DETERMINANTS AND DIRECTIONS OF THE DEVELOPMENT OF TOURISM IN COMMUNES FROM THE EASTERN PART OF WARMIŃSKO-MAZURSKIE PROVINCE

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Abstract. An increased significance of tourism in economy and a growing competition in this area between local government units imply the need for information that would make it possible to identify and assess development opportunities of particular communes. The aim of the research was to assess tourist attractiveness of rural and rural-municipal communes of the eastern part of Warmińsko-mazurskie Province and to identify factors determining their development. Secondary data and information collected by means of a survey were used in the research and analysed statistically. In order to assess tourist attractiveness, synthetic analysis was made with the use of 11 variables. The results made it possible, inter alia, to select three groups of communes with different levels of tourist attractiveness, to define their spatial distribution and to determine the significance of the factors in the development of this economic sector.

Key words: tourist attractiveness, competitiveness, territorial marketing, tourist potential, local development

INTRODUCTION

Currently tourism is one of the important industries of the world contributing to the economic growth [Kim et al. 2006]. Therefore, numerous countries, regions or towns recognise the need for the development of this sector. This development is understood as a positive, desired change of quantity, quality and structure both in spatial and in social systems taking into consideration material and non-material elements. One of the symptoms of such development is an increase in tourist movement in a particular area, which influences an increase in sales and profits of tourist companies, airlines and accommoda-
tion services, and also of companies indirectly related to tourism. In the latter example, this impact on the financial results of department stores or entertainment businesses is much more limited [Chen 2007, Chen, Kim 2010]. The intensity of tourist movement also influences the wealth of local inhabitants and an increase in the local government revenue. In local government units, tourism shapes not only income, but also expenditures connected with higher needs, such as road maintenance, cleaning, and aesthetics [Derek et al. 2005].

A more important meaning of tourism in the economy of a particular area is determined by its values and activities of local government, community and business entities shaping its attractiveness [Slodowa-Helpa 2002]. The priorities of initiatives undertaken by local governments do not have to mean their increased financial activity. However, it requires an open, creative, and sometimes unconventional approach to the realisation of various initiatives generating low costs or such initiatives whose costs may be transferred to other units. Such an approach creates an opportunity to raise an interest of various entities in the tourist value of a unit. Presently there are many distinguishing features showing the attractiveness of both smaller areas, such as a commune, county or province, and of countries or regions of the world. Differences and similarities between them result from the characteristics of a local community [Meinung 1989], constituting two groups of attributes, i.e. active (dynamic) and passive (static) attractiveness.

Active tourist attractiveness is an interest of tourists in spending time in a particular area [Czyżycki et al. 2012]. This attractiveness may be measured, inter alia, by a number of tourists using accommodation, the number of accommodation places sold or the length of stay. It should be noted that the number of trips to a particular place is a common means of measuring the level of attractiveness but also of the development of tourism in the area [Wang, Godbey 1994]. As far as statistics is concerned, attractiveness is defined by natural and anthropogenic values as well as social infrastructure serving tourists and local inhabitants [Milewski 2005, Meyer 2010]. This potential may be estimated in the qualitative and quantitative form on the basis of statistical data that make it possible to define, e.g. what area in the commune is covered by waters, forests, and protected areas.

Tourism in Warmińsko-mazurskie Province plays a significant part in the process of the socio-economic development. Moreover, an increasing area competition [Camagni 2002] raises the need of local governments to search for solutions facilitating the determination of direction and range of activities aiming at more dynamic development leading to a better quality of life of the inhabitants. Achieving this aim is mainly identified as economic development which reaches various levels in various communes. It is connected both with the quality of public services [Zalewski 2000] and with the resources and the ability to manage them [Heffner 2008]. This process also requires proper administration of information [Frąckiewicz 2004] so that decision-makers can compare communes and regions, arrange them, reveal their strengths and weaknesses, search for potential deviations which require correction, and find factors which may serve as an advantage in the competition for tourist demand.

Information gap and practical dimension of information which can be gained and used to define development directions were the determinants of taking up research whose main aims included the following:
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1. Selecting similar communes as far as tourist attractiveness is concerned and indicating variables which differentiate them.
2. Identifying development factors and indicating elements of the potential of communes being the most significant for the development of tourism.
3. Describing tourist attractiveness of the eastern part of Warmińsko-mazurskie Province.
4. Finding out whether a commune type (rural-municipal, rural) determines tourist attractiveness.
5. Identifying major areas which local governments focus on in order to develop tourism in their communes.

MATERIAL AND METHODS

The research included 20 rural communes and 11 rural-municipal communes from the eastern part of Warmińsko-mazurskie Province (Table 1).

Table 1. Characteristics of the examined communes

<table>
<thead>
<tr>
<th>Area (km)</th>
<th>140–199</th>
<th>200–299</th>
<th>300–399</th>
<th>400–640</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of communes</td>
<td>7</td>
<td>16</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Number of inhabitants</td>
<td>3 000–3 999</td>
<td>4 000–6 999</td>
<td>7 000–9 999</td>
<td>10 000–28 000</td>
</tr>
<tr>
<td>Number of communes</td>
<td>9</td>
<td>5</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Authors’ own calculation based on data published in work titled Województwo warmińsko-mazurskie 2012 – podregiony, powiats, gminy” (Warmińsko-mazurskie Province 2012 – sub-regions, counties, communes”) by Statistical Office in Olsztyn.

In order to assess differences between the examined communes concerning their tourist attractiveness, secondary, quantitative data were used [Łukaszewicz-Paczkowska et al. 2008, Województwo warmińsko-mazurskie… 2012, Wykaz zabytków… 2013]. This made it possible to evaluate the state of such areas as accommodation and catering infrastructure or the level of interest in staying in this area, taking into consideration environment and anthropogenic factors. With the use of the collected data the following indicators were calculated: X1 – accommodation facilities per 100 km²; X2 – number of hotel beds per 100 local inhabitants (Baretje–Defert index); X3 – number of tourists using accommodation per 100 local inhabitants (Schneider index); X4 – number of accommodation places sold per 100 local inhabitants (Charvat index); X5 – number of nights spent by one tourist (length of stay); X6 – percentage of forest area in the commune area; X7 – percentage of protected areas in the commune area; X8 – natural monuments per 100 km² of the commune area; X9 – percentage of water area in the commune area; X10 – number of hotel and catering facilities according to the National Business Registry Numbers (REGON) per 100 local inhabitants; X11 – number of historic buildings per 100 km² of the commune area.

According to the methodology of the research, the most attractive communes were the ones with the highest values of the aforementioned indicators.
The collected data were supplemented by the results of the survey conducted in the communal councils. The questions included in the questionnaire aimed at defining the priorities in the development of tourism and assessing activities in the seven areas (legal, economic, political, social, technical-technological, geographic-topographic, cultural).

Variables used to define tourist attractiveness and to assess activities were standardised prior to the statistical analysis due to the fact that they had different measurement scales. This made it possible to transform them so that they were independent from the units in which the measurement was made. Statistical analysis was carried out with the use of Statistica programme.

At the beginning of data analysis communes were classified according to the similarity criterion on the basis of the indicators calculated. One of the methods used in this type of research on territorial units is a data clustering method belonging to the group of taxonomic methods [Kropsz 2009, Zygmunt, Mach 2011]. Agglomerative data clustering method made it possible to combine the examined communes without providing the number of clusters and having no earlier knowledge of the structure of dependencies between them. With such an approach, distances between the clusters were estimated with Ward method, based on variance analysis and aimed at ensuring uniformity within clusters and heterogeneity between them. The distances between the objects were measured with Euclidean metric.

Complete realisation of the research aims required cluster analysis, variance analysis, Pearson’s Chi-square test, Kruskal–Wallis test and Thurstone’s scaling method within statistical analysis.

RESULTS

According to the research methods applied, communes were grouped with agglomerative data clustering method taking into consideration tourist attractiveness defined by eleven variables. The point of division was set on the basis of agglomerative distance between clusters, where its increase was the highest (Fig. 1), i.e. between 8 and 12.

Next, on the basis of the analysis of dendrogram (Fig. 2) taking into consideration the assumed rules of division, three groups (clusters) of relatively uniform communes were selected. The first group appeared to be the smallest. It included 6 communes, i.e. 3 rural-municipal (Mikołajki, Ruciane-Nida, Ryn) and 3 rural (Giżycko, Kruklanki, Piecki). The second group was bigger and included 9 communes, i.e. 4 rural-municipal (Węgorzewo, Korsze, Reszel, Olecko) and 5 rural (Budyry, Barciany, Kętrzyn, Sorkwity, Kalinowo). The last group was the biggest and included 16 communes, i.e. 12 rural (Miłki, Wydminy, Pozezdrze, Mragowo, Banie Mazurskie, Dubeninki, Kowale Oleckie, Świątajno, Wieliczki, Elk, Prostki, Stare Juchy) and 4 rural-municipal (Biała Piska, Orzysz, Pisz, Gołdap), which constituted 51.6% of all the units examined. On the basis of the calculated $\text{Chi}^2 = 1.636$ (df = 2; $p = 0.441$), it may be concluded that the inclusion of the commune in one of the three groups is not connected with its type, i.e. whether it is a rural or rural-municipal commune. Therefore, both variables should be treated as independent ones in this case.
Fig. 1. Distances between clusters with reference to the stages of cluster creation in particular communes
Source: Authors' own calculation with the use of Statistica software.

Fig. 2. Dendrogram of the typology of communes with regard to their tourist attractiveness
Source: Authors’ own calculations with the use of Statistica software.
The variance analysis of the variables describing tourist attractiveness made it possible to define which of them diversify the selected groups significantly. The established division shows significant differences concerning 10 out of 11 variables, including six at the level of \( p < 0.001 \), four at the level of \( p < 0.01 \) and one at the level of \( p < 0.05 \). Only \( X_5 \) variable – called the length of stay in a particular commune – appeared to be statistically insignificant (\( p = 0.255 \)). Statistical dispersion of this variable within the group was considerable, while the dispersion between groups was slight. Baretje–Defert index (\( X_2 \)) was the variable which was the most uniform internally and at the same time diversified particular groups (Table 2).

Table 2. The variance analysis of the variables describing tourist attractiveness in the selected groups of communes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Between SS</th>
<th>df</th>
<th>Within SS</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>18.22</td>
<td>2</td>
<td>11.78</td>
<td>28</td>
<td>21.65</td>
<td>0.000</td>
</tr>
<tr>
<td>X2</td>
<td>24.35</td>
<td>2</td>
<td>5.65</td>
<td>28</td>
<td>60.39</td>
<td>0.000</td>
</tr>
<tr>
<td>X3</td>
<td>14.40</td>
<td>2</td>
<td>15.60</td>
<td>28</td>
<td>12.92</td>
<td>0.000</td>
</tr>
<tr>
<td>X4</td>
<td>14.66</td>
<td>2</td>
<td>15.34</td>
<td>28</td>
<td>13.39</td>
<td>0.000</td>
</tr>
<tr>
<td>X5</td>
<td>2.79</td>
<td>2</td>
<td>27.21</td>
<td>28</td>
<td>1.43</td>
<td>0.255</td>
</tr>
<tr>
<td>X6</td>
<td>9.28</td>
<td>2</td>
<td>20.72</td>
<td>28</td>
<td>6.27</td>
<td>0.006</td>
</tr>
<tr>
<td>X7</td>
<td>8.22</td>
<td>2</td>
<td>21.78</td>
<td>28</td>
<td>5.28</td>
<td>0.011</td>
</tr>
<tr>
<td>X8</td>
<td>9.68</td>
<td>2</td>
<td>20.32</td>
<td>28</td>
<td>6.67</td>
<td>0.004</td>
</tr>
<tr>
<td>X9</td>
<td>9.39</td>
<td>2</td>
<td>20.61</td>
<td>28</td>
<td>6.38</td>
<td>0.005</td>
</tr>
<tr>
<td>X10</td>
<td>17.44</td>
<td>2</td>
<td>12.56</td>
<td>28</td>
<td>19.45</td>
<td>0.000</td>
</tr>
<tr>
<td>X11</td>
<td>14.10</td>
<td>2</td>
<td>15.90</td>
<td>28</td>
<td>12.42</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Full names of the variables are included in the previous part of the work titled Material and methods.

Source: Authors’ own calculations.

On the basis of the profiles (Fig. 3) showing differences within particular variables, the selected groups were described in terms of tourist attractiveness:

- Group 1 – consists of communes which are popular among tourists, possess numerous natural values but a small number of historic buildings. There is also a big number of hotel and catering facilities.
- Group 2 – consists of communes with a low hotel and catering potential and a low natural potential with a big number of natural monuments. This area is rich in historic buildings.
- Group 3 – consists of communes with a low hotel and catering potential and an average natural potential with a small number of historic buildings and natural monuments.

While analysing the spatial distribution of the selected groups of communes (Fig. 4), it may be noted that the communes which are most popular among tourists (Group 1) constitute a zone separating the remaining two groups of communes. On the western side there is a majority of communes (7 out of 9) belonging to Group 2 with a low level of
tourist interest and limited natural values but with a high potential concerning the number of natural monuments and historic buildings. On the eastern side there are communes with a low concentration of tourist movement and average natural potential as well as a low number of natural monuments and historic buildings.
In order to determine which tourism development factors are the most significant, a range scale was used (1 – the most important, 6 – the least important). Thurstone’s method made it possible to identify transitional relations, i.e. to indicate preferences towards particular factors which, according to commune councils, determine the development of tourism, and to indicate differences (distances) between these factors (Fig. 5). The results revealed that natural values are the most important for the development of tourism in all the communes but their level of significance differs. The highest level was noted in Group 2 (4.42) and Group 1 (3.65), while the lowest level in Group 3 (1.62). Another difference revealed is the importance of tourism development factors in particular groups. The representatives of local governments responsible for the development of tourism interviewed in the research responded that, apart from natural values, tourism is also influenced by hotel facilities and historic buildings (in Group 1) or by historic buildings only (in Group 2). However, in Group 3 all factors, apart from natural values, are nearly uniform and are close to the least significant factor, i.e. transport infrastructure. This may indicate that all the factors, except for natural values, are perceived as having little significance in the development of tourism (Fig. 5).

Fig. 5. The significance of particular factors in the development of tourism in the groups of communes (one-dimension comparison scale)

Source: Authors' own calculations with the use of Statistica programme.
In order to define to what extent communes focus on activities in the seven areas, a questionnaire with a five-grade evaluation scale, where 1 was the least important and 5 – the most important, was used. The areas were as follows:

- legal (changing the functioning of local government institutions, facilitating tourist activity);
- economic (financial support of initiatives that develop tourism);
- political (attitude of local governments to new tourist investments);
- social (attitudes of the society towards tourism);
- technical-technological (technical and infrastructural development in the region);
- geographic-topographic (the use of natural resources, the shaping of the area and location for the development of tourism);
- cultural (supporting initiatives aiming at preserving and developing cultural heritage as well as an access to them).

The data presented in Table 3 show that the examined groups do not differ significantly in any of the areas in terms of focusing on activities promoting tourism in the area.

Communes from Group 1 and Group 3 mostly focus on activities realised in the area which was defined as “geographic-topographic”, including, inter alia, preparing, promoting and making accessible the existing natural values. Communes classified in Group 2 mostly support activities in the area of broadly understood cultural heritage. All the examined communes, regardless of the classification to the group, focus the least on the legal area which aims at creating institutional and legislative support facilitating activities in tourism sector (Table 3).

Table 3. Focus of communes on activities facilitating the development of tourism in seven areas

<table>
<thead>
<tr>
<th>Area</th>
<th>All communes without division into groups ( (n = 31) )</th>
<th>Group 1 ( (n = 6) )</th>
<th>Group 2 ( (n = 9) )</th>
<th>Group 3 ( (n = 16) )</th>
<th>Kruskal–Wallis test ( (df = 2, n = 31) )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td>SD</td>
<td>x</td>
<td>SD</td>
<td>x</td>
</tr>
<tr>
<td>Legal</td>
<td>2.94**</td>
<td>1.12</td>
<td>2.67**</td>
<td>0.52</td>
<td>2.89**</td>
</tr>
<tr>
<td>Economic</td>
<td>3.94</td>
<td>1.06</td>
<td>4.50</td>
<td>0.84</td>
<td>4.00</td>
</tr>
<tr>
<td>Political</td>
<td>3.90</td>
<td>1.14</td>
<td>4.33</td>
<td>0.82</td>
<td>3.89</td>
</tr>
<tr>
<td>Social</td>
<td>3.35</td>
<td>1.14</td>
<td>3.00</td>
<td>0.89</td>
<td>3.44</td>
</tr>
<tr>
<td>Technical-technological</td>
<td>3.48</td>
<td>1.15</td>
<td>3.67</td>
<td>0.82</td>
<td>3.33</td>
</tr>
<tr>
<td>Geographic-topographic</td>
<td>4.48*</td>
<td>0.96</td>
<td>4.83*</td>
<td>0.41</td>
<td>4.67</td>
</tr>
<tr>
<td>Cultural</td>
<td>4.10</td>
<td>1.16</td>
<td>4.00</td>
<td>1.10</td>
<td>4.78*</td>
</tr>
</tbody>
</table>

*the biggest focus; **the smallest focus; x – arithmetic mean; SD – standard deviation.

Source: Authors’ own calculations.
DISCUSSION AND CONCLUSIONS

The research made it possible to distinguish three groups of communes taking into consideration their general attractiveness that stems both from being interested in staying in a particular commune and from tourist potential of the communes. The first region selected may be called a tourist attractiveness leader. It is very interesting for tourists and has a high natural potential. The second group of so-called particular values includes communes which have an unsatisfactory level of tourist infrastructure but have a specific natural and anthropogenic potential. The third group is a region of natural environment potential. Just as in the previous group, this is an area with big deficiencies in tourist infrastructure but having a big natural potential. Taking into account the selected regions (groups), it cannot be firmly concluded which of the areas is the most attractive for tourists. It happens that areas which are predisposed to draw attention of tourists are not so popular, while the ones with worse natural environment values but with a well-developed hotel infrastructure are popular among tourists [Bąk, Wawrzyniak 2012]. A multi-characteristic analysis makes it possible to analyse attractiveness not only with regard to values, but also differences in the area which, under certain circumstances, may generate higher or lower interest of various groups of tourists.

On the basis of the results it may be concluded that communes from Groups 2 and 3 need to have their hotel and catering infrastructure as well as tourist activity developed while in Group 1 the existing hotel infrastructure is not fully used. It is worth noting that among the examined communes, especially the neighbouring ones, there is also a possibility of mutual completion of potentials. This, in turn, may increase the chance for attracting more tourists, lengthening their stay or gaining new groups which have not been interested in this region so far. One of the ways to realise these assumptions is to build products within the natural and anthropogenic diversity existing in a particular unit [Warmińska et al. 2012].

The area of Warmińsko-mazurskie Province is one of the most attractive areas for tourists. Its high attractiveness is caused by natural, landscape, cultural and ethnic, architectural and historic values [Karbowiak 2008]. To a certain extent these values influence the fact that local governments perceive climate and geographical location as the main factors of socio-economic development [Babuchowska, Kisiel 2006]. The proximity of traffic routes and areas of direct impact of big cities is of particular significance [Pomianek 2010]. Such dependence cannot be noted with regard to the development of tourism, since attractiveness defined by being included in one of the three groups is independent of the type of commune. It proves that the tourist potential of the analysed units varies a lot and that the level of urbanisation is independent of the type of attractiveness represented by the communes. However, geographic location seems to influence the type of attractiveness to a large extent [Bąk, Wawrzyniak 2012]. Communes located in the central part of the examined area are so-called attractiveness leaders, communes from the West are the region of particular values, while these from the East have a natural environment potential.

The importance and meaning of particular factors determining the development of tourism in the analysed groups of communes vary a lot. Comparative analysis indicates that Groups 2 and 3 must redefine priorities and reinforce their importance in order to attract tourists in the competition with Group 1 communes.
The examined units mainly focus on activities in the geographic-topographic and cultural area. This is justified by the need to create brand original tourist products determined by nature and culture [Batyk 2011]. Activities in legal area are the least emphasised and are not politically, financially and socially justified. Their small significance may result from the lack of possibility to make fast progress, from the fact that the possibilities in this area have been used up or there are no ideas worth implementing. The fact that it is impossible to define clearly the reasons for such a low interest of the government in this field opens new areas of research.

It may be concluded that the suggested dynamic-static approach to the assessment of tourist attractiveness made it possible to identify similar territorial units regarding their tourist potential, to show their spatial distribution and to reveal differences occurring between the selected groups of communes. The research enabled us to reveal differences in perceiving the significance of factors influencing the development of tourism and to define to what extent communes focus on activities realised within the distinguished components. The results as well as holistic approach to the analysis of attractiveness provide information which, in a long term, will help to compare development changes in the examined units. Additionally, it makes it possible to establish priorities of the development and activities and to monitor their implications at the same time using this knowledge to stimulate the development of communes.

REFERENCES


UWARUNKOWANIA I KIERUNKI ROZWOJU TURYSTYKI W GMINACH WSCHODNIEJ CZĘŚCI WOJEWÓDZTWA WARMIŃSKO-MAZURSKIEGO

Streszczenie. Wzrost znaczenia turystyki w gospodarce oraz nasilająca się rywalizacja między jednostki terytorialnymi w tym obszarze implikuje zapotrzebowanie na informacje pozwalające zidentyfikować i ocenić możliwości rozwojowe poszczególnych gmin. Celem podjętych badań była ocena atrakcyjności turystycznej gmin wiejskich i miejsko-wiejskich wschodniej części województwa warmińsko-mazurskiego oraz identyfikacja uwarunkowań

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Słowa kluczowe: atrakcyjność turystyczna, konkurencyjność, marketing terytorialny, potencjał turystyczny, rozwój lokalny

Accepted for print – Zaakceptowano do druku: 24.04.2014

Oeconomia 13 (2) 2014