistics (INS) at municipality level have been used for deriving annual average growth rates for the period 2001-2019. These data refer to arrivals of tourists in accommodation establishments (herein called accommodation statistics) for a number of 786 municipalities for which data is available.*

### **Main findings**

*It has been determined that one third of the localities listed in PATN as having high and very high concentration of tourism resources are not registering any flows of tourists in accommodation establishments. More, a superior performance of tourism demand was observed for localities not listed in PATN as compared with localities that were listed in PATN (an annual average growth rate of 8.6% versus 5.6%). This is quite surprising and may question the methodology underpinning PATN.*

### **Originality/value**

*This paper is the first one that wants to challenge the official categorizations of localities in Romania from PATN in terms of tourism resources.*

### **Conclusions/Recommendations**

*A revision of the methodology pertaining to PATN categorization of municipalities is recommended in order to include also variables of existing tourism demand at local level.*

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**Keywords:** *tourism resources, accommodation statistics, territorial planning, locality, Romania*

**JEL classification:** *Z32, O21*

## 1. INTRODUCTION

In 2008 Romania adopted the National Plan for Territorial Planning (rom. Planul de Amenajare a Teritoriului Național – PATN) section VIII – Areas with tourism resources officially stated in the Governmental Emergency Ordinance (OUG) 142 from 28 October 2008, subsequently updated in the Law no. 190/2009. It is envisaged that for the localities listed in these official documents “tourism is considered a priority economic activity and investments for developing this activity will be mainly oriented to these areas” (A/N localities). In PATN, an exhaustive identification of all administrative territorial units (localities) classified upon the concentration of tourism resources is performed. Also each locality is classified upon the type of dominant tourism resources: natural resources, man-made resources and mixed.

Almost 1,200 localities are listed in PATN, these representing little over 37% of the total localities in Romania (at 15th of July 2021 in Romania there were 3,181 localities defined as territorial administrative units according with Ministry of Development, Public Works and Administration (2021)). Most of these localities identified in PATN are classified as having a high concentration of tourism resources (989) while almost 200 localities are classified as having a very high concentration of tourism resources. The distinction between these two types of classification (high concentration versus very high concentration) is given by the score obtained, over 25 from maximum 50 for localities with very high concentration of tourism resources and a score between 14 and 24.99 for localities with high concentration of tourism resources according to the methodology for the analysis of tourism potential of territory approved by the Order no 549/518/2016 of vice-prime minister, minister of regional development and public administration and of vice-prime minister, minister of economy, commerce and relations with business community. It had to be mentioned that not all localities in Romania are listed in PATN (it can be deducted that those localities having a score under 14 are not listed in PATN). Therefore this categorization is strictly based on the tourism potential of the territory which resulted from the tourism resources each locality has. Tourism potential is considered an essential condition of tourism development in a certain territory (Minciu, 2004).

The purpose of this paper is to see to what extent the categorization from PATN is reflected in the evolution of tourism flows (as part of tourism

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demand) in the period 2001-2019. In other words, the aim is to see how the categorization from PATN is seen from the perspective of demand-side (a component that was not included in the methodology pertaining to PATN).

It is important to mention that tourism is among the six sectoral plans of PATN that represents the core component of national spatial development policy in Romania. These are: transport network, water management, protected areas, settlement network, natural risks and tourism (Benedek, 2013). Therefore, the importance of tourism from a spatial development policy perspective is clearly acknowledged.

## 2. METHODOLOGY

In a first step, both the number of localities listed in PATN and those localities that have data regarding number of tourists in accommodation establishments (herein named accommodation statistics) will be identified. This has been done by a cross-tabulation of localities from both accommodation statistics and PATN. Data regarding the number of tourists in accommodation establishments are provided by National Institute of Statistics (INS) with an annual periodicity in the period 2001-2019 (INS, 2021). 2001 is the first year when data is publicly available while 2020 has not been included in this paper due to strong impact of COVID-19 pandemics upon tourism sector in 2020 that certainly distort data series evolution in the last years. Subsequently, for each locality an analysis will be performed regarding the trend in number of tourists by types of dominant tourism resources of locality (natural, man-made and mixed) and by types of classification of localities (i.e. localities with high concentration of tourism resources and localities with very high concentration of tourism resources).

Then for each locality an annual average growth rate (AAGR) is calculated for the period 2001-2019 and AAGR should be seen in relation with the national level. AAGR also known as compound annual growth rate shows an average value for the annual rate of change over a period of time (Eurostat, 2021a). This rate is known in the Romanian statistical literature as being as average growth rate (rom. ritmul mediu de creștere  $\bar{R}$ ) and is calculated as a difference between the dynamics average index ( $\bar{I}$ ) expressed in percentage and 100% (Anghelache and Manole, 2012):

$$\bar{R} = (\bar{I} \times 100) - 100 \quad [1]$$

where

$$\bar{I} = \sqrt[n-1]{\frac{Y_n}{Y_1}} \quad [2]$$

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for data series noted from 1 to n, where  $n = 19$  (period 2001-2019) but it might be different from locality to locality depending on data availability.

It is assumed that the usage of AAGR facilitates the comparability between different periods more precisely “periods of different lengths, for example, comparing annual, five-yearly and ten-yearly rates” (Eurostat, 2021a).

A special treatment is given to localities that are not listed in PATN where the trend in accommodation statistics has been differentiated into two main periods: 2001-2008 and 2009-2019. These two periods have been considered taking 2008 as the benchmark year (of breaking the two periods) when the regulation (OUG 142/2008) has entered into force. An overall comparative analysis will be made between the trend of localities that are listed in PATN and localities that are not part of PATN in these two periods; this will be made also by using AAGR. In addition, taking 2001 as a base year, an illustration of dynamics index cu fixed base will be made between localities that are listed in PATN and localities that are not part of PATN. This index is calculated as a ratio between the level of each year and the level of the base year (Anghelache and Manole, 2012).

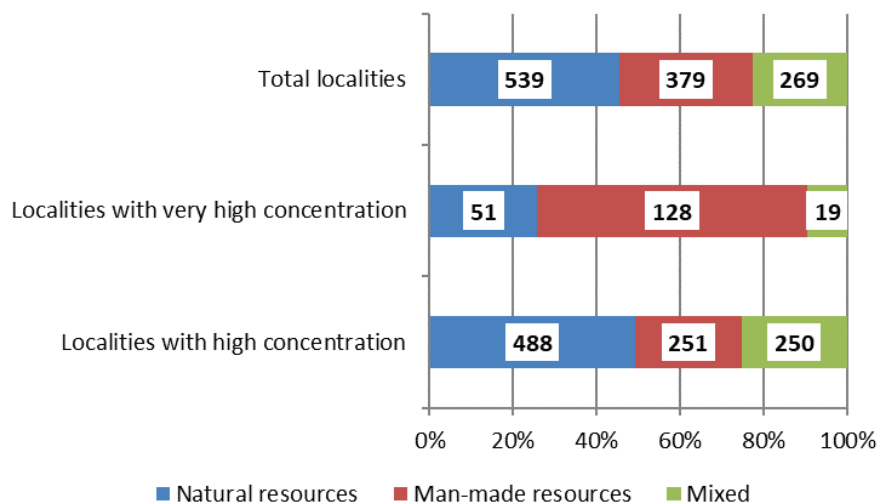
### 3. RESULTS

#### 3.1. A general overview of the municipalities within PATN in Romania

First of all, it is important to have a general overview of the distribution of localities in PATN based on the dominant tourism resources: natural resources, man-made resources and mixed resources as well as the degree of concentration of tourism resources: very high concentration and high concentration (see figure 1). One can see that over 45% of localities (539 in absolute values) identified in PATN have natural resources as dominant tourism resources while man-made resources accounts for almost 32% of the total localities listed in PATN (379 in absolute values). However, if we consider strictly the localities with very high concentration of tourism resources, man-made resources are dominant (almost two-thirds of localities). Instead, if we look at the localities with high concentration of tourism resources almost half have natural resources as being the dominant tourism resources. It is important to add that there are in total 198 localities with very high concentration of tourism resources and 989 localities with high concentration of tourism resources; in other words, 16.6% localities from PATN have very high concentration of tourism resources while the rest have high concentration of tourism resources.

### The typology of localities listed in PATN in Romania

Figure 1



Source: author's calculations based on PATN section VIII – Areas with tourism resources

At the same time, if we consider strictly the localities with man-made tourism resources (379), most of them (251) are found in the localities having a high concentration of tourism resources. It has to be reminded that a number of 379 localities have been identified as having man-made tourism resource as dominant tourism resources, representing 12% of all localities in Romania. As regards strictly localities with natural resources, a much higher predominance (almost 90%) is to be found in the localities with high concentration on tourism resources.

Also it is important to present the number of localities in Romania in a cross classification between their inclusion in PATN and in the accommodation statistics provided by INS (data on number of arrivals of guests in accommodation establishments). Once again, it has to be reminded that in total there are 3,181 localities in Romania (see table 1).

**Number of localities in Romania by their inclusion in PATN and in accommodation statistics in the period 2001-2019**

*Table 1*

Localities » »	Found in accommodation statistics (INS)	Not found in accommodation statistics (INS)	<b>Total</b>
Listed in PATN, total, of which with	786	401	<b>1.187</b>
<i>Very high concentration of tourism resources</i>	182	16	198
<i>High concentration of tourism resources</i>	604	385	989
Not listed in PATN	484	1.510	<b>1.994</b>
<b>Total</b>	<b>1.270</b>	<b>1.911</b>	<b>3.181</b>

Source: author's calculations based on PATN section VIII – Areas with tourism resources and INS (2021) data on accommodation statistics

From the above table one can see that almost two thirds (66.2%) of the localities listed in PATN were also found in accommodation statistics which corresponds to a number of 786 localities in absolute terms. At the same time, one third of localities listed in PATN (in fact 401 localities) listed as having high (385) or very high (16) tourism resources do not register any tourists flows according with accommodation statistics in Romania. For these localities there is a need to have a detailed analysis within PATN in order to see if they reported to have or not accommodation establishments. It has to be mentioned that according with the methodology pertaining to PATN elaboration (Order no 549/518/2016) the existence of accommodation establishments in a locality is scored with maximum 7 points (out of total 100). The author considers that this is a very low score considering accommodation is a basic product which determines to a greater extent the volume of tourism activity in a locality. In fact, in the tourism literature accommodation services is one of the four specific tourism services together with transportation, food and beverage and entertainment (Minciu, 2004).

At the same time, considering only the number of localities found in accommodation statistics, one can say that almost 62% of the total localities that register tourism flows in Romania are localities listed also in PATN (786 localities); though an important share (38%) is represented by localities that are not listed in PATN (484 localities were not listed in PATN but they registered tourism flows).

If one looks only at the number of localities classified upon the concentration of tourism resources, only 16 out of 198 localities with very

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high concentration of tourism resources (representing 8%) were not found in accommodation statistics. But in the case of localities with high concentration of tourism resources almost 40% of them (385 localities) did not reported any tourism flows. This seems to be a very important share which might challenge the PATN classifications.

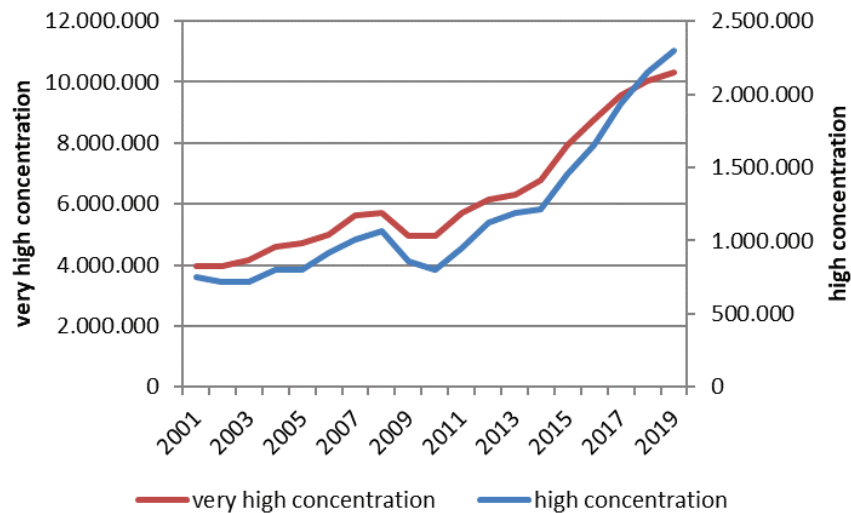
Not the least, if the overall situation is envisaged (considering all localities in Romania) one can say that only 40% of these (1,270 localities) registered tourists in accommodation establishments at least one year in the period 2001-2019. From an opposite perspective, one can say that 60% of localities in Romania are not involved in any tourism activity which shows a certain territorial concentration of tourism activity in Romania as well as limited spatial distribution. From this perspective, tourism sector in our country can increase territorial disparities rather than contribute to their reduction (Cehan et al, 2019).

### **3.2. Tourism flows in the municipalities listed in PATN**

If we consider strictly the number of tourists only in localities for which data is available (i.e. the amounts of tourism flows), the situation looks different than in the case where only the localities were counted. As showed in table 1 there are 786 localities in PATN that have data regarding the number of tourists in accommodation establishments, at least one year in the period 2001-2019. But it is important to recognize that the localities listed in PATN accounts for in average 95% from the total number of tourists registered in Romania. Most of the tourists have been registered in localities in PATN for which there is a very high concentration of tourism resources (in average over 80% from total localities listed in PATN) while in localities with high concentration of tourism resources fewer tourists have been registered (20% of all localities listed in PATN). One can see that the trend of these two components is similar: after the fall in 2009 and 2010 (a direct consequence of 2009-10 economic crisis) in the period 2011-2019 a robust growth of number of tourists is can be noticed starting 2011 (see figure 2).

**Number of tourists in accommodation establishments in the localities listed in PATN classified upon the concentration of tourism resources, 2001-2019**

*Figure 2*



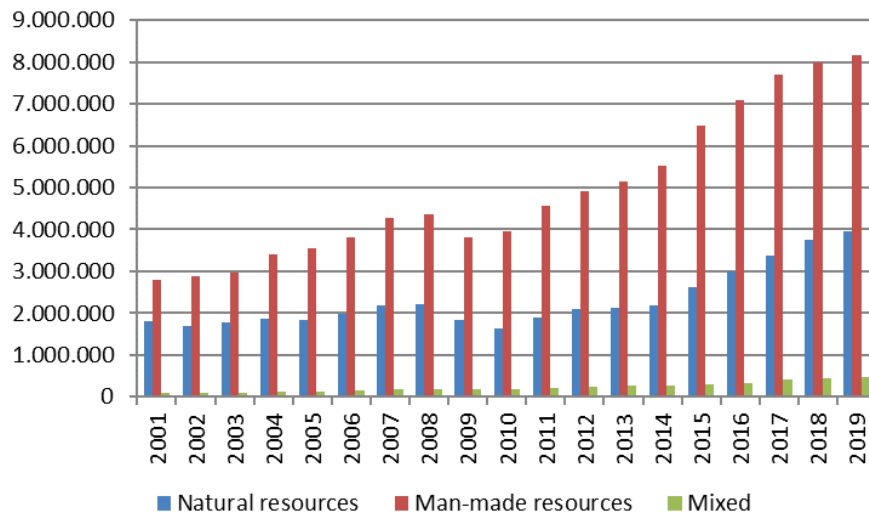
Source: author's calculations based on PATN section VIII – Areas with tourism resources and INS (2021) data on accommodation statistics

As regards types of dominant tourism resources of localities listed in PATN, in terms of number of tourists, by far man-made tourism resources are best represented. In absolute terms, the PATN listed localities with man-made tourism resources as dominant tourism resources register flows of tourists two times higher than localities in PATN with natural resources as dominant resources (see figure 3). Localities listed in PATN with mixed resources as dominant resources occupy more than a modest place in terms of number of tourists, growing in absolute terms from almost 96 thousands in 2001 to over 479 thousands in 2019.



**Number of tourists in accommodation establishments in localities listed in PATN classified upon the dominant tourism resources, 2001-2019**

*Figure 3*

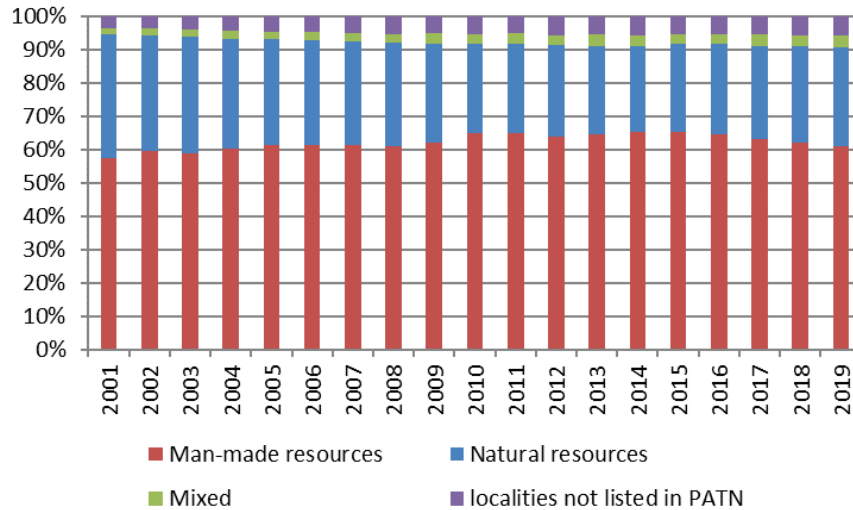


Source: author's calculations based on PATN section VIII – Areas with tourism resources and INS (2021) data on accommodation statistics

In average, in the period 2001-2019, over 62% of the number of tourists in accommodation establishments in Romania were in localities listed in PATN as having man-made tourism resources as dominant resources. Of course, this share fluctuates from little over 57% in 2001 to 65% in 2015. At the same time, in average almost 30% of the number of tourists in accommodation establishments in Romania were in localities listed in PATN as having natural tourism resources. It has to be remarked that localities not listed in PATN have increased their share from 3.6% in 2001 to 5.8% in 2019 (see figure 4).

**The distribution of tourists in Romania upon dominant tourism resources of localities listed in PATN and localities that are not listed in PATN, 2001-2019**

*Figure 4*



Source: author's calculations based on PATN section VIII – Areas with tourism resources and INS (2021) data on accommodation statistics

At the same time these figures have to be put in relation with the national level in terms of annual average growth rate for number of tourists in accommodation establishments (5.8%). It has to be observed the higher rate for localities listed in PATN with man-made tourism resources as dominant resources and very high concentration of tourism resources (6.2%) while for localities listed in PATN with natural resources as dominant resources and very high concentration of tourism resources this rate is much lower (3.5%) (see table 2).

**Annual average growth rate for number of tourists  
in the period 2001-2019**

*Table 2*

	Value (as %)
Total Romania	5.8
Total localities listed in PATN	5.6
Total localities with natural resources as dominant tourism resources, of which	4.5
Very high concentration	3.5
High concentration	6.5
Total localities with man-made resources as dominant tourism resources, of which	6.1
Very high concentration	6.2
High concentration	5.3
Total localities with mixed resources as dominant tourism resources, of which	9.6
Very high concentration	12.6
High concentration	8.2

Source: author's calculations based on PATN section VIII – Areas with tourism resources and INS (2021) data on accommodation statistics

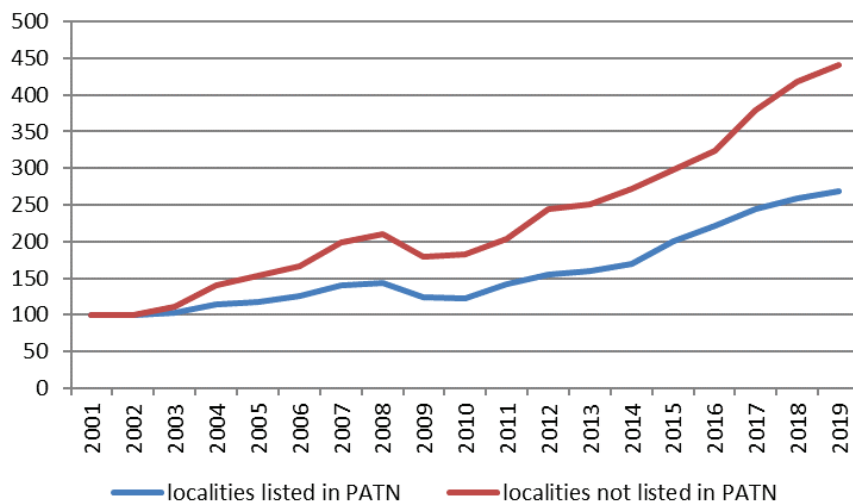
**3.3. A different evolution of tourism in localities that are not listed in PATN?**

As mentioned before, out of 1,270 localities from which INS provides data for at least one year in the period 2001-2009 within accommodation statistics, a total number of 484 localities (38.1%) were not listed in PATN. From an analytic point of view it is important to analyse the evolution of tourism in these localities. However, it has to be reminded once again that the number of tourists in localities that are not listed in PATN represents a low share in the total number of tourists in Romania but it is remarkable that this share has increased from 3.6% in 2001 to 5.8% in 2019.

Although the same general pattern of increasing the number of tourists in the period 2001-2019 is seen (see figure 5), one can observe interestingly a superior dynamics of localities that were not listed in PATN compared with localities that are listed in PATN. Also, it can be added that the annual average growth rate of localities that are not listed in PATN is much higher compared both with localities that are part of PATN and general national level, namely country level (8.6% compared with 5.6% and 5.8%).

**Dynamics of number of tourists in localities listed in PATN versus in localities not listed in PATN, 2001-2019 (2001=100)**

*Figure 5*



Source: author's calculations based on PATN section VIII – Areas with tourism resources and INS (2021) data on accommodation statistics

Also, it is important to illustrate this evolution of tourism broken down into two main periods: 2001-2008 and 2009-2019. Again, one can see that localities that are not listed in PATN have performed superior both to the general country level (national level) and to localities that are listed in PATN (see table 3). However, there is a slowdown in the growth in the period 2009-2019 compared with the period 2001-2008. It is not clear yet whether this evolution is due to the fact the localities were not included in PATN, Section VIII, Areas with tourism resources. At the same time, one can see that localities with high concentration of tourism resources have an annual average growth rate in the period 2009-2019 almost double compared to the previous period 2001-2008 but once again it is not clear whether this is due to their inclusion in the list within PATN. Meanwhile, it has to be mentioned that 2009 was the year when tourism was strongly affected by the economic crisis, registering a decline compared with the previous years; therefore the basic level (the one referring to comparability) in the year 2009 was very low and this fact has somehow an influence in the analysis of the two analyzed periods 2001-2008 and respectively 2009-2019.

**Annual average growth rate for number of tourists with differentiation  
for the period 2001-2008 and 2009-2019**

*Table 3*

	Annual average growth rate for (%)		Difference in percentage points (B) - (A)
	2001-2008 (A)	2009-2019 (B)	
Total Romania	5.6%	8.1%	+2.5
Localities that are <b>not</b> listed in PATN	<b>11.3%</b>	<b>9.4%</b>	<b>-1.9</b>
Localities that are listed in PATN, of which with	5.3%	8.0%	+2.7
<i>Very high concentration</i>	5.4%	7.6%	+2.2
<i>High concentration</i>	5.0%	10.3%	+5.3
<i>Man-made resources</i>	6.5%	7.9%	+1.4
<i>Natural resources</i>	2.9%	8.0%	+5.1%
<i>Mixed resources</i>	11.4%	9.7%	<b>-1.7%</b>

Source: author's calculations based on PATN section VIII – Areas with tourism resources and INS (2021) data on accommodation statistics

#### 4. CONCLUSIONS

This paper wants to draw attention about the need to discuss and possible revise the official methodology underpinning PATN Section VIII Areas with tourism resources. It is not clear, from the perspective of tourism demand how the categorization from PATN helped or not the development of tourism at municipality level in Romania. This is an issue of great importance since public investments in tourism (including the allocation of EU funds) take as a reference PATN. For instance, in the period 2007-2016 according to a study commissioned by Ministry of Tourism, within Regional Operational Program, major intervention area Urban poles for Growth (where funds were very significant) only municipalities having high and very high concentration of tourism resources benefited from EU funds (INCDT, 2017). The same study (p. 61) shows that localities having high and very high concentration of tourism resources cumulated 96% from the total value of “investment projects with tourism relevance” while 4% were allocated in localities that are not listed in PATN. However, despite these tourism investments, the evolution of tourism demand in localities listed in PATN has not experienced a higher dynamics than the national level and this may question the very official methodology by which localities are categorized in PATN.

One can consider that there is need to consider also the trend in tourism demand (in accommodation statistics we have number of arrivals of tourists

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in accommodation establishments, data available for each locality (INS, 2021)) as an element of analysis of tourism in each locality. The approach from PATN was based strictly on tourism supply-side elements (tourism resources, infrastructure) and has its limitations that can condition somehow unjustifiably the tourism development at municipality level. By including an analysis of tourism demand in the methodology pertaining to PATN, Section VIII Areas with tourism resources, a better connection with tourism market and the trend in tourism demand at local level will be provided. In other words, a revision of the methodology from PATN is recommended by including in the score of each locality also an index of tourism demand trend, data available in accommodation statistics. Another possibility is to include an indicator of tourism density defined either as a ratio between number of overnight stays to total area of a locality or as a ratio between number of overnight stays to resident population.

Of course, there is no guarantee that the trend in tourism demand from a past period will also continue in the future but one can consider that such index will allow a better connection with the trend of tourism market in each locality. Finally, one can consider that a better evaluation of tourism resources at municipality level can be made in PATN, section VIII Areas with tourism resources if one can consider also elements of tourism demand and/or including also the indicator of tourism density – see Eurostat (2021b).

However, it has to be admitted that the major limitation is given by the nature of accommodation statistics. It comprises only establishments licensed by the ministry in charge of tourism affairs neglecting accommodations in other forms of accommodation (such as staying at friends or relatives, in own vacation homes, or in non-licensed accommodation units). Moreover, the so called border effect can be envisaged meaning that at local level, a municipality is affected by the fact that guest are staying in a bordering municipality (Bohlin et al., 2016), thus the accommodation statistics fails to capture the entire guest flows in a municipality. Nevertheless, in order to minimize the border effect issue a detailed analysis is required especially in localities where there are no accommodation establishments (and thus no tourist flows registered). When analysing tourism demand in such localities (it has to be remember that there are more than 400 localities that are found in PATN but not in accommodation statistics) a sort of correction factor can be envisaged based on distance to the nearest accommodation establishments, for instance in a threshold of maximum 30 km.

Another extension of the research can be made by considering also the length of stay of tourists thus using the indicator of number of overnight stays. This can be made either in combination with the indicator of arrivals

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or by totally replacing the indicator of arrivals in accommodation units with overnight stays in accommodation units. Indeed in the statistical practice, in counting the tourism flows a higher relevance is given to number of overnight stays since this indicator avoids any double-counting risk which might occur during multi-destination trips undertaken by tourists. But one can consider that at the municipal level this is not the case since it is implicitly presumed that a guest staying in an accommodation establishment is a unique tourist for a locality.

#### 5. REFERENCES

1. **Anghelache C.** and **Manole A.**, 2012, "*Serii dinamice / cronologice (de timp) – prezentare, structură, relații dintre indici (en. Dynamic/chronologic (time) data series – presentation, structure and relation between indices)*", *Romanian Statistical Review*, nr. 10/2012, pp. 68-77.
2. **Benedek J.**, 2013, "*The spatial planning system in Romania*", *Romanian Review of Regional Studies*, volume IX, number 2, pp. 23-30.
3. **Bohlin M.**, **Brandt D.** and **Elbe J.**, 2016, "*Tourism as a vehicle for regional development in peripheral areas – myth or reality? A longitudinal case study of Swedish regions*", *European Planning Studies*, 24:10, pp. 1788-1805.
4. **Cehan A.**, **Iașu C.**, **Eva M et al.**, 2019, "*Territorial dynamics of tourism in Romania: a long term-perspective (1990-2016)*", *Human Geographies – Journal of Studies and Research in Human Geography*, vol. 13, no. 1, pp. 23-44.
5. **Eurostat**, 2021a, "*Glossary: Annual average growth rate (AAGR)*", available at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Annual\\_average\\_growth\\_rate\\_\(AAGR\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Annual_average_growth_rate_(AAGR)) (accessed 20 September 2021).
6. **Eurostat**, 2021b, "*Tourism statistics at the regional level*", available at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism\\_statistics\\_at\\_regional\\_level&oldid=515132#Tourism\\_pressures](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics_at_regional_level&oldid=515132#Tourism_pressures) (accessed 21 September 2021).
7. **INCDT Institutul Național de Cercetare Dezvoltare în Turism (en. National Institute of Research Development in Tourism)**, 2017, "*Studiu de cercetare privind dezvoltarea investițiilor publice în infrastructura specific turistică din România pentru perioada 2007-2016 și direcțiile principale de dezvoltare a acestora (en. Research study regarding the development of public investments in tourism infrastructure for the period 2007-2016 and the main directions for developing of these investments)*", București.
8. **INS - Institutul Național de Statistică (en. National Institute of Statistics)**, 2021, "*Tempo database*", available at <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (accessed 25 February 2021).
9. **Minciu, R.**, 2004, *Economia Turismului (en. Tourism economy)*, Editura Uranus, București.
10. **Ministry of Development, Public Works and Administration**, 2021, "*Numărul și clasificarea Unităților Administrative Teritoriale și Sectoarelor din România (en. Number and classification of Territorial Administrative Units and Sectors in Romania)*", available at [http://www.dpfb.mdrap.ro/nr\\_uat-uri.html](http://www.dpfb.mdrap.ro/nr_uat-uri.html) (accessed 22 July 2021).