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# EVOLUTION OF AGRICULTURAL ACTIVITIES IN THE COASTAL AREAS OF ROMANIA-CASE STUDY TULCEA COUNTY

STELIANA RODINO<sup>1</sup>

**Abstract:** *Coastal areas are commonly defined as the interface or transition areas between land and sea, including large inland lakes. Coastal areas are diverse in function and form, dynamic and do not lend themselves well to definition by strict spatial boundaries. Unlike watersheds, there are no exact natural boundaries that unambiguously delineate coastal areas. On land, the coastal area is increasingly used for intensive agriculture, industry, energy generation electric, mining, transport, development urban and, of course, tourist activities. Inside the hinterland, the agriculture is the main one way of exploiting the land, being a source important income for the rural community. The agricultural activities in the coastal areas of romania are subjected to regulatory framework law 202/2002. Rural areas occupy more than 50% of Europe's surface, housing more than 20% of the population. Rural areas play an important role in the national and European regional economy, looking for natural resources and offering jobs through agro-food, tourism, and processing industries. However, rural areas face many challenges such as global competition, automation, market dynamics and, last but not least, environmental challenges. According to national regulatory framework rural areas from Romania occupy 87,1% of the country surface, with 43,7% of total population. This article is an overview of the evolution of agricultural sector in the coastal area in the covering the last three decades.*

**Keywords:** *Romania, coastal area, agriculture*

**JEL classification:** *Q10,R14*

## INTRODUCTION

Situated at the cross border of land and sea, coastal areas are regions with a wealth of natural resources and biodiversity, sometimes environmentally vulnerable, but still having potential for a large variety of business opportunities. Coastal areas are commonly defined as the interface or transition areas between land and sea, including large inland lakes. They are diverse in function and form, dynamic and do not lend themselves well to definition by strict spatial boundaries. Unlike watersheds, there are no exact natural boundaries that unambiguously delineate coastal areas (Iglesias-Campos et al, 2015). On land, the coastal area is increasingly used for intensive agriculture, industry, energy generation electric, mining, transport, development urban and, of course, tourist activities.

The economic development of the coastal area of Romania situated in Tulcea county region is highly influenced by the existence of the Danube Delta Natural Reserve in the immediate neighborhood. The agriculture sector is must comply with the environmental restrictions imposed by legislation in force regarding protected areas.

The agricultural activities across the region have gone through major changes in the last 30 years and this is reflected in the structure of vegetal species cultivated. The region is intensively exposed to climate change dynamics, such as drought and desertification processes, which contribute to the amplification of the vulnerability of rural livelihoods.

Inside the hinterland, the agriculture is the main one way of exploiting the land, being a source important income for the rural community. The agricultural activities in the coastal areas of romania are subjected to regulatory framework law 202/2002. Rural areas occupy more than 50% of Europe's surface, housing more than 20% of the population. Rural areas play an important role in the national and European regional economy, looking for natural resources and offering jobs through agro-food, tourism, and processing industries. However, rural areas face many challenges such as global competition, automation, market dynamics and, last but not least, environmental challenges.

According to national regulatory framework rural areas from Romania occupy 87,1% of the country surface, with 43,7% of total population.

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Tulcea county and its coastal area is a representative region for studying the existing synergies between agriculture, rural development and demographic changes. The transition to a sustainable rural development can only lead to the achievement of economic, social and territorial cohesion for a balanced development throughout the whole region. The increase of resilience of rural areas by diversification of their economic activities, seems to be a viable solution for their socio-economic survival (Sima, 2016). Taking into account the above mentioned general context of economic activities, social changes and territorial development, the present study is an overview of the evolution of agricultural sector in the coastal area situated in Tulcea county, covering the last three decades.

## MATERIALS AND METHODS

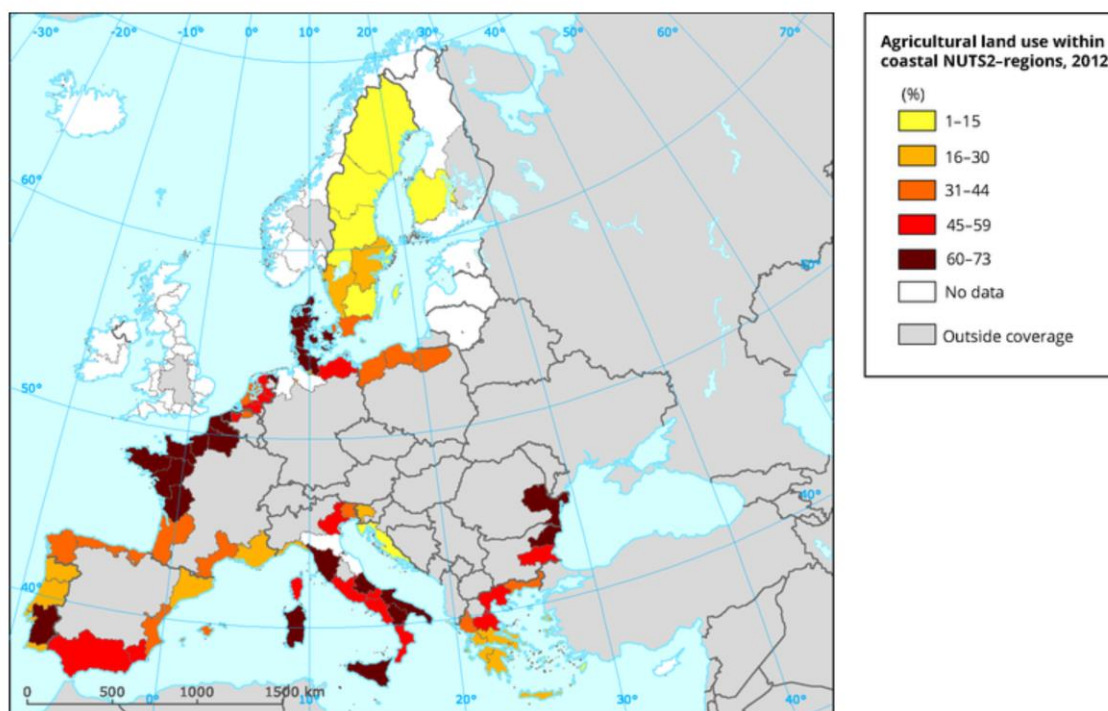
The present paper is a blueprint of Tulcea county agriculture as in the last three decades, from quantitative point of view. The historical data were extracted from official reports on National Institute of statistics and Eurostat and Ministry of Agriculture and Rural development.

## RESULTS AND DISSCUSIONS

Tulcea County economy is dominated by agriculture (both vegetal and animal sector) and fishing. Agriculture is the main economic activity of the South-East region, employing over 35% of the active population.

In the last three decades, the population of Tulcea county has decreased, reaching the lower density in the country. The vegetal sector is characterized by extensive production systems, dominated by cereal cultivation. Most of the producers are organized in subsistence and semi-subsistence farms. The agricultural sector is facing strong threats due to land degradation, much of it being salted and undergoing an acidification process. However, compared to European countries, the coastal area of Romania covers a high percent of agricultural land use.

Nowadays, the agricultural sector and the rural economy in general continue to have substantial growth potential, still under-exploited. For example, at national level, agriculture accounts for 6% of gross value added (GVA), representing 1.6% in the EU (CE, Informații statistice România, mai 2018).



### Figure 1. Agricultural land used in Coastal areas across Europe

Source: [www.eea.europa.eu/data-and-maps/figures/agricultural-land-use-within-coastal](http://www.eea.europa.eu/data-and-maps/figures/agricultural-land-use-within-coastal)

In Romania, the cultivated area is decreasing, a tendency also manifested in the EU. During 1990-2017 the cultivated area decreased by 11.6%, from 9,4 mil Ha to 8.3 million Ha (Figure 2a).

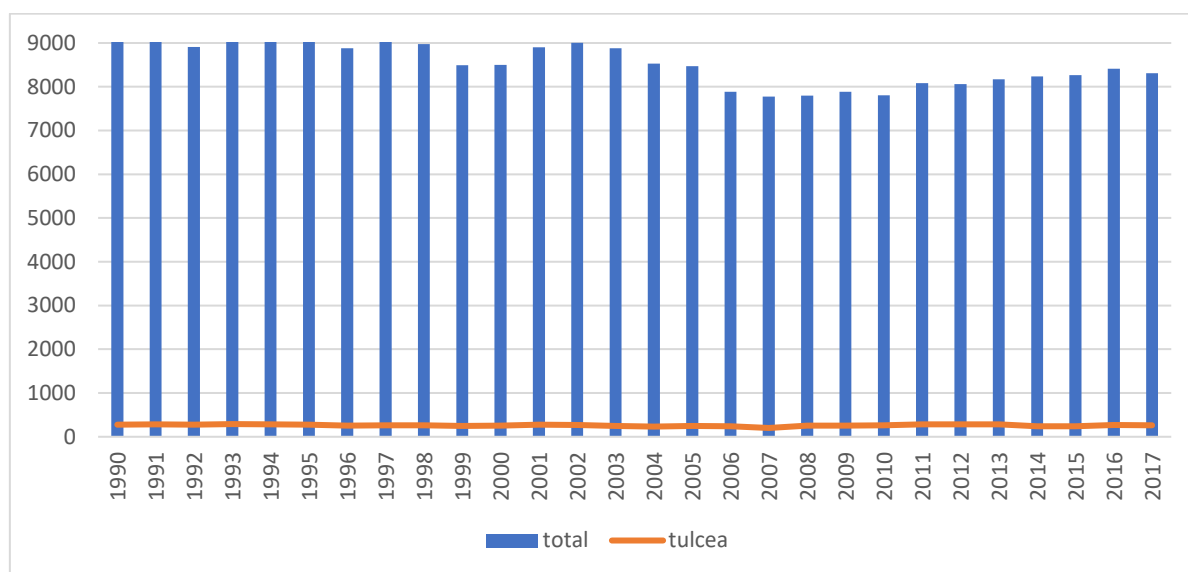


Figure 2 a). Evolution of cultivated area in Romania, 1990-2017

Traditionally, Romania is a large producer of cereals and oil plants, these two categories occupy the most significant areas (60% and 17% respectively) of the 8.3 million ha of agricultural land of the country.

In Tulcea county, the evolution of cultivated area in the last 3 decades has had an oscillating trend, with the lowest level in 2007 (2 million ha), and the highest in 2012 (2.85 million ha). In 2017 the cultivated area decreased by 6.4% compared to the level of 1990 (Figure 2b).

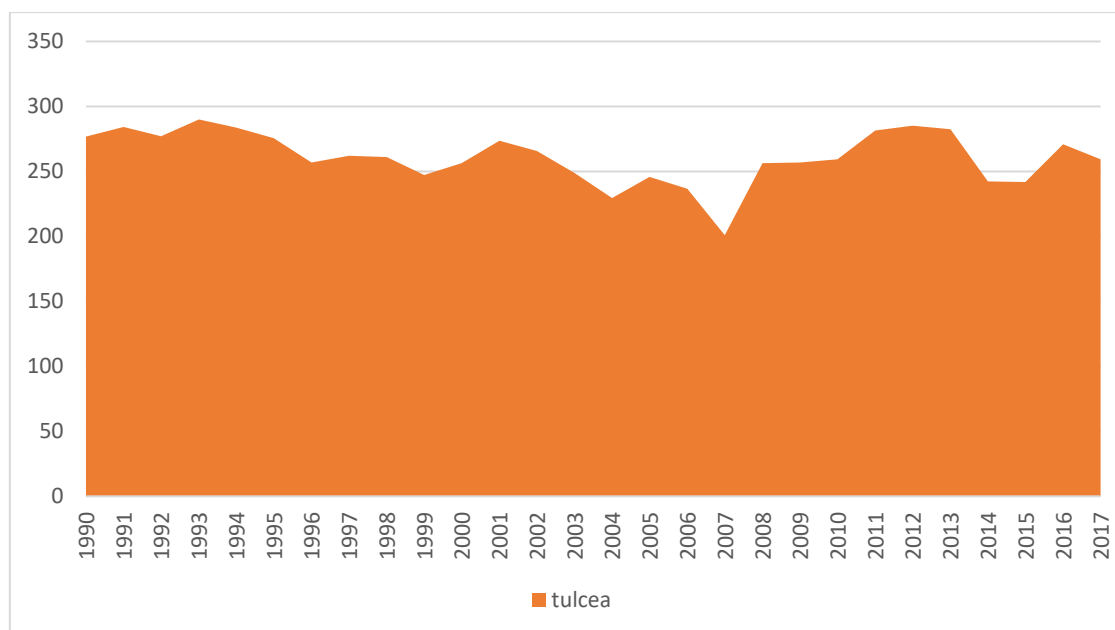


Figure 2b) Evolution of cultivated area, Tulcea county

In the structure of the surfaces cultivated the highest weight is held by the cereal crops, sunflower, wheat and rye (Figure 3).

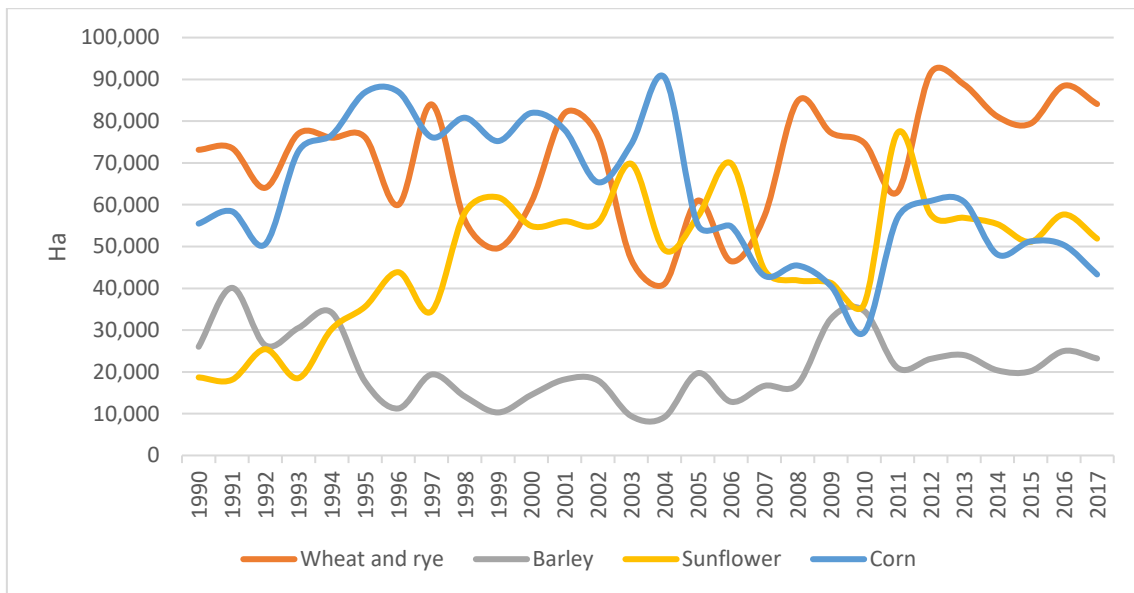


Figure 3. Main cultivated species

Between 2007 and 2010, there is an upward trend in the areas occupied with rape, followed by a sharp decrease and stabilization of the surfaces around 25 thousand hectares (Figure 4).

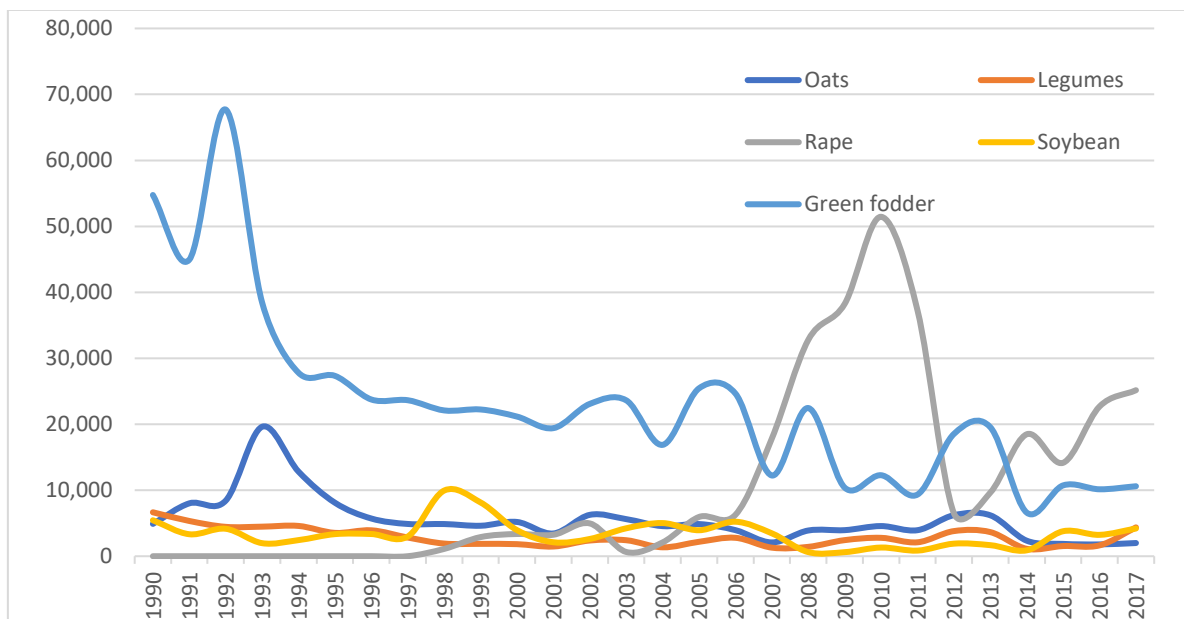


Figure 4. Other crops cultivated in Tulcea county 1990-2017

At the beginning of the 90s, there were surfaces cultivated with tobacco and sugar beet, but these crops were definitively abandoned, starting with 1996-1998 (Figure 5).

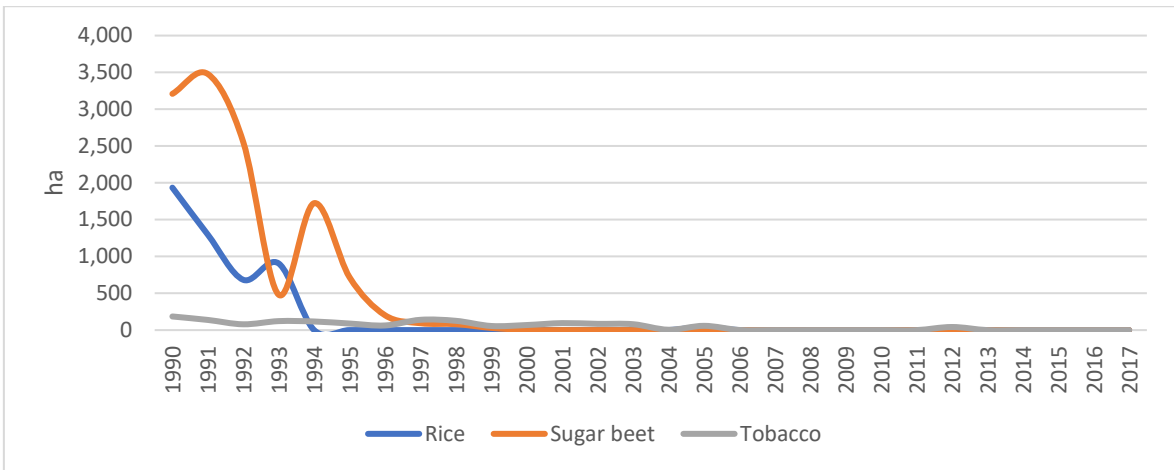


Figure 5. Crops that are no longer cultivated

The animal sector is well represented, first of all when speaking of number of chickens and sheep. Sheep herds have remained relatively constant over the past three decades (Figure 6a).

It can be observed an upward trend of goat herds in the last decade, after a period of decline recorded in the period 2000-2001 (Figure 6b).

Interesting to note is that starting from 2001-2002, at the county level the growth of rabbits became of interest.

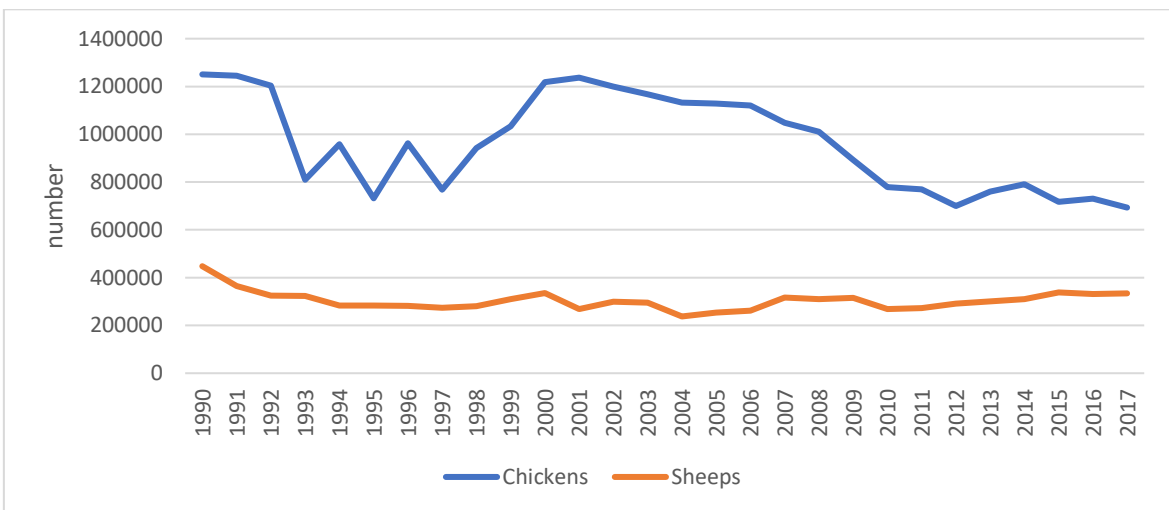


Figure 6a). Number of animals per county

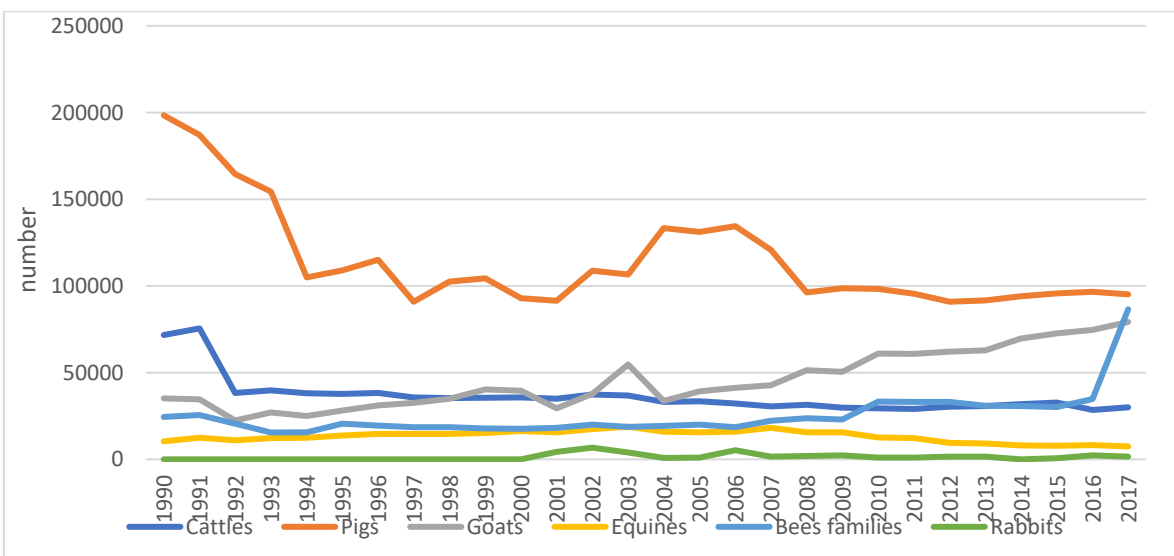


Figure 6b). Number of animals per county

Also, in 2016 there was a spectacular increase in the number of bee families, probably due to the increased demand for honey at national level and even for export, Romanian honey being appreciated as being of high quality at the big international fairs.

Goat herds have a constant upward trend, starting with 2004, until 2017.

Within the coastal area of Tulcea, agriculture is the main mode of exploitation of the land, being an important income for the rural community. The Romanian village, as it has evolved in the last 3 decades, can represent a sustainable development pole for our country, and specifically for the Tulcea region. As statistics show, the rural area is predominantly agricultural (Bohateret et al, 2018).

A leap in development can be achieved by exploiting niche sectors, and one of these can be organic farming. For example, Tulcea occupies the second place in the country with the number of bee families, and among the first places at the number of ecologically certified bee families (Bruma et al., 2018). Moreover, from the point of view of the areas cultivated in the ecological system, Tulcea County, at the level of 2018, holds the first place in our country, approximately 62 thousand hectares, out of a total of 305 thousand national hectares.

## CONCLUSIONS

The agricultural activities across the region have gone through major changes in the last 30 years and this is reflected in the structure of vegetal species cultivated. The region is intensively exposed to climate change dynamics, such as drought and desertification processes, which contribute to the amplification of the vulnerability of rural livelihoods.

For the future, the coastal area will probably follow the overall international trend to move from agricultural economy to a so called rural economy, including in its structure all forms of tourism and services. Agriculture will still be an important part of the rural activity, but it does no longer provide sufficient income for the rural population nor sufficient jobs. One promising direction of development could be orientation towards providing traditional, local products, as the demand for such products has an increasing trend, lately. This kind of products are expected to bring an added value to the economy of the region, alongside with the mass production of standardised products. This change will lead to job creation in agro-food value chains and the conservation of natural resources.

In the last three decades, the agricultural sector in Tulcea county has undergone important shifts in agricultural workforce, crop diversity and natural resource management. The productivity is rather low and major investments should be done in modern technologies to make a shift through a sustainable production system.

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