THE ROLE OF ARCHAEOLOGICAL RESOURCES IN INCREASING THE COMPLEXITY OF THE TOURIST FUNCTION IN DOBROGEA

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Abstract
Archaeological tourism brings benefits to local communities and thus therefore contextualizes certain cultural differences. Archaeological resources and, implicitly, tourist patrimony are essential elements for the development of economy and tourism from a region. The research is based on a synthetic analysis of the archaeological heritage resources and role of them in increasing the functional and tourist complexity of local economies in Dobrogea. The purpose of this research is to identify the degree of involvement of archaeological resources in the increase of tourist complexity by analyzing the economic data at the level of formed four-digit CAEN code, which were overlapped with the tourism activities, archeology, archaeological resources and considering the management their effectiveness. Was made a delimitation of the indicator in relation to the number of existing firms, the turnover value, the number of employees, as well as the profit recorded by these companies. Also, based on the list of historical monuments, the main resources existing at level of municipality, town and commune were identified. The results of this research provide local communities with a clear picture of the role that archaeological resources have in increasing tourist complexity and developing local economies in administrative-territorial units.

Keywords: archaeological resources, tourist heritage, local development, economic indicators.

1. INTRODUCTION

Using archaeological resources is an increasingly principal issue, so demands for exploitation of these resources contributes to the economic and cultural development of society (Gould and Burtenshaw, 2014). Some resources are traditionally used, being appreciate more for their cultural value, so archeology and cultural heritage are usually assessed for the impact on society (Burtenshaw, 2014). These complex threats brought to these types of resources create a challenge for both archaeologists, historians and local and regional communities and other stakeholders who are in a constant a need of developing strategies to mitigate the deterioration of existing cultural heritage (Reeder-Myers, 2015).

Researches and studies by the biologists, who have found archaeological sites what contain plant and animal remains used by prehistoric peoples have been led to the existence of archaeological heritage resources. Conservation of archaeological resources may be the best way to preserve essential biological data to initiate studies by ecologists and archaeologists (Bowen, 2004). Regarding the African archeology, development-based approaches provide the basis for the exchange of knowledge between archaeologists and researchers in the sense that archives with appropriate archaeological resources will be required as an exercise in the management of heritage collections. To better understand the context from which the archaeological patrimony is derived, the
characterization of the archaeological and historical landscape will have to framed in the intended space for the local knowledge systems, which will offer the basis for awareness, understanding and appreciating for the value of past (Pikirayi, 2015).

In the specialty literature, archaeological sites and, implicitly, tourist heritage are relevant elements for the cultural and economic development and the promotion of a region (Zbuclea, 2008). To choosing Dobrogea as a subject of study, is given a consideration to the value the patrimony of this territory, today of orthodox traditional, but rich from point of view in multiethnic and multi-religious way, by tradition. The research realized until the present on the archaeological resources in Dobrogea showed that the representative monuments of the Christian cult are a special category of this period, so archeology can be confused with the archeology of the Christian cult, even if the Paleochristian churches are not considered archaeological finds belong to this period (Achim, 2016). The cultural-historical tourism from this area has as main objectives the archaeological sites of Adamclisi, Enisala and Histria, even if it exists more archaeological sites that are not exploited from the tourist point of view. Among these, we can mention the fortresses that are part of the military fortification system on the Danube border, during the Roman Empire (Sima, 2014).

### 2. MATERIALS AND METHODS

#### 2.1. Study area

We have chosen Dobrogea as a study area of this article because it is a Romanian historical province located between the Danube and the Black Sea and is administratively formed from two counties: Constanța and Tulcea (Figure 1). At present, the specificity of the economic system and the functional typology of the administrative-territorial units from Dobrogea are determined using local resources and the territorial distribution of external investments (Sima, 2014). Dobrogea is an area of contrasts, a humid and drought-free region, a place with a rich history of more than two thousand years old and, at the same time, it is the youngest earth in Europe and a territory inhabited by people belonging to several ethnic groups (Pleşoianu, 2017).

![Figure 1. Geographic study area](image-url)
2.2. Data processing and methods used

The purpose of this article is to identify the degree of involvement of archaeological resources in increasing tourism complexity in Dobrogea, using the economic data analysis for the period 2000-2016 at the level of CAEN code formed by four digits (Table 1), correlated with the number of archaeological resources identified at the level of administrative-territorial unit. Has been analyzed the main correlations between the number of companies and the number of employees at the level of the two counties - Constanța and Tulcea, as well the evolution of turnover and profits recorded.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5510</td>
<td>Hotels and similar accommodation</td>
</tr>
<tr>
<td>5520</td>
<td>Holiday and other short-stay accommodation</td>
</tr>
<tr>
<td>5530</td>
<td>Camping grounds, recreational vehicle parks and trailer parks</td>
</tr>
<tr>
<td>5590</td>
<td>Other accommodation</td>
</tr>
<tr>
<td>7111</td>
<td>Architectural activities</td>
</tr>
<tr>
<td>7911</td>
<td>Travel agency activities</td>
</tr>
<tr>
<td>7912</td>
<td>Tour operator activities</td>
</tr>
<tr>
<td>7990</td>
<td>Other reservation service and related activities</td>
</tr>
<tr>
<td>9103</td>
<td>Operation of historical sites and buildings and similar attractions</td>
</tr>
</tbody>
</table>

Another important source of information was the National Archaeological Repertory (RAN) provided by the Institute for Cultural Memory (CIMEC - http://ran.cimec.ro/) on the basis of which, following the analysis of the list of historical monuments and maps, the main archaeological resources existing at the level of administrative-territorial unit in Dobrogea were identified and processed as a dashboard model (Figure 2) using the PowerBi program.

Through this dashboard model, was tracked a localization on this map of the principals administrative-territorial units, was containing archaeological resources and their fluctuation in the region.
According to the Historical Monuments List (http://www.cultura.ro/lista-monumentelor-istorice), have been registered 64 of historical and archaeological resources in Constanța County as opposed to Tulcea County, where were registered several 39 of historical and archaeological resources. As well, it should be noted that the administrative-territorial units in which have not registered at least 15 archaeological resources have not subjected to this analysis.

From Figure 3, relating to the number of archaeological resources existing at Constanța County, may be observed that the city of Constanța is detached according to the number of archaeological resources and benefits from the highest number (157 resources), this being supported by the history of this city, dating from ancient times as a Greek colony - Tomis. Between may be observed that most of the administrative-territorial units subject to this analysis are in some extent in a tie position as respects to the number of archaeological resources discovered. Can be mentioned commune Lipnița (24 resources) recognized for Sucidava fortress, the town of Hârșova and the communes Cobadin, Corbu and Istria (each of them with 23 resources) recognized for their archaeological sites.

Regarding the distribution of the archaeological resources at the level of Tulcea County (Figure 4) may be observed that Tulcea municipality occupies the first place at the county level with 50 archaeological resources, having as a rich history, being also a Greek colony - Aegyssus, the fortress being in the eastern part of the city. Top places occupy Sarichioi communes (46 resources) and Frecăței (45 resources), where numerous settlements dating from the Roman period were discovered; commune Sarichioi is famous for archaeological site at Enisala. The rest of the administrative-territorial units represented in the graph present, as well, a considerable number of archaeological resources, each of them bringing a plus from a touristic point of view for each city or commune.

Figure 3. Archaeological resources, Constanța County

Figure 4. Archaeological resources, Tulcea County

In order to identify the role of archaeological resources and how they influence tourism, were used a series of statistical data (http://statistici.insse.ro/shop/) on tourist accommodation capacity (expressed in the number of places) and to the number of the population after domicile on January 1, with whose help we obtained the tourist function, indicator registered with the Statistics Committee of the WTO (World Tourism Organization):

\[
\text{Tourist function (\%)} = \frac{\text{accommodation capacity}}{\text{population by residence}} \times 100
\]
3. RESULTS AND DISCUSSION

3.1. Results

From the evolution of the number of companies and the number of employees for the period 2000-2016, at the level of Constanța County, we can observe the following: the number of companies has an upward trend along the range under analysis, opposed to the number of employees, which has an oscillating tendency (Figure 5). May be observed that in the case of the number of companies, the difference between the minimum number (324 companies in the year 2000) and the maximum (1,044 companies in the year 2016) is 720, while the number of employees shows the minimum value of 4,212 in the year 2012 and the maximum of 8,448 in the year 2001. In the entrepreneurial context, the evolution of this reference indicators, that capture the tourism, have registered an upward trend.

The analysis of the tourist function, by reporting the total number of accommodation places in the total population (Figure 6), shows the effects of the restructuring of the domain, many large units built during the communist period being closed. From the chart analysis may be observed that the share of tourism is relatively constant for the period from 2000 to 2010, with a difference of only 0.46% (the minimum value - 15.78% in the year 2002 and the maximum value - 16.24% in the year 2000). Since the year 2011, the share of the tourism function registered a drastic decrease, reaching only 10.86% and the values remained relatively constant until the end of the analyzed period. The trend of slight growth is explained by the emergence of new accommodation units, both on the seaside and in the localities that begin to capitalize archaeological resources on tourism.

Evolution of the number of companies and the number of employees in the period 2000-2016, at the level of Tulcea County (Figure 7), shows a series of specificities: the number of companies shows an upward trend over the analyzed period, opposed to the number of employees that an oscillating trend. May be observed that for the number of companies, the difference between the minimum number (67 companies in the year 2000) and the maximum (337 companies in the year 2016) is 270 companies, while the number of employees shows the minimum value of 579 in the year 2002 and a maximum of 1,065 in the year 2014.

From the analysis of Figure 8 of the chart may be observed that the share of tourism is oscillating for the entire period under review (2000-2016), showing a difference of only 0.98% (the minimum value - 0.99% in the year 2002 and the maximum value - 1.97% in the year 2009). Also, may be observed that the share of the tourist function does not exceed 2% in percentage terms, this fact highlighting the fact that the archaeological resources contribute to a very limited extent to the increase of tourist complexity.
From Figure 9 on the evolution of turnover and profit for the period 2000-2016 at the level of Constanța County, may be observe the following: both the turnover and the profit show the same ascending trend until the year 2008, followed by a decrease of the turnover up to the year 2012 (512.161.610 lei), then a gradual increase, while the profit registered a decrease until the year 2010 (30.728.379 lei), then a gradual increase. May be observed that in the case of turnover, the difference between the minimum value (113.521.777 lei in the year 2000) and the maximum (723.632.736 lei in the year 2016) is 610.103.959 lei, opposed to profit for which the difference of the minimum value of 13.603.643 lei in the year 2000 and the maximum value of 102.237.989 lei in the year 2016 is of 88.634.346 lei.

The dynamics of the weight of the turnover and to the profit obtained from the tourism sector from the total turnover and profit, at the level of Constanța County, shows that both turnover and of the profit has an oscillating tendency, determined by the impact of the economic crisis. From the analysis of the graph of Figure 10, may be observed that the share of tourism reflected in the value of the turnover does not exceed the 3% of the total turnover, the difference between the minimum value (1.53% in the year 2011) and the maximum value (2.91% in the year 2000) was 1.38%. About the share of tourism reflected in the value of the profit, may be observed that it does not exceed 9% of the total profit, the difference between the minimum value (2.25% in the year 2012) and the maximum value (8.46% in the year 2001) being 6.21%.

The evolution of turnover and profit, for the period 2000-2016, in Tulcea County (Figure 11) shows that both turnover and profit show the same upward trend until 2008, followed by two decreases in the year 2010 turnover and in the year 2012, then a gradual increase. The profit registers the same trend, but the values are much lower due to the impact of the economic crisis. May be
observed that in the case of turnover, the difference between the minimum value (19,086,831 lei in the year 2000) and the maximum (110,019,180 lei in the year 2016) is 90,932,349 lei, as opposed to the profit for which the difference of the minimum value (901,640 lei in the year 2000) and the maximum value (13,799,590 lei in the year 2016) is 12,897,950 lei.

The evolution of the turnover and the profit obtained from the tourism sector from the total turnover and the profit, at the level of Tulcea County (Figure 12), shows the following: both the share of the turnover and the profit shows an oscillating tendency. From the chart analysis, may be observed that the share of tourism reflected in the value of the turnover does not exceed 2.5% of the total turnover, the difference between the minimum value (1.27% in the year 2004) and the maximum value (2.41 % in the year 2000) was 1.14%. As regards the share of tourism, reflected in the value of the profit, may be observed that it does not exceed the 5% of the total profit, the difference between the minimum value (1.37% in the year 2010) and the maximum value (4.59% in the year 2009) was 3.22%.

Figure 11. Evolution of Turnover and Profit, Tulcea County  

Figure 12. Evolution of percentage of Turnover and Profit from tourism sector from total Turnover and Profit, Tulcea County

Figure 13 illustrates the evolution of the total number of the employees and employees who works in tourism domain from the localities with archaeological tourism resources, for the period 2000-2016, at the level of Constanța County. May be observed that the trend of these two indicators is oscillating, and the share of the employees in the field of tourism is reduced at the level of the county. If in the year 2001 the total number of employees in the field of tourism reached the maximum level of 8,448 employees, starting with the year 2008, because of the economic crisis, their number has fallen gradually.

The evolution of the total number of employees and employees who works in the tourism domain from the localities with archaeological tourism resources, for the period 2000-2016, at the level of Tulcea County (Figure 14), shows that the tendency of the two indicators is also oscillating. The maximum value of the employees who works in the tourism domain was recorded in the year 2014 (967 employees) and from this moment, the trend of the number of employees in tourism domain has been declining, the number of them increasing to the end of the analyzed period.
Both the dynamics of the total of turnover and turnover obtained from tourism activity in localities with archaeological tourism resources, at the level of Constanța County, between 2000-2016 (Figure 15), shows an upward trend. The both indicators show the maximum value recorded in the year 2015 and the minimum value in the reference year 2000. At the same time, referring to the values presented on the chart, may be observed that the turnover obtained from the tourism sector is well below the value of the total turnover.

The trend of the evolution of the total turnover and the turnover obtained from the tourism sector, at the level of Tulcea County (Figure 16), shows that the both indicators show an upward trend. From the chart analysis, may be observed that the maximum value of the total turnover was recorded in the year 2015, while the maximum turnover value in the tourism sector was registered in the year 2016.

The evolution of the profit in the localities with archaeological resources, analyzed for the period 2000-2016, at the level of Constanța County (Figure 17), indicates that the both the total profit obtained, and the profit obtained from the tourist activities have an oscillating trend. May be observed that the year 2008 is a key moment, from that moment on there was a gradual decrease for two years, followed by a gradual increase.

At the level of Tulcea County, the dynamics of the total profit obtained compared to the profit obtained from the tourism sector, for the same period of analysis between 2000 and 2016, (Figure 18)
shows the same oscillating trend of the two indicators. May be observed that the maximum values for the two indicators have been recorded in the year 2015. We can also, may be observed that the trend is oscillating, with more variations.

![Figure 17. Evolution of the total profit and profit from tourism in the localities with archaeological resources, Constanța County](image)

![Figure 18. Evolution of the total profit and profit from tourism in the localities with archaeological resources, Tulcea County](image)

3.2. Discussion

The results of this study come to show how the archaeological resources existing at the level of the administrative-territorial units in Dobrogea could contribute to the increase of the tourism function of this region. About Dobrogea is known to be a tourist region of Romania that attracts tourists, especially in the summer season due to the natural tourist resources offered by the Black Sea coast and the Danube Delta. The use of archaeological resources could increase the period of the year in which tourism contributes to the development of the local economy in conditions of sustainability.

The objectives of this research have been fueled by a pragmatic vision of tourism developed in a tourist region and tried to be obtaining the information on the role that some archaeological resources may have in the growth and development of the function administrative-territorial units. This approach can, together with known approaches, contribute to the development of strategies for the sustainable development of local economies (Peptenatu et al., 2012a; 2012b; Ianos et al. 2012; Pintili et al, 2015; 2017; Merciu et al, 2015; Schvab et al, 2015).

Through this study, a road change was pursued in terms of conducting a research and providing information about several archaeological resources and their impact in the development of tourism in some administrative-territorial units from Dobrogea. This research also encountered some difficulties, because certain data or examples of other works that followed the same purpose were not found.

4. CONCLUSIONS

The presence of archaeological resources provides the opportunity to contribute to the growth of the touristic function of a region. At the level of the two counties subjected to this analysis – Constanța and Tulcea – it was found that these types of resources influence to some extent the increase in the complexity of the tourist function offered by these types of resources, but tourism resources that attract a multitude of tourists remain the seaside of the Black Sea and the Danube Delta.

Therefore, through this research was pursued the role of these types of historical resources on the growth of tourist potential and touristic function.
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