ASPECTS REGARDING THE TOURISTIC USE OF AGRICULTURAL RESOURCES FROM SOUTHERN DOBROGEA

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Abstract: *Southern Dobrogea is a tableland area in South-Eastern part of Romania, between Danube and Black Sea Coast. The geographic location and quality of environmental factors have favored the development of diversified agricultural activities. The aim of this paper is to define the agricultural specific of the Southern Dobrogea territorial system, and its socio-economic efficiency by integrating in touristic activities. The research methodology is represented by bibliographic documentation, field research, statistical processing, and mapping using an open-source GIS program. There are highlighted the natural and socio-economic aspects of Southern Dobrogea territorial system, which by agri-tourism will contribute to sustainable development of the rural area.*

Keywords: *agriculture, environment, rural, sustainability, tourism*

1. Introduction

Southern Dobrogea is a plateau unit in South-Eastern part of Romania and it represents a territorial system well outlined. The geographic analysis of this territory is essential in defining the type of regional and local development, considering some cultural and socio-economic achievements. The integrity and cohesion of the territorial system can be assessed by inter-conditionality of three components that govern its evolution: *the environmental component*, *the socio-cultural component*, *the economic and infrastructure component*. In order to do a correct diagnosis to status of the investigated territorial system, these are analyzed individually, but also in relation to each other [5].

The organization of geographical space within a territory must be analyzed from the point of view of the functional relationship between the resources and the possibilities for capitalizing through sustainable development scenarios, a support of population and its activities, with an essential role in the process of spatial planning [2,3].

The relationship between natural resources of the territory and their valorisation is the basis of any approach which aims the planning, also for agricultural and touristic purposes [3].

If the coastal zone is not included, the Southern Dobrogea territorial system has small touristic importance. However, there is any touristic potential, through the natural landscape, apparently monotonous, but with specific elements on some areas, where the traditional folk art, historical and archaeological sites, and Dobrogea's villages could attract tourists [2,6].

The aim of this paper is represented by geographical analysis of natural resources of this territorial system, to define the agricultural potential and the possibility of valorisation for touristic purposes to the sustainability and the socio-economic efficiency of local communities in the rural area.

2. Material and Method

In order to identify the main geographical aspects of Southern Dobrogea were used bibliographic sources and cartographic documents. The first phase of work was to analyze and emphasize the physical-geographic aspects (geomorphologic, climatic, and soils conditions) and socio-economic aspects (the typology of human settlements, rural agricultural activities). Subsequently, were made cartographic documents (relief map, land use map) using an open-source GIS program [9]. In order to rank the administrative-territorial units by categories of agricultural potential with a possibility of touristic capitalization, it was made an evaluation of the agricultural, touristic and infrastructure resources, by its own methodology. For each criterion, specific indicators were analyzed, each of these being evaluated with a score from 1 to 5 (depending on potential), then by summing up to

a well-balanced value, as: the *agricultural resource* criterion - 50%, the *touristic resources* criterion - 40%, the *infrastructure* criterion - 10%.

The mapping to the geographic aspects of the natural heritage is very important to diagnosis and prognosis of the sustainable development of the rural area within Southern Dobrogea territorial system.

3. Results and discussions

Located between the Danube and the Black Sea, the Southern Dobrogea Plateau is a region of typical platform, and it has the largest area of all Dobrogea's parts, over 5,300 km^2. To East and West, the limits have a morpho-structural character, following the Danubian steeps, respectively, the Black Sea cliff (figure 1).

Agriculture is a traditional occupation in this territorial system. To favorable natural conditions, high fertility soils were added to sloping terrain, the construction of Carasu Irrigation System, and use of amendments, which allowed the development of crops, vineyards, fruit trees, and animal husbandry [1,6].

The plateau has an altitude with an average value of 75 - 100 m, being the lowest tableland from Romania. Although, it is said that Southern Dobrogea Plateau is tabular, and smooth as a plain, the tableland presents different orientation, slopes and fragmentation, waves and downsides.

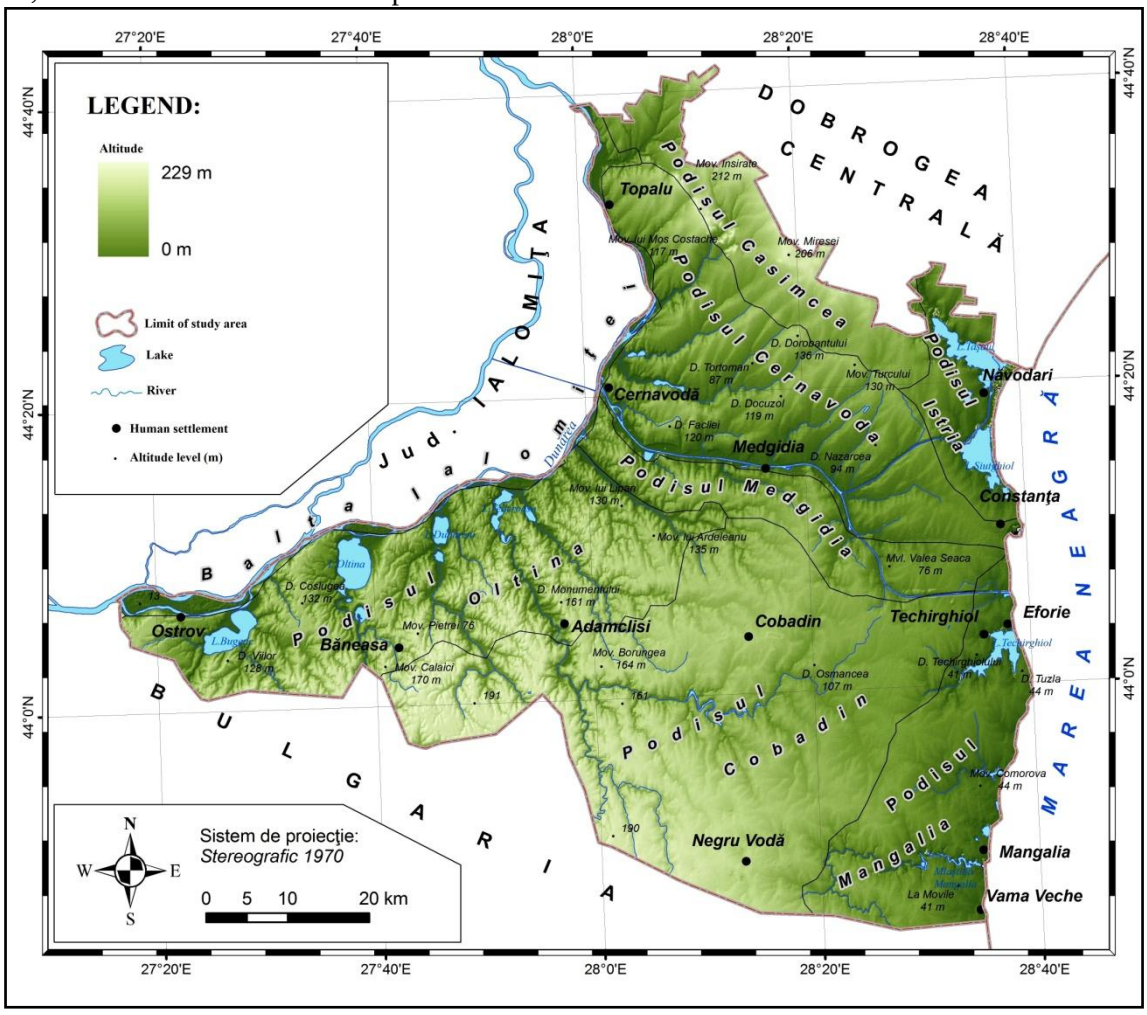

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Fig. 1. *Physical Map of Southern Dobrogea Territorial System*

In Southern Dobrogea territorial system, the climate is temperate-continental, with sub-Mediterranean influences in South-West, semi-arid continental in rest, and moderate to the Danube and the Black Sea Coast. The specific character of climate of Southern Dobrogea is climatic level of plain, with an average annual temperature of 11.0°C in West, to the Danube, and less than 11.0°C in the central part. In the warm season, from April to October, the average

temperatures are higher in peripheral areas, due to the influence of the Danube and Black Sea.

Rainfall decreases from West to East, from 450 to 400 mm, slightly higher in the higher areas of the plateau.

The most important climatic feature is the phenomenon of drought and dryness, all year long, affecting the agricultural activities [8].

In Southern Dobrogea, the hydrographic network is represented by ground waters from different geological deposits, and short rivers typical leakage through flow mode with intermittent character tributary to the Danube or Black Sea, and some fluvial or maritime lakes (figure 1).

The predominant vegetation is steppe, only in the South-West area being forests with diverse floral composition. The steppe vegetation occurs on small areas and is highly degraded of excessive grazing. Most of steppe has been replaced by agricultural crops. Forests are extended in South-West, in the highest part of the plateau.

The soil is strongly influenced by the dry climate, low slope topography, parent material consists predominantly of loess, steppe vegetation and ground water located at large depth. Following a relatively homogeneous soils factors, soils are just two classes: mollisol and undeveloped soils, soil types are arranged in strips according to arrangement of main features of relief.

Relief forms and soil quality on the fields had a great influence on the development of human settlements. The structure of rural settlements is generally gathered or scattered, with a tendency for gathering, in order to better use of outside lands, for agricultural crops [1,4].

As a basic economic activity for the population of Southern Dobrogea territorial system, **the agriculture** is a traditional occupation in this geographical area.

The natural conditions of environment (relief, soils, climate) and land planning (terracing of slopes, construction of Carasu irrigation system, and use of agricultural amendments) allowed the development of crops, vineyards, orchards and livestock [1,4,6].

The agricultural area extends to about 430,000 ha (80% of the territory of Southern Dobrogea Plateau). The structure of agricultural lands in Southern Dobrogea includes: 84% - arable lands, 10% - pastures, 4% - vineyards, and 2% - orchards (figure 2, figure 3) [10].

The arable lands have the largest weight in the Eastern half part of Southern Dobrogea, being predominantly cultivated with cereal crops (wheat, barley, corn), and sunflower crops. On small surfaces are cultivated other plants (leguminous and fodder plants) (figure 2).

Vineyards are extended on terraced slopes of valleys with land degradation. More than 45% of Southern Dobrogea vineyards are concentrated along Danube of Oltina Plateau, and over 35% along the Carasu Valley (Danube-Black Sea Canal) (figure 2, figure 3).

Orchards have expanded to the front of terraces, with degradation processes, and does not occupy large areas. Their structure is dominated of peaches and apricots. Over 60% of the total area of orchards is located along the Carasu Valley (Danube-Black Sea Canal), and over 16%, in the Western of the Oltina Plateau (figure 2, figure 3).

The high value of sunstroke in Southern Dobrogea, the exposure of terraced slopes, the quality of soils contribute to great productions of grapes, fruits and quality wines.

Natural grasslands (10% of the agricultural area), in relation to the fragmentation of relief and soil quality, are more extensive in South-Western part of the region, where is practiced the traditional pasture (figure 2, figure 3).

Animal husbandry as traditional occupation continues to be an important activity of agriculture. Natural grasslands, corn crops, and fodder crops have favored the development of a strong zootechnical sector.

Sheep farming, a traditional activity in Dobrogea's villages, occupies an important economic place for production of milk, dairy products, wool and meat.

Ensuring the consumption of meat, and meat products for human settlements of the Black Sea Coast is a stimulating factor for the intensive farming of pigs and poultry.

Beekeeping is a highly profitable economic activity, has seen a continuous development in this geographical area, which benefits of rich and varied melliferous flora.

The Southern Dobrogea territorial system comprises 45 rural administrative-territorial units.

Agri-tourism is a form of tourism, integrated in a framework that highlights the natural, cultural and human potential of a territorial system, where are being developed and promoted local touristic products, typically from rural environment.

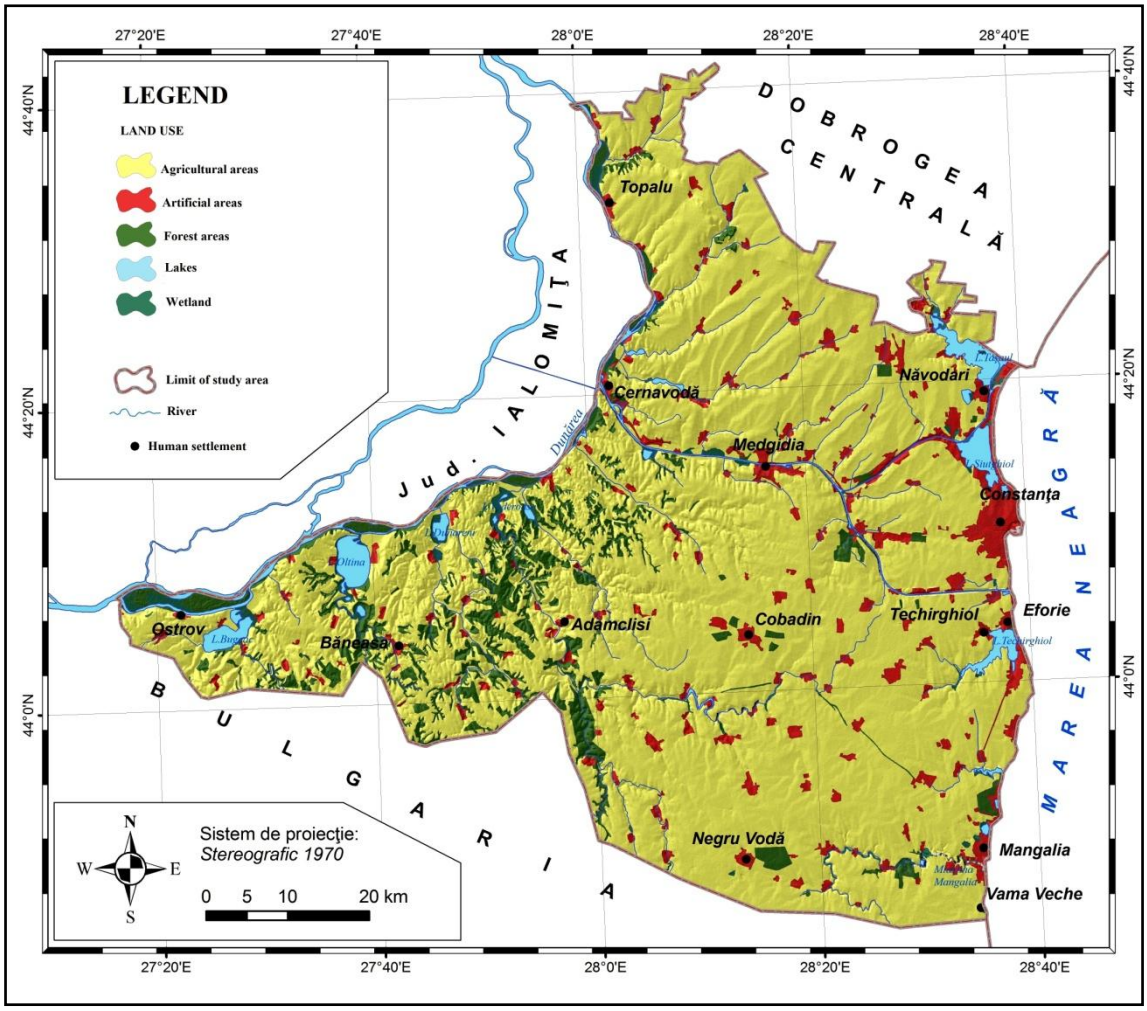

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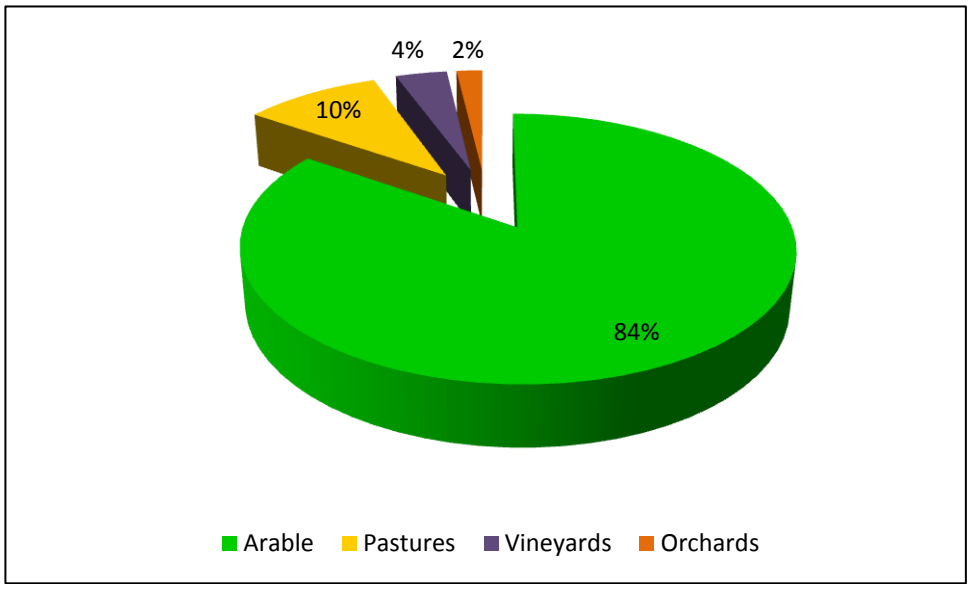
Fig. 2. *Land Use Map of Southern Dobrogea Territorial System*



Source: processed data, INSSE, 2016 [10]

Fig. 3. *Agricultural Areas of Southern Dobrogea Territorial System*

Thus, **the territory of Dobrogea's village** with its surrounding environment and its touristic resources are the support for agri-tourism, and agricultural resources will be the support for authentic and quality **agri-touristic products**.

The touristic resources from rural area of Southern Dobrogea territorial system are represented by: the Danube, Danubian lakes (Bugeac, Oltina, Dunăreni, Vederoasa), maritime lakes (Techirghiol, Tatlageac, Mangalia), Black Sea Coast, forests (Canaraua Fetii, Dumbrăveni, Esechioi, Fântînița-Murfatlar, Hagieni), and protected areas (Alah-Bair Hill, fossil points along Danube), monasteries (Dervent, Sf. Andrei, Sf. Teotim, Sf. Elena), historical sites (Tropaeum Traiani, Păcuiul lui Soare), and archaeological sites (fortress along Danube: Capidava, Altinum, Sacidava), rural museums and traditional folk art (Cobadin, Limanu, Topalu), the multicultural specificity of Dobrogea's village (figure 1) [6,8].

Analyzing criteria of *agricultural resources*, *touristic resources* and *infrastructure*, the rural administrative-territorial units of Southern Dobrogea are ranked and grouped in four categories of valorisation of agricultural resources for touristic purpose: *high potential; medium potential; low potential; potential without touristic use* (table 1).

Table 1. *Villages with agricultural resources for touristic use from Southern Dobrogea*

Category	Indicators	Values	Villages
I - High potential (≥60.0%)	Agriculture (50%)	min.20 - max.36	Ostrov, Topalu, Rasova, Ion Corvin, Mihail Kogălniceanu, Lipnița, Cumpăna, Adamclisi, Cobadin, Oltina, Seimeni, Limanu, Aliman (13)
	Tourism (40%)	min.24 - max.34.4	
	Infrastructure (10%)	min.6 - max.8	
II - Medium potential (50.0-59.9%)	Agriculture (50%)	min.16 - max.32	Valu lui Traian, Peștera, Mircea Vodă, Crucea, Costinești, Dumbrăveni, Agigea, Ghindărești, Albești, Castelu (10)
	Tourism (40%)	min.24 - max.28	
	Infrastructure (10%)	min.4.4 - max.9.6	
III - Low potential (40.0-49.0%)	Agriculture (50%)	min.16 - max.24	Poarta Albă, Tuzla, Saligny, 23 August, Independența, Dobromir, Lumina, Horia, Deleni, Cuza Vodă, Pecineaga, Chirnogeni, Nicolae Bălcescu (13)
	Tourism (40%)	min.16.8 - max.24	
	Infrastructure (10%)	min.4 - max.8.8	
IV – Potential without touristic use (<40.0%)	Agriculture (50%)	min.16 - max.16	Amzacea, Siliștea, Ciocârlia, Topraisar, Tortomanu, Mereni, Comana, Cerchezu, Bărăganu (9)
	Tourism (40%)	min.15.2 - max.19.2	
	Infrastructure (10%)	min.4 - max.4.8	

For each criterion, were evaluated indicators such as: land use, crop production, livestock production, etc. (*agricultural resources* criterion); natural and cultural heritage (*touristic resources* criterion); utilities, transport network, accommodation, meals, leisure facilities, etc. (*infrastructure* criterion).

The results of evaluation were centralized in table 1, by mentioned categories. For the agricultural resources criterion, values resulted between 16.0 and 36.0 (the absolute value being 50), for the touristic resources criterion, values resulted from 15.2 to 34.4 (the absolute value being 40), for the infrastructure criterion, values resulted from 4.0 to 9.6 (absolute value being 10).

Thus, out of 45 rural administrative-territorial units analyzed, a number of 23 (50%) benefits of diversified agricultural resources with high potential, which could be associated with rural touristic activities. On the opposite side, 9 rural administrative-territorial units (20%) have agricultural potential, but without touristic use.

The maximum concentration and optimal ratio of agricultural resources - touristic resources from Southern Dobrogea territorial system correspond to Danube sector between Ostrov and Topalu, with 8 villages (Ostrov, Topalu, Rasova, Ion Corvin, Lipnița, Oltina, Seimeni, Aliman), from 13 villages included in the 1st category of potential.

Other villages from 1st category are situated on the coastal area, more economic developed (Mihail Kogălniceanu, Cumpăna, Limanu), just Adamclisi village being an isolate case, but with a great agricultural and cultural-touristic potential.

Conclusions

1. The Southern Dobrogea territorial system has a high agricultural potential determined by its

geographical location and natural environmental conditions.
2. Local agricultural and touristic resources are partially capitalized due to poorly developed infrastructure, with the exception of Black Sea Coast area.
3. The diversity of agricultural resources from Southern Dobrogea can highlight different forms of agri-tourism: wine tourism, orchard tourism, api-tourism, gastronomic tourism, and farm tourism.
4. The optimal use of local agricultural and touristic resources by agri-tourism will lead the rise in living standards of inhabitants, protecting and preserving the environment, and socio-economic development of the Southern Dobrogea's village, based on sustainable principles.
5. Combining the customs and traditions of local communities with other agricultural and touristic resources will contribute to a bio-economic development with sustainable cultural and socio-economic valences of the rural area of Southern Dobrogea Territorial System.

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