



RURAL DEVELOPMENT BY STIMULATING AGRO-TOURISM ACTIVITIES

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ABSTRACT

The article defines the development directions of rural territories in EU countries by stimulating the agricultural sector and tourism. The reasons for the development of the agricultural sector in EU countries have been definitively stated, namely: urbanization, industrialization, reduction of employment in the agricultural sector, labor productivity, which has remained at a constant level in EU over the past ten years. It has been established that the share of the agricultural sector in GDP remains at a stable level, and the growth of value added is consistently low, which is caused by the lack of investment in capital to ensure the growth of productivity of the agricultural sector. Agrarian sector's management of EU countries is provided by a complex but, at the same time, flexible financial support system. The reduction of the rural population in EU countries has stimulated the development of the agricultural sector by financing research and development, which ensured the growth of labor productivity in the agricultural sector. The rural development depends on the size of the rural population and its level of growth, labor productivity and the level of state support for innovations, ensuring productivity growth. The tourism industry has made a major contribution to the development of rural areas of EU countries, while the agricultural sector is characterized by stagnation of labor productivity, wage levels, low growth rates of value added products. Despite this, the tourism development policy is aimed at solving

environmental problems, the competition of European tourism, increasing the demand for services, improvement of tourism products, and technological development of the industry.

Keywords: Rural development, Rural tourism, Eco-tourism, Organic farming.

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1. INTRODUCTION

Urbanization of the population and industrialization have led to reduced employment in rural areas. The expansion of EU zone at the beginning of 2000 caused structural transformations of the countries' economy: there was a reduction in the share of the agricultural sector in favor of an increase in the share of services in GDP. Therefore, according to Eurostat data [1], on average, the number of people employed in agriculture decreased by 3 400 000 in EU regions in the period of 2013-2016. Agricultural labour input (indicator monitors the trend in the real factor income per annual work unit) in AWU declines annually by 1,47% (by 13,23% in 2010-2019) [2]. At the same time, the deterioration of the ecological state actualizes the study of rural development, which is based on the concept of eco-tourism, rural tourism and organic agricultural production, which is spreading, especially in EU countries. Consequently, the share of organic production in EU countries is growing steadily: the growth rate averaged 3% per year in the period of 2012-2018. Having become the most promising direction of agricultural production, the market of organic agricultural products is developing dynamically in European countries.

2. LITERATURE REVIEW

The issues of the development of concepts such as: organic production, sustainable tourism development, rural tourism, agro-tourism, eco-tourism are increasingly discussed in the scientific literature [3-6]; they have a positive effect on rural development. The development of the aforementioned directions of agrarian and tourist sphere contributes to the increase of well-being of rural population and stimulates the development of rural territories [7, 8]. Positive changes have been taking place in the development of rural areas in advanced economies by ensuring sustainable development, advancing of farming, rural tourism. This causes structural economic shifts in the regions [9]. Stimulating the development of the agricultural sector provides employment for the population of rural areas [10].

The sustainable development of tourism is another significant factor of the rural development. Sustainable tourism is a tourism that takes current and future economic, social and environmental impacts into complete account, meeting the needs of visitors, industry, environment and communities [11, 12]. The development of rural tourism in most countries of the world is considered as an integral component of the comprehensive socio-economic development of the village.

3. DATA AND METHODOLOGY

Panel data of EU countries for 2007-2018 were used in the study to create models with random effects. The model created on panel data makes it possible to investigate a sample of units in time, identify and take into account the characteristics of each sample unit. A random effect model is preferable due to the fact that it is more "compact"; it has fewer parameters; it can be considered as a special case of a fixed-effects model.

4. RESULTS AND DISCUSSION

Rural development by stimulating the agrarian and tourism activities envisages financing of industries and use of the system of state support instruments.

Stimulating the development of the agricultural sector in EU countries is contingent on several reasons: urbanization, industrialization, reduction of employment in the agricultural sector, labor productivity, which has remained at a stable level in EU for the last ten years. The share of rural population in EU countries decreases annually (Table 1) for the benefit of urban population. The share of the agricultural sector in GDP remains at a stable level, and the growth of value added is consistently low, due to the lack of investment in capital to ensure the growth of productivity of the agricultural sector. The share of people employed in agriculture has declined over the past ten years. These factors have determined the need for state (government) support in the agricultural sector: the volume of funding for research and development per inhabitant of EU countries remains constant over the past ten years, the volume of funding for research and development sector is increasing. Management of the agrarian sector of EU countries is provided by a comprehensive but at the same time flexible financial support system. Herewith, the need for intervention in the activities of economic entities of the agro-industrial complex is primarily caused by the “unnaturalness” of the agricultural sector of the economy (fluctuations in yield and prices of agricultural products and foodstuffs, on the one hand, and the stable need of the population for necessary food products, on the other hand).

Table 1 Dynamics of agricultural development indicators of EU countries in 2007-2018 [13-15]

European Union	2007	2013	2014	2015	2016	2017	2018	Absolute deviation, +/-
Rural population growth (annual %)	-0,45	-0,44	-0,43	-0,51	-0,54	-0,64	-0,67	-0,21
Rural population (% of total population)	27,66	26,46	26,28	26,09	25,89	25,69	25,48	-2,18
Agriculture, forestry, and fishing, value added (% of GDP)	1,53	1,59	1,57	1,51	1,48	1,56	1,51	-0,03
Agriculture, forestry, and fishing, value added (annual % growth)	1,39	3,39	5,90	-0,49	-1,56	2,00	0,25	-1,15
Employment in agriculture (% of total employment) (modeled ILO estimate)	6,25	5,43	5,29	5,07	4,81	4,70	4,52	-1,73
Agricultural factor income per annual work unit (AWU), Index, 2010=100	92,71	111,03	112,35	110,04	112,61	125,72	121,54	28,83
Government support to agricultural research and development, Euro per inhabitant	6,30	5,80	5,70	5,90	6,00	6,10	6,30	0,00
Government support to agricultural research and development, million Euro	2734,42	2571,77	2532,50	2605,00	2679,01	2721,63	2828,21	93,79

Correlation analysis points reverse, insignificant connection between the rural population and the share of the agricultural sector in GDP (-0,039), a direct connection with the value added of the agricultural sector (0,119) and employment in the agricultural sector (0,195), negative significant correlation with labor productivity (-0,288), level of state support for agricultural research and development, Euro per inhabitant (-0,403) and agricultural research and development, million Euro (-0,488) (Table 2).

Table 2 Correlation matrix of development indicators of EU countries’ agricultural sector (according to panel data for 2007-2018) [13-15]

	Rural population growth (annual %)	Rural population (% of total population)	Agriculture, forestry, and fishing, value added (% of GDP)	Agriculture, forestry, and fishing, value added (annual % growth)	Employment in agriculture (% of total employment) (modeled ILO estimate)	Agricultural factor income per annual work unit (AWU), Index, 2010=100	Government support to agricultural research and development, Euro per inhabitant	Government support to agricultural research and development, million Euro
Rural population growth (annual %)	1,000							
Rural population (% of total population)	0,187	1,000						
Agriculture, forestry, and fishing, value added (% of GDP)	-0,039	-0,265	1,000					
Agriculture, forestry, and fishing, value added (annual % growth)	0,119	0,105	0,329	1,000				
Employment in agriculture (% of total employment) (modeled ILO estimate)	0,195	0,972	-0,125	0,045	1,000			
Agricultural factor income per annual work unit (AWU), Index, 2010=100	-0,288	-0,892	0,626	0,001	-0,811	1,000		
Government support to agricultural research and development, Euro per inhabitant	-0,403	0,457	0,437	0,220	0,303	0,442	1,000	
Government support to agricultural research and development, million Euro	-0,488	0,314	-0,430	0,210	0,155	-0,321	0,986	1,000

Thus, the reduction of the rural populations in EU countries has stimulated the development of the agricultural sector through funding of research and development, which has led to increased productivity in the agricultural sector.

The constructed random effect model make it possible to draw the following conclusions: determination coefficients and Fisher’s statistics suggest the possibility to draw reliable conclusions about the dependence model of the labor productivity of the agricultural sector from selected exposure indicators (Table 3).

Table 3 Results of construction of random effects models (based on panel data from EU countries for 2007-2018) [13-15]

Independent variables	Dependent variables					
	A1 – Agriculture, forestry, and fishing, value added (% of GDP)	t Stat	A2 – Agriculture, forestry, and fishing, value added (annual % growth)	t Stat	A3 – Agricultural factor income per annual work unit (AWU),	t Stat
Model	A1 = 6.40 - 0.09RP1 - 0.22RP2 + 0.22E + 0.65GS1 + 0.00GS	-	A2 = -19.50 + 7.83RP1 + 0.20RP2 - 0.60E - 1.19GS1 + 0.01GS	-	A3 = 1182.25 - 15.17RP1 - 48.50RP2 + 33.82E + 90.30GS1 - 0.20GS	-

Independent variables	Dependent variables					
	A1 – Agriculture, forestry, and fishing, value added (% of GDP)	t Stat	A2 – Agriculture, forestry, and fishing, value added (annual % growth)	t Stat	A3 – Agricultural factor income per annual work unit (AWU),	t Stat
Coefficients:						
Const	6,40	1,90	-19,50	-0,08	1182,25	3,35
RP1 – Rural population growth (annual %)	-0,09	-0,39	7,83	0,48	-15,17	-0,66
RP2 – Rural population (% of total population)	-0,22	-1,22	0,20	0,01	-48,50	-2,53
E – Employment in agriculture (% of total employment)	0,22	0,95	-0,60	-0,04	33,82	2,41
GS1 – Government support to agricultural research and development, Euro per inhabitant	0,65	0,72	-1,19	-0,02	90,30	1,95
GS2 – Government support to agricultural research and development, million Euro	0,00	-0,71	0,01	0,07	-0,20	-0,87
Model adequacy and level of explanatory ability	Value	Note	Value	Note	Value	Note
R	0,43	Medium	0,11	Low	0,89	High
F	0,91	Adequate	0,15	Adequate	10,07	Adequate
Significance F	0,53	+	0,97	-	0,01	+
F critical	F critical (0,01; 5; 302) = 0,11; F critical (0,05; 5; 302) = 0,23; F critical (0,1; 5; 302) = 0,32.					
t critical	t critical (0,01; 5; 302) = 2,59; t critical (0,05; 5; 302) = 1,97; t critical (0,1; 5; 302) = 1,65.					

Consequently, with a significance level of 5%, labor productivity will decrease by 2, 53% due to an increase in the share of the rural population by 1%; with a significance level of 5%, labor productivity will increase by 2, 41% due to an increase in employment in agriculture by 1% of the total employment; with a significance level of 10%, labor productivity of the agricultural sector will increase by 1, 95% due to an increase in state funding of research and development in the field in monetary terms by 1%.

Thus, rural development depends on the size of the rural population and its growth rate, labor productivity, and the level of state support for innovations that ensure productivity growth.

The unique agricultural policy provides for two areas of agroindustrial complex' management: stabilization of the agricultural market and support of agricultural producers. From this perspective, forms and methods of agricultural production' management and subsidies in EU should be considered. In 1990-2000, the mechanism of management of the agricultural sector was improved in EU countries. It's about time the crucial thing is not the regulation of prices for agricultural products (raw materials and food products) in the domestic market, but subsidies (compensation) using tools of the so-called "unrelated" (that is, not stimulating production) support for the income of agricultural producers. In other words, there

was a divergence from the principle of “more products - more subsidies”; it didn’t take into account the situation on world markets. This allowed EU to maintain the total absolute amount of subsidies in the agricultural sector over the past 25 years in the range of 50-60 billion Euros. At the same time, unrelated income support played an important role in the adaptation of EU farmer to the conditions of world trade in agri-food products.

As a result, the agricultural factor income per annual work unit (which is a partial indicator of agricultural labor productivity) increased by 14, 79% annually over the period of 2011-2019, averaging of 24, 5% in European Union. Herewith, a significant increase is due to growth in the countries of Eastern and Central Europe (Figure 1).

Thus, the forms, methods and mechanisms of the agricultural market’s management of EU countries are changing and improving, based on the economic realities of economic, financial, credit and customs activities. However, the increase in the volume of support for direct commodity producers of agricultural raw materials remains a fundamental moment in the regulation policy of the agro-industrial complex of developed countries with a market economy. Eventually, this makes it possible to saturate the food market with own commodity resources, on the one hand, and to ensure the accessibility of the broad segments of the population to food products at a socially acceptable level, on the other hand.

In contrast to stimulating the development of the agrarian sector, the development of tourism activity in EU countries is promoted through the management of tourism and recreation, which is represented at both national and regional levels. Researches have shown that the tourism administration in developed European countries closely cooperates with regional and local authorities, as well as with private business. Such work scheme is quite productive, firstly, given the possibility to search for forms of effective cooperation and interaction between administrative bodies at the state and regional levels, and, secondly, to attract financial resources of the private sector in order to fulfill relevant government tasks in the tourism and recreation sector.

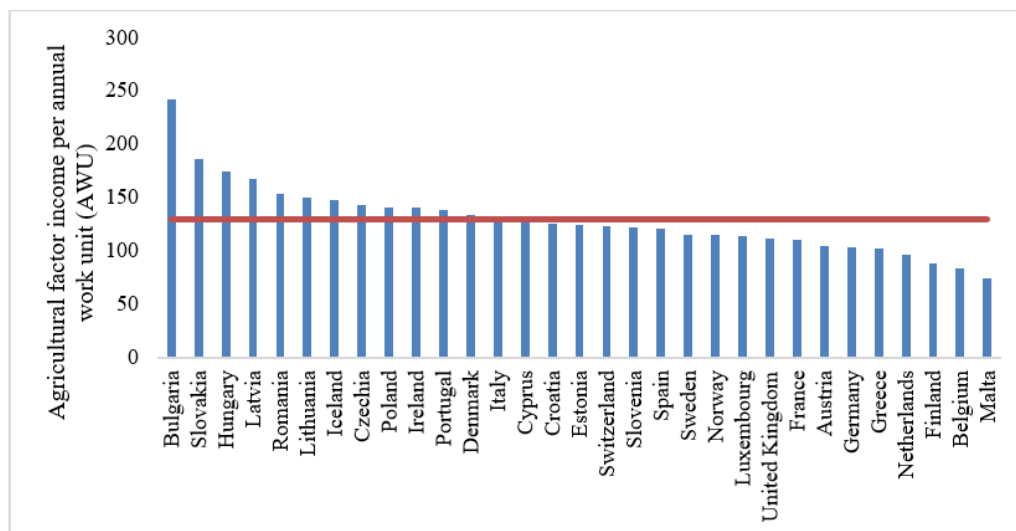


Figure 1 Agricultural factor income per annual work unit (AWU) in EU countries in 2019, Index, 2010=100 [13-15]

The policy of the vast majority of European Union countries in the tourism and recreation sector of the national economy determines the overwhelming number of types of tourism as a factor, namely: job creation, stimulating local crafts, promoting the development of the labor market by attracting young people and the unemployed population; source of financial income as a source of development of depressed territories [16]. Over the last ten years (2019 inclusive),

the number of persons employed in tourism increased annually by 0, 83%. The number of employees increased at the fastest pace in Germany, Estonia, Ireland, Luxembourg, Hungary, Malta, Iceland. The tourism industry in EU directly produces over 5% of GDP. Approximately 1, 8 million tourism enterprises employ about 9, 7 million people (5, 2% of total work places). The importance of tourism in EU economy is likely to continue to increase, and tourism demand is expected to grow by more than 3% annually for the next few years.

In such countries as France, the United Kingdom, the Netherlands, Ireland, Germany, Spain and several others, rural tourism is encouraged by the state and is considered as an integral part of the well-being of rural residents, and also makes it possible to find ways and means of nature conservation. A great deal of positive experience has been gained in European countries concerning the use of various rural tourism promotion tools within the framework of rural development policy, which should be generalized and disseminated. In Europe, the leaders in terms of development of the rural tourism industry are France and Spain, where rural tourism has grown into a highly profitable industry. The owners of agro-settlements in Spain are united in associations, the main task of which is to categorize rural houses according to the level of services provided and to monitor their compliance with the requirements of the associations. In Spain, there is a division of rural housing facilities, which are taxed as subjects of agro-tourism, into the following classes: HR (hotel rural) - rural hotel, CR (casa rural) - rural house.

In Austria, the focus of recreation in the village is the direct involvement of guests in cattle driving on alpine meadows, collecting alpine grasses and wild berries, making dairy products, as well as a variety of active mountain and ecological tourism programs. The Polish Rural Tourism Federation "Hospitable Farms Facilities" has introduced new principles for the classification and categorization of rural lodging facilities. In Romania, rural tourism is developed primarily in the Southern Carpathians; it focuses on the same advantages as Ukraine, that is, on preserving the natural environment and ethno-cultural traditions. Regarding Italy, the rural tourism in this country began to be considered by the rural population as the main form of entrepreneurial employment. Due to the preferential tax regime for rural entrepreneurship, an extensive network of prestigious holiday cottages and guesthouses has appeared of at least 3 star-level, which have the entire necessary recreational infrastructure.

Thus, the tourism industry has made a significant contribution to the rural development of EU countries, while the agricultural sector is characterized by stagnation of labor productivity, wage levels, and low growth rates of added value of products. Despite this, the tourism development policy is aimed at solving environmental problems, the competition of European tourism, increasing the demand for services, improving tourism products, and technological development of the industry.

5. CONCLUSION

The conducted research makes it possible to draw the following conclusions. Stimulating the development of the agricultural sector in EU countries is contingent on several reasons: urbanization, industrialization, reduction of employment in the agricultural sector, labor productivity, which has remained at a stable level in EU for the last ten years. The share of the agricultural sector of GDP remains at a stable level, and the growth of value added is consistently low, due to the lack of investment in capital to ensure the growth of the agricultural sector' productivity. Management of the agricultural sector of EU countries is ensured by a complex, but at the same time flexible system of financial support. The reduction of the rural population in EU countries has stimulated the development of the agricultural sector by financing research and development, which ensured the growth of labor productivity in the agricultural sector. The rural development depends on the size of the rural population and its level of growth, labor productivity and the level of state support for innovations, ensuring

productivity growth. The tourism industry has made a significant contribution to the rural development of EU countries, while the agricultural sector is characterized by stagnation of labor productivity, wage levels, and low growth rates of added value of products. Despite this, the tourism development policy is aimed at solving environmental problems, the competition of European tourism, increasing the demand for services, improving tourism products, and technological development of the industry.

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