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## Evaluation of the tourism and recreational space of Lubaczowski County, Poland

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### Abstract

The aim of the study was to evaluate the tourism and recreational space of Lubaczowski County in Poland. The evaluation was carried out by using a multidimensional comparative analysis while taking into account tourism assets, transportation accessibility, natural environmental protection, the level of tourism infrastructure development as well as the factors contributing to an opportunity for the development of tourism via investment attractiveness (the level of infrastructure development, population relations, or the financial situation of the communes). Moreover, a questionnaire survey was carried out among the inhabitants with the aim of learning of their opinions on tourism assets and tourism infrastructure development in the commune. The study is supplemented by a comparison of the analysis results with the results of a questionnaire survey conducted among the Lubaczowski County inhabitants, which concerned the county's attractiveness to tourists. Based on the evaluation and the questionnaire survey results, it was found that urban communes of Lubaczów and Horyniec-Zdrój had the best conditions for tourism development. These communes took the first (0.701) and the second (0.492) position in the ranking, respectively. Both communes are characterised by well-developed accommodation and catering facilities, a wealth of natural assets, and good transportation accessibility. For the better development of tourism in the county, it is necessary to take appropriate measures aimed at eliminating limitations and highlighting the strengths. To this end, it will be necessary to incorporate measures aimed at enhancing the quality of tourism infrastructure development and establishing a marketing plan that will allow tourists to learn about the tourism assets of the commune into the strategy for commune development.

**Key words:** *multidimensional comparative analysis, questionnaire survey, south-eastern Poland, synthetic measure (index), tourism and recreation, tourism attractiveness*

### INTRODUCTION

At present, tourism is the most rapidly developing branch of the economy, including in rural areas. In recent years, it has been constantly expanding and diversifying in order to meet the ever-growing tourists' needs and requirements [AZIZ *et al.* 2018]. Changes in lifestyle, the development of pro-environmental initiatives and even demographic changes (ageing of the population) may contribute to the development of rural tourism on the one hand, and to an increase in its specialisation and profiling

on the other. Therefore, in the coming years it will be necessary to intensify efforts aimed at the development of a comprehensive and interesting offer for tourists, in which one of the stages will be learning of the tourism attractiveness of a particular place [Polska Federacja... 2015].

Tourism attractiveness is a force that attracts tourists, and it may be related to an area, a specific site, or an object [JAREMEN *et al.* 2010]. Tourism attractiveness of a region or a particular place is primarily determined by the high quality of natural and cultural environment, the level of tourism infrastructure development, and transportation ac-

cessibility. Where a region is regarded as attractive to tourists, it contributes to an increase in the tourism traffic volume and, consequently, to an increase in the region's income and the development of local labour market, which also determines investment attractiveness [HABIBI 2017; KRUPA, BILIŃSKI (eds.) 2006; MENDOLA, VOLO 2017]. Therefore, there is a need for tourism evaluation that enables analysing the level of attractiveness of the areas under study. This also provides an opportunity to examine the condition of tourism assets, which can be used for their further development, and to identify the weak points and limitations.

Identifying tourism attractiveness is not an easy task, whether on local, regional or national level. There are numerous Polish methods for assessing tourism attractiveness of regions, which are discussed in studies by WARSZYŃSKA [1974], KACZMAREK *et al.* [2002]; KRUCZEK [2005]; NOWACKI [2007]; WITKOWSKA-DĄBROWSKA [2007]; CHUDY-HYSKI [2009], ZIERNICKA-WOJTASZEK, ZAWORA [2011] and LISIAK *et al.* [2016]. Another way to assess tourism attractiveness is to make use of statistical studies and modelling [AL MAMUN, MITRA 2012; ASHOURI, FARIYADI 2010; GIGLIO *et al.* 2019; IATU, BULAI 2011], or the use of GIS tools [KULYK, SOSSA 2018; VAN DER MERWE, VAN NIEKERK 2013]. On the other hand, a study by Gołembski [GOŁEMBSKI (ed.) 1999] presents a detailed analysis of tourism attractiveness, in which the author considers all factors that affect tourism attractiveness by applying the division into a tourism sphere and an investment sphere. The Gołembski's method [GOŁEMBSKI (ed.) 1999] clearly emphasises the role of investments in the development of the tourism and recreational space, which enables the selection of a strategy for further development. The method can also be modified, and one of the examples of its application is a study by TUCKI [2007] which evaluates the Lubelskie Region.

The available references on Lubaczowski County mainly include tourist guide books or descriptions of the natural or anthropogenic environment. There is a lack of studies describing the tourism development of the county and its potential, which could be used for the comprehensive planning of tourism development. Only a publication by SOLEK [2012], concerning the Podkarpackie Region, and a study by WIĘCKOWSKI *et al.* [2012] about the tourism development of border areas, provide an information on Lubaczowski County. The last of the available studies is the "Strategy for development of Lubaczowski County" [WPiRG 1999], which indicates the development of tourism as one of the crucial areas. In this field, the following operational objectives have *inter alia* been formulated: increasing income from tourism, making use of tourism and natural assets of the region, and the development of attractive recreational areas.

The aim of the study is to evaluate the tourism and recreational space of Lubaczowski County. The evaluation was carried out by using a multidimensional comparative analysis with account taken of tourism assets, transportation accessibility, natural environmental protection, the level of tourism infrastructure development as well as factors contributing to an opportunity for the development of

tourism via investment attractiveness (infrastructure development level, population relations, or the communes' financial situation). The analysis resulted in the compilation of a map showing the spatial distribution of communes' tourism attractiveness.

The study is supplemented by a comparison of the analysis results with the results of a questionnaire survey conducted among the Lubaczowski County inhabitants and concerning the county's attractiveness to tourists.

## MATERIAL AND METHODS

The study was conducted in Lubaczowski County which is located in the eastern part of the Podkarpackie Region, in the Polish-Ukrainian border region. The county comprises 8 communes, and the capital of the county is the town of Lubaczów (Fig. 1). In terms of geographical location, it is situated within the Tarnogrodzki Plateau and the Eastern Roztocze which are characterised by undulating uplands with a height of up to 220–280 m a.s.l. [KONDRACKI, 2009]. In the land use structure, the dominant types of land include forest land as well as woodlots and shrubs (49.3%) and agricultural land (47.0%). Built-up and urbanised areas account for 2.6% of the county area, and are located in its north-eastern part.

The basic spatial unit in the conducted study is a commune as it is the smallest unit for which reliable statistical data can be acquired. The statistical material used for the research was acquired from the Local Data Bank (as of the year 2018), available studies on the communes, and a site inspection. The study was conducted using Gołembski's multidimensional comparative analysis method [GOŁEMBSKI (ed.) 1999] which enables a comparison of objects with many features and the creation of their objective ranking based on the features indicating tourism

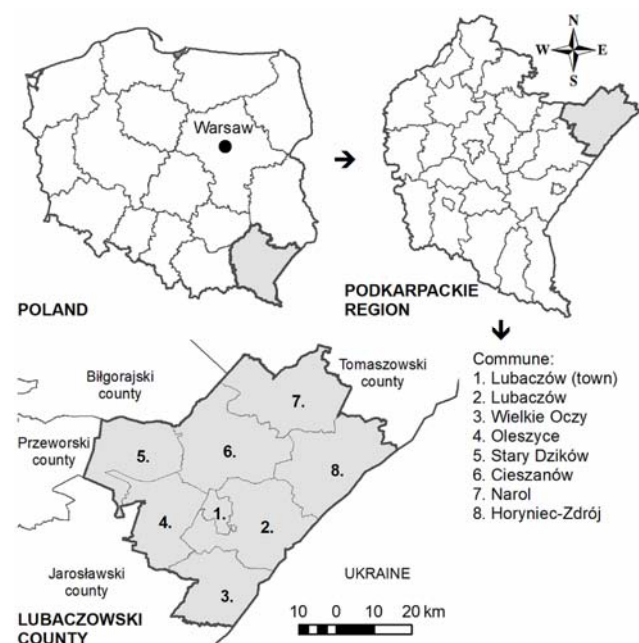


Fig. 1. Location of Lubaczowski County and administrative division of the county; source: own elaboration based on data from a national geodetic and cartographic resource

attractiveness and investment attractiveness. The features, divided into 2 spheres comprising 8 sections, were arranged in a hierarchy (Tab. 1). In the sections, 45 diagnostic features were distinguished and then unified so that all of them were stimulants (Tab. 2).

**Table 1.** Spheres and sections within which diagnostic variables were selected, including their weight

Sphere	Weight	Sections	Weight
Tourism attractiveness	0.50	tourism assets	0.60
		environmental protection	0.10
		transportation accessibility	0.10
		hotel, catering and supplementary facilities	0.20
Investment attractiveness	0.50	service infrastructure	0.32
		technical infrastructure	0.25
		population relations	0.23
		communes' finances	0.20

Source: own elaboration based on GOŁEMBSKI (ed.) [1999].

In the sphere of tourism attractiveness, variables were selected that provided a basis for the existence of tourism, e.g. the number of museums and historic monuments, the length of tourist trails as well as the number of objects classified as hotel, catering and supplementary facilities. In the area of investment attractiveness, variables were selected which characterised service infrastructure as well as technical and social infrastructure that are required for the functioning of tourism in the area, e.g. the number of shops, the length of water supply and distribution network and sanitary drainage network, or the income (Tab. 2).

The diagnostic features were then normalised, which enables comparative testing on objects (complex phenomena) described using a number of variables [PRUS, KRÓL, 2017]. Normalised features were calculated by dividing the index value by the reference point (standard) value. The reference value (standard) was the highest value of the stimulant observed in individual communes. The values of normalized features are in the range 0–1 and inform how the model values (highest) are implemented in a given spatial unit. In the next stage, the normalised diagnostic variables were assigned weights, and then the synthetic measure was calculated for sections and spheres [HAKUĆ-BŁAŻOWSKA *et al.* 2018]. In the last stage, the value of the synthetic index for general conditions for tourism development for each of the communes of Lubaczowski County was calculated, and the communes were ranked [GOŁEMBSKI (ed.) 1999; WITKOWSKA-DĄBROWSKA 2007]. The figures presenting the spatial diversity of study results were produced using ArcGIS v. 10.5 software (ESRI).

Moreover, the analysis of tourism attractiveness was supplemented with the questionnaire survey method. Each questionnaire contained particulars of a respondent's age and sex as well as a general assessment of the county's tourism attractiveness. Six closed questions were formulated, which allowed respondents to assess selected aspects of the level of tourism infrastructure development using a 5-degree scale. The survey was conducted on a group of

60 respondents. The questionnaires were distributed in an electronic version among the Lubaczowski County inhabitants.

## RESULTS

### ASSESSMENT OF TOURISM ATTRACTIVENESS

In terms of tourism, the urban commune of Lubaczów proved to be the most attractive (0.337). Tourism attractiveness index for this commune is clearly higher than that for other communes. This is significantly contributed to by the fact that this is a commune which comprises only the town of Lubaczów i.e. the capital of the county, which is well connected with the other communes, situated in the centre of the analysed area and characterised by a great number of cultural events held there. The commune of Horyniec-Zdrój ranked 2nd (0.301); it owes its high position to the highest forestation rate and the highest share of protected areas. Due to the great natural assets and the occurrence of mineral springs, a health resort that is the driving force behind the tourism development is situated in the commune. The next commune in the ranking is Narol (0.233) which, similarly to Horyniec-Zdrój, is characterised by a high forestation rate and a high share of protected landscape areas, and has the most tourist trails and numerous historic monuments. A slightly lower result was achieved by the commune of Cieszanów (0.214), which owes its attractiveness to numerous events held there as well as landscape assets (the share of protected landscape areas, forestation rate, the proportion of meadows and pastures), and thus a great number of tourist trails. The rural commune of Oleszyce i.e. the next one in the ranking (0.185) is characterised by a high forestation rate, a large area of meadows and pastures, and good hotel facilities. The following communes proved to be the least attractive in terms of tourism: rural communes of Lubaczów (0.178), Stary Dzików (0.123), and Wielkie Oczy (0.112). Their low attractiveness is due to very poor transportation accessibility, a small number of cultural events, and an insufficient level of environmental protection (Fig. 2).

### ASSESSMENT OF INVESTMENT ATTRACTIVENESS

The urban commune of Lubaczów (0.364) took the first position in the ranking with the result exceeding by nearly a half the average value of other communes' potential. The factors which determined the high investment attractiveness index included the best developed technical infrastructure and service infrastructure, compared to those in other communes, and the high level of the commune's finances. The commune of Stary Dzików (0.219) took the next position in the ranking, which it owes to a low rate of unemployment and well-developed technical infrastructure and service infrastructure. The commune of Oleszyce (0.201) ranked 3rd, and it owes its position to a rather well-developed technical infrastructure and service infrastructure (Fig. 2).

**Table 2.** Diagnostic features in the sphere of tourism and investment attractiveness, including their weight

Analysis sphere	Item	Feature	Unit of measurement	Weight
Tourism attractiveness	<b>tourism assets</b>			
	1	forest area	ha·(ha commune area) <sup>-1</sup>	0.20
	2	meadow and pasture area	ha·(ha commune area) <sup>-1</sup>	0.04
	3	other land and wasteland	ha·(ha commune area) <sup>-1</sup>	0.08
	4	historic monuments	number·(10 km <sup>2</sup> ) <sup>-1</sup>	0.20
	5	museums	number·(10 km <sup>2</sup> ) <sup>-1</sup>	0.08
	6	protected landscape area	ha·(ha commune area) <sup>-1</sup> ·100%	0.16
	7	fairs, exhibitions and events held in the commune, and their frequency during the year	number of events·365 <sup>-1</sup> ·100	0.14
	8	tourist trail length	km·(100 km <sup>2</sup> ) <sup>-1</sup>	0.10
	<b>environmental protection</b>			
	9	the ratio of wastewater treatment plant capacity to the volume of wastewater to be treated	dm <sup>3</sup> ·year <sup>-1</sup> ·dm <sup>-3</sup> total wastewater volume	1.00
	<b>transportation accessibility</b>			
	10	length of regional roads	km·(100 km <sup>2</sup> ) <sup>-1</sup>	0.50
	11	number of railway stations	number·(100 km <sup>2</sup> ) <sup>-1</sup>	0.50
	<b>hotel, catering and supplementary facilities</b>			
	12	hotels	number of facilities	0.15
	13	boarding houses	number of facilities	0.10
	14	youth hostels	number of facilities	0.04
	15	health resorts / spas	number of facilities	0.09
	16	restaurants	number of facilities	0.15
	17	cafés	number of facilities	0.10
	18	greasy spoons	number of facilities	0.08
	19	swimming pools	number of facilities	0.01
	20	swimming areas	number of sites	0.08
21	gyms	number of facilities	0.05	
22	sports fields	number of facilities	0.05	
23	horse riding centres, studs	number of facilities	0.05	
24	water sports equipment rental shops	number of facilities	0.05	
Investment attractiveness	<b>service infrastructure</b>			
	25	shops	number·(10,000 inhabitants) <sup>-1</sup>	0.25
	26	pharmacies	number·(10,000 inhabitants) <sup>-1</sup>	0.10
	27	outpatient clinics and health centres	number·(100 km <sup>2</sup> ) <sup>-1</sup>	0.05
	28	dental surgeons	number·(10,000 inhabitants) <sup>-1</sup>	0.05
	29	petrol stations	number·(100 km <sup>2</sup> ) <sup>-1</sup>	0.25
	30	post and telecommunication centres	number·(10,000 inhabitants) <sup>-1</sup>	0.15
	31	banks and money exchange offices	number·(10,000 inhabitants) <sup>-1</sup>	0.15
	<b>technical infrastructure</b>			
	32	water supply and distribution network length	km·(10,000 inhabitants) <sup>-1</sup>	0.20
	33	water distribution network length	km·km <sup>-2</sup>	0.20
	34	sanitary drainage network length	km·(10,000 inhabitants) <sup>-1</sup>	0.20
	35	sanitary drainage network length	km·km <sup>-2</sup>	0.20
	36	population using gas supply network	number per total urban population	0.20
	<b>population relations</b>			
	37	population density	number of people·km <sup>-2</sup>	0.35
	38	unemployment rate	%	0.30
	39	people employed in industry	number·(total number of employed people) <sup>-1</sup>	0.10
	40	people employed in agriculture	number·(total number of employed people) <sup>-1</sup>	0.10
	41	people employed in the service sector	number·(total number of employed people) <sup>-1</sup>	0.15
	<b>communes' finances</b>			
42	communes' incomes, including grants and subsidies	PLN·(10,000 inhabitants) <sup>-1</sup>	0.40	
43	the proportion of communes' investments in total expenditure from the communal budget	PLN·(PLN total communes' expenditure) <sup>-1</sup>	0.20	
44	the proportion of investments realised in a commune per 10,000 commune inhabitants	PLN·(10,000 inhabitants) <sup>-1</sup>	0.30	
45	the proportion of grants and subsidies in total commune's income	PLN·(PLN total communes' expenditure) <sup>-1</sup>	0.10	

Source: own elaboration.

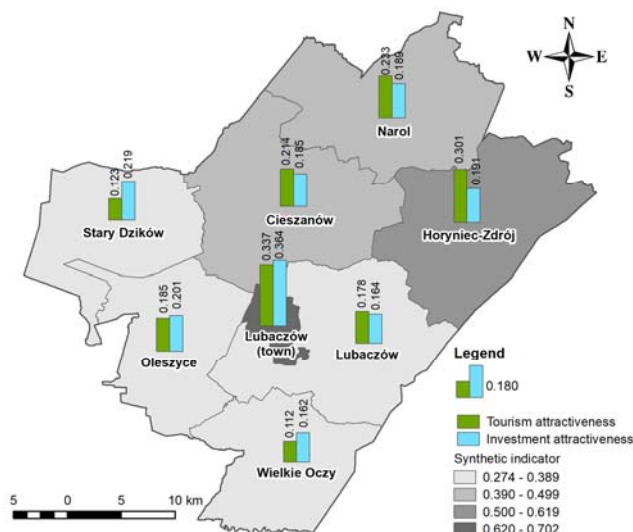


Fig. 2. Spatial distribution of the synthetic index of general conditions for tourism development and of the values of synthetic measures for the spheres of tourism attractiveness and investment attractiveness; source: own study based on data from national geodetic and cartographic resource

#### SYNTHETIC MEASURE OF THE GENERAL CONDITIONS FOR TOURISM DEVELOPMENT IN THE ANALYSED COMMUNES

The urban commune of Lubaczów (0.701) proved to be the commune with the highest level of conditions for tourism development. It owes it to the highest tourism and investment attractiveness in the entire county. The commune of Horyniec-Zdrój (0.492) ranked 2nd; its position is mainly determined by the high tourism attractiveness. In this case, the factors of significance include natural assets, environmental protection and the best developed hotel, catering and supplementary facilities. In terms of investments, the commune is at a medium level; it took the 4th position in the ranking. The commune of Narol (0.422) was next in the ranking; it is characterised by high tourism attractiveness and an investment attractiveness index at a medium level. The next communes in the ranking include Cieszanów (0.399) and Oleszyce (0.386). The lowest indices for general conditions for tourism development were noted for the communes of Stary Dzików (0.342), Lubaczów (rural commune; 0.342) and Wielkie Oczy (0.274). This is due to their low tourism attractiveness, in particular poor transportation accessibility and the insufficiently developed hotel, catering and supplementary facilities (Fig. 2).

#### QUESTIONNAIRE SURVEY

The questionnaire survey was conducted on a group of 60 people of which 60% were women and 40% were men. The largest group of respondents was that of people aged 21–40 (50%). People at an age below 20 y.o. also accounted for a large proportion (27%). The least respondents were in the age group of 41–60 (15%) and older than 61 y.o. (8%).

The first question of the questionnaire asked respondents to generally assess tourism attractiveness of Lubaczowski County. More than half of respondents (55%) stated that the county was attractive to tourists. Another question attempted to determine which commune of Lubaczowski County is, in respondents' opinion, the most attractive to tourists. The highest grading was obtained by the commune of Horyniec-Zdrój which was regarded as the most attractive by 46% of respondents. The next position was taken by the commune of Cieszanów with a significantly poorer result of 13%. The urban commune of Lubaczów took the 3rd position in the ranking *ex aequo* with the rural commune of Lubaczów, with a result of 12% (Fig. 3).

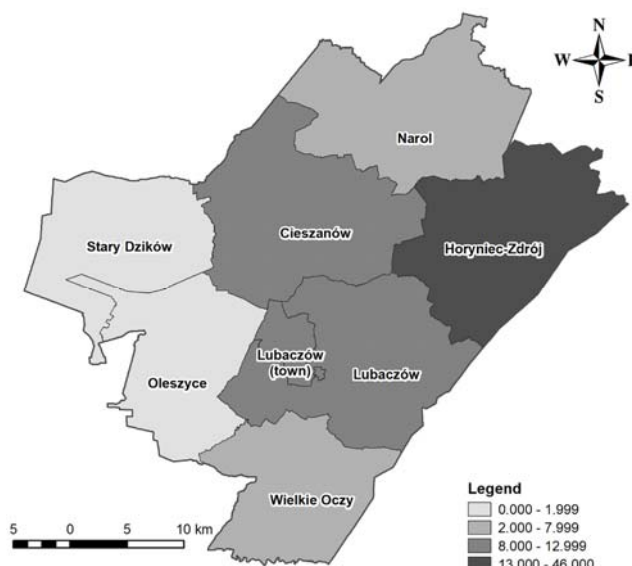


Fig. 3. Spatial distribution of tourism attractiveness according to respondents; source: own study based on data from national geodetic and cartographic resource

In providing answers to the subsequent questions, respondents assessed particular aspects affecting the level of tourism development in the county. A 5-degree scale ranging from 1 (very poor rating) to 5 (very good rating) was adopted.

The first assessed aspect was natural assets. The greatest number of respondents (32%) rated this aspect as very good, while 23% respondents as good (Fig. 4).

Most respondents expressed a positive opinion on historic monuments and sites of historic and cultural value — the most frequently selected ratings were “good” (32%) and “moderate” (28%) (Fig. 4).

Answers concerning cultural events varied considerably; however, the ratings most frequently selected by respondents were “good” (28%) and “moderate” (25%). The “poor” rating was expressed by 17%, and the “very poor” rating also by 17% respondents (Fig. 4).

Transportation accessibility in Lubaczowski County was rated by most respondents rather negatively. The “poor” rating was selected by 28%, while “very poor” by 23% respondents. 25% respondents rated it as moderate. The “good” rating was selected by 17%, while “very good” by only 7% respondents (Fig. 4).

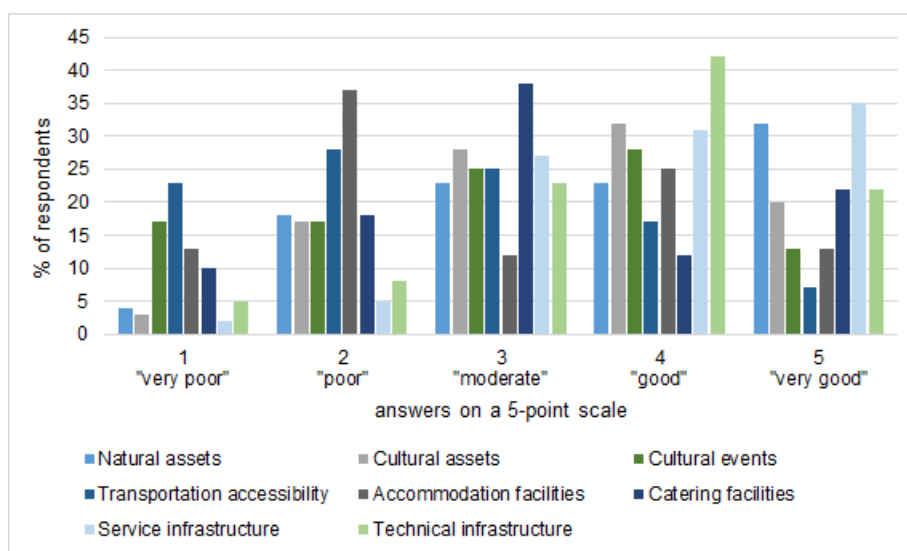


Fig. 4. Assessment of selected aspects affecting the level of tourism development in the county according to respondents; source: own study

Answers regarding accommodation facilities were rather divergent. However, most respondents (37%) rated them as poor. The second largest group of respondents were those who rated accommodation facilities as good (25%) – Figure 4.

The answers provided do not enable a clear determination as to whether the state of catering facilities is, according to respondents, positive or negative – 38% respondents rated this aspect as moderate, 12% respondents selected the answer “good”, 22% “very good”, 28% “poor” and 10% selected “very poor” (Fig. 4).

Service infrastructure was rated very positively by respondents. Most respondents rated them as very good and good (a total of 66%), 27% respondents rated them as moderate (Fig. 4).

Nearly a half (42%) of respondents rated the condition of technical infrastructure as good, while as many as 22% respondents rated it as very good. A large proportion of respondents rated this aspect as moderate. Few respondents (8%) rated the condition of technical infrastructure as poor or very poor (5%) – Figure 4.

Having compared the results of multidimensional comparative analysis for Lubaczowski County with the results of questionnaire survey, it was found that both methods exhibited similar trends both in the assessment of communes and in particular aspects of tourism attractiveness. In both analyses, one of the most highly rated aspects was the natural assets of the county (e.g. the proportion of forest area and of meadow and pasture area) as well as service infrastructure and technical infrastructure. According to respondents, one of the problems encountered in the county was transportation accessibility and the existing hotel facilities, which, however, were rated as average using the Gołembski’s method [GOŁEMBSKI (ed.) 1999].

## DISCUSSION

The conducted analysis allowed tourism attractiveness of Lubaczowski County to be assessed in a simple manner.

The results obtained for the analysed communes are similar to the values noted for the Olsztyński County [WITKOWSKA-DĄBROWSKA, 2007], Toruński County [LISIAK *et al.* 2016], and Gnieźnieński County [ROBASZKIEWICZ *et al.* 2016] as well as in Szczecińskie and Gorzowskie Regions [GOŁEMBSKI (ed.) 1999]. Only the values for the communes of Olsztynek and Stawiguda (Olsztyn County) are significantly higher than the obtained results. It is, however, difficult to directly compare the obtained results with those from studies conducted in other counties because, as emphasised by BLANCAS *et al.* [2010], synthetic measures are based on a subjective aspect, namely a reference to the standard i.e. the maximum value for a particular county. Moreover, certain studies adopted other diagnostic features and measures.

Having referred the obtained results to studies conducted in Lubaczowski County, GÓRECKA [2011] carried out an analysis of the conditions for development of tourism function in rural communes of the Podkarpackie Region (excluding the rural commune of Lubaczów) using Gołembski’s method of synthetic measures. According to the study, the most attractive rural commune in Lubaczowski County is the rural commune of Horyniec-Zdrój. The commune also took a very high, 7th position among 143 communes in a ranking of rural communes of the Podkarpackie Region [GÓRECKA 2011]. The commune’s position in the ranking is consistent with results of this study. The commune of Cieszanów took the 2nd position, and the commune of Narol the 3rd one. Results of both analyses are very similar. Certain discrepancies can be noticed here as regards the commune of Stary Dzików which, in the study by GÓRECKA [2011], ranked 4th in terms of attractiveness. This may be due to the selection of other features and their weights as well as the timeliness of data. Urban communes of Lubaczów and Wielkie Oczy were also recognised as not very attractive to tourists.

Other publications which analysed the area concerned include studies by WERYŃSKA [2000] and by STEC and ŻAK [2008]. The article by WERYŃSKA [2000] presents

evaluation results for particular communes of Lubaczowski County. The evaluation was carried out by the classification-by-points method. The communes were divided into very attractive, attractive and moderately attractive. Horyniec-Zdrój and Narol were classified as very attractive communes. Cieszanów was classified as an attractive commune, while the communes of Wielkie Oczy, Oleszyce, Lubaczów and Stary Dzików were classified as moderately attractive. The results of the evaluation in the WERYŃSKA'S study [2000] and of this study reveal a great similarity. In both cases, the communes of Horyniec-Zdrój and Narol ranked 1st and 2nd (among the rural and urban-rural communes) in communes' rankings of tourism attractiveness. The communes of Lubaczów and Stary Dzików were also classified in both studies as communes of lesser attractiveness, compared to the others. A difference can be noticed in the position in the ranking of the commune of Wielkie Oczy which, according to the evaluation carried out by WERYŃSKA [2000], is more attractive than the communes of Oleszyce, Lubaczów and Stary Dzików, while according to the evaluation carried out in the presented study, this commune ranked last. A study by STEC and ŻAK [2008] analysed tourism attractiveness of the Podkarpackie Region counties. The "classification-by-points" method was also employed for the study. The assessment took into account features determining the cultural and natural attractiveness. Particular aspects of tourism infrastructure such as accommodation or catering facilities were analysed separately. Based on the calculated tourism attractiveness index, Lubaczowski County ranks 11th among 25 counties of the Podkarpackie Region. The study distinguished the natural attractiveness index according to which Lubaczowski County ranked 4th immediately after the Sanocki, Leski and Bieszczadzki Counties, which indicates its high tourism potential. In terms of cultural attractiveness, Lubaczowski County ranked last among the counties of Podkarpackie Region.

## CONCLUSIONS

This study evaluated the tourism and recreational space of Lubaczowski County, which enabled the determination of the level of tourism attractiveness in particular communes. The conducted evaluation distinguished communes with exceptional tourism assets and showed their strengths which need to be developed, and enabled the identification of the reasons for the lesser tourism attractiveness of other communes. Having analysed the results of research into particular communes, it can be concluded that Lubaczowski County has enormous potential for tourism development.

Carrying out the inventory and collecting appropriate data necessary for the calculation of the synthetic measure of determinants for tourism development and analyses of the questionnaire survey enabled the conclusion that, in the county, one can observe a great difference in the level of infrastructure development between the two most attractive communes i.e. Lubaczów (the town) and Horyniec-Zdrój and the others. The urban commune of Lubaczów takes the first place as a result of the evaluation of a synthetic indi-

cator of tourism attractiveness, and the commune of Horyniec-Zdrój in the inhabitants' awareness reflected in the questionnaire surveys. The communes of Narol, Cieszanów and Oleszyce offer numerous tourism and natural assets; however, their greatest limitation includes poorly developed accommodation and catering facilities. Despite the potential associated with exceptional natural assets or cultural heritage, they still have very poor conditions for tourism development. This is primarily associated with the poor scoring of investment attractiveness e.g. due to the poorly developed transport facilities and an insufficient number of facilities providing various services.

For the better development of tourism in the county, it is necessary to take appropriate measures aimed at eliminating limitations and highlighting the strengths. To this end, it will be necessary to incorporate measures aimed at enhancing the quality of tourism infrastructure development and establishing a marketing plan that will allow tourists to learn about the tourism assets of the commune into the strategy for commune development.

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## REFERENCES

- AL MAMUN A., MITRA S. 2012. A methodology for assessing tourism potential: Case study Murshidabad District, West Bengal, India. *International Journal of Scientific and Research Publications*. Vol. 2. Iss. 9 p. 1–8.
- ASHOURI P., FARIYADI S. 2010. Potential assessment of nature-based tourism destinations using MCA techniques (case study: Lavasan-e Koochak). *Journal of Environmental Studies*. Vol. 36. No. 55 p. 1–3.
- AZIZ R.C., HASHIM N.A.A.N., AWANG Z. 2018. Tourism development in rural areas: Potentials of appreciative inquiry approach. *Journal of Tourism, Hospitality and Culinary Arts*. Vol. 10. Iss. 1 p. 59–75.
- BLANCAS J.F., GONZÁLEZ M., LOZANO-OYOLAA M., PÉREZ F. 2010. The assessment of sustainable tourism: Application to Spanish coastal destinations. *Ecological Indicators*. Vol. 10. Iss. 2 p. 484–492. DOI 10.1016/j.ecolind.2009.08.001.
- CHUDY-HYSKI D. 2009. Uwarunkowania turystycznego kierunku rozwoju górskich obszarów wiejskich Polski [Conditions of mountain rural areas in Poland development through tourism]. *Infrastruktura i Ekologia Terenów Wiejskich*. No. 2009/1 p. 309.
- GIGLIO S., BERTACCHINI F., BILOTTA E., PANTANO P. 2019. Using social media to identify tourism attractiveness in six Italian cities. *Tourism Management*. Vol. 72 p. 306–312. DOI 10.1016/j.tourman.2018.12.007.
- GOŁEMBSKI G. (ed.) 1999. Regionalne aspekty rozwoju turystyki [Regional aspects of tourism development]. Warszawa–Poznań. Wydaw. Nauk. PWN. ISBN 83-01-12974-3 pp. 206.
- GÓRCEKA A. 2011. The tourism function determinants of the rural municipalities in Podkarpackie province, Poland. *Acta Scientiarum Polonorum Oeconomia*. No. 10(4) p. 19–32.

- HABIBI F. 2017. The determinants of inbound tourism to Malaysia: A panel data analysis. *Current Issues in Tourism*. Vol. 20. Iss. 9 p. 909–930. DOI 10.1080/13683500.2016.1145630.
- HAKUĆ-BŁAŻOWSKA A., PACEK N., KUPREN K., FURGAŁA-SELEZNIOW G. 2018. Porównanie atrakcyjności turystycznej gmin wiejskich i miejsko-wiejskich powiatu elbląskiego [Comparison of tourist attractiveness of rural and urban-rural communes of Elbląg County]. *Studia Obszarów Wiejskich*. T. 50 p. 81–99. DOI 10.7163.SOW.50.5.
- IATU C., BULAI M. 2011. New approach in evaluating tourism attractiveness in the region of Moldavia (Romania). *International Journal of Energy and Environment*. Vol. 5. Iss. 2 p. 165–174.
- JAREMEN D.E., RAPACZ A., GRYSZEL P. 2010. Innowacje a atrakcyjność turystyczna wybranych miejscowości sudeckich [Innovation and tourism attractiveness of selected localities in the Sudetes]. *Acta Scientiarum Polonorum Oeconomia*. Vol. 9. Iss. 4 p. 165–176.
- KACZMAREK J., STASIAK A., WŁODARCZYK B. 2002. Produkt turystyczny. Przewodnik do ćwiczeń [Tourist product. Students book]. Łódź. Wydaw. UŁ. ISBN 83-7171-555-2 pp. 164.
- KONDRACKI J. 2009. *Geografia regionalna Polski* [Regional geography of Poland]. Warszawa. Wydaw. Nauk. PWN. ISBN 978-83-01-16022-7 pp. 441.
- KRUCZEK Z. 2005. Tourism in scientific research. In: *Methods for studying tourist attractions*. Eds. R. Winiarski, W. Alejskiak. Kraków–Rzeszów. AWF-WSIZ p. 35–46.
- KRUPA J., BILIŃSKI J. (eds.) 2006. *Turystyka w badaniach naukowych: Prace przyrodnicze i humanistyczne* [Tourism in scientific research: Nature and humanities]. Rzeszów. WSFiZ. ISBN 83-87658-87-1 pp. 510.
- KULYK V., SOSSA R. 2018. Determining the tourist attractive regions by GIS analysis using heatmaps. *Geodesy and Cartography*. Vol. 44. Iss. 1 p. 22–27. DOI 10.3846/gac.2018.882.
- LISIAK M., OPALA A., BOROWIAK K. 2016. The concept of tourism development as a factor increasing the tourism potential of rural communes – a case study. *Studia Obszarów Wiejskich*. T. 43 p. 99–112. DOI 10.7163.SOW.43.7.
- MENDOLA D., VOLO S. 2017. Building composite indicators in tourism studies: Measurements and applications in tourism destination competitiveness. *Tourism Management*. Vol. 59 p. 541–553. DOI 10.1016/j.tourman.2016.08.011.
- NOWACKI M. 2007. Metody i kierunki badań atrakcji turystycznych [Methods and directions of research of tourist attractions]. *Problemy Turystyki*. Vol. 30(1–4) p. 59–72.
- Polska Federacja ... 2015. Program rozwoju turystyki na obszarach wiejskich w Polsce [Tourism development programme in rural areas in Poland] [online]. Warszawa. Polska Federacja Turystyki Wiejskiej „Gospodarstwa Gościnne” pp. 264. [Access 05.09.2019]. Available at: <https://docplayer.pl/944323-Program-rozwoju-turystyki-na-obszarach-wiejskich-w-polsce.html>
- PRUS B., KRÓL K. 2017. Ocena zastosowania wybranych metod taksonomicznych do klasyfikacji zjawisk społeczno-gospodarczych [Evaluation of using selected taxonomic methods to classify socio-economic phenomena]. *Acta Scientiarum Polonorum, Formatio Circumiecetus*. Vol. 16. Iss. 2 p. 179–197. DOI 10.15576/ASP.FC/2017.16.2.179.
- ROBASZKIEWICZ K., LISIAK M., BOROWIAK K., KANCLERZ J. 2016. The concept of tourism enrichment potential of Witkowo commune concerning Gniezno county area. *Infrastruktura i Ekologia Terenów Wiejskich*. No IV/2 p. 1373–1383. DOI 10.14597/infracoo.2016.4.2.101.
- SOLEK K. 2012. Miejsce województwa podkarpackiego w krajowym ruchu turystycznym [The place of Podkarpackie Voivodeship in domestic tourism]. *Nierówności Społeczne a Wzrost Gospodarczy*. No. 27 p. 220–233.
- STEC A., ŻAK I. 2008. Analiza atrakcyjności turystycznej województwa podkarpackiego [online]. Rzeszów. Podkarpacka Regionalna Organizacja Turystyczna pp. 15. [Access 05.09.2019] Available at: <https://absta.pl/atrakcyjnosc-turystycznej-województwa-podkarpackiego-opracowa-z.html>
- Strategia Rozwoju Powiatu Lubaczowskiego na lata 1999–2010 [Strategy for Development of Lubaczowski County 1999–2010]. 1999. Lubaczów. WPiRG pp. 69.
- TUCKI A. 2007. Regionalne aspekty rozwoju turystyki na przykładzie województwa lubelskiego. In: *Studia nad turystyką. Prace geograficzne i regionalne* [Regional aspects of tourism development on the example of the Lublin region]. Eds. W. Kurek, R. Faracik. Kraków. IGiGP, UJ p. 267–279.
- VAN DER MERWE JH, VAN NIEKERK A. 2013. Application of geospatial technology for gap analysis in tourism planning for the Western Cape. *South African Journal of Science*. Vol. 109. Iss. 3–4 p. 1–10. DOI 10.1590/sajs.2013/1226.
- WARSZYŃSKA J. 1974. Ocena zasobów środowiska naturalnego dla potrzeb turystyki (na przykładzie województwa krakowskiego) [Assessment of natural resources for tourism (on the example of the Krakowski region)]. *Zeszyty Naukowe UJ. Z. 350. Prace Geograficzne*. Nr 36 pp. 135.
- WERYŃSKA R. 2000. Perspektywy rozwoju turystyki wiejskiej w powiecie lubaczowskim. In: *Agroturystyka – szansą aktywizacji przygranicznego powiatu lubaczowskiego w aspekcie przystąpienia do Unii Europejskiej* [Prospects for the development of rural tourism in Lubaczowski county. In: Agrotourism – a chance to activate the cross-border Lubaczowski county in terms of accession to the European Union]. Eds. A. Jarosz, R. Fedan. Międzynarodowa konferencja w Horyńcu Zdroju, 5–7.05.2000. Państwowa Wyższa Szkoła Zawodowa w Jarosławiu, Starostwo Powiatowe w Lubaczowie, Stowarzyszenie Rozwoju Ziemi Lubaczowskiej. Wydawnictwo Naukowe Państwowej Wyższej Szkoły Zawodowej w Lubaczowie p. 197–202.
- WIĘCKOWSKI M., MICHNIAK D., CHRENKA B., IRA V., KOMORNICKI T., ROSIK P., SZÉKELY V., ŚLESZYŃSKI P., WIŚNIEWSKI R. 2012. Możliwości poprawy dostępności i rozwoju turystyki na pograniczu polsko-słowackim. Warunki rozwoju, rekomendacje i dobre praktyki [The potential for improved accessibility and tourism development in the Polish-Slovak borderland: conditions, recommendations and good practices]. Warszawa–Bratysława. IGiPZ PAN, Geografický ústav SAV. ISBN 978-83-61590-88-0 pp. 79.
- WITKOWSKA-DĄBROWSKA M. 2007. Ocena potencjału turystycznego powiatu o wysokich walorach środowiskowych. In: *Turystyka w rozwoju obszarów wiejskich* [Assessment of tourism potential of a county with high environmental assets]. In: *Tourism in the development of rural areas*. Ed. I. Sikorska-Wolak. Warszawa. Wydaw. SGGW p. 463–477.
- ZIERNICKA-WOJTASZEK A., ZAWORA T. 2011. Wybrane metody oceny atrakcyjności agroturystycznej terenów wiejskich [Selected methods pertaining to the assessment of agricultural tourism attractiveness of rural regions]. *Infrastruktura i Ekologia Terenów Wiejskich*. Nr 2 p. 235–245.