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Abstract

In the article we proved that rural tourism in a market economy is becoming increasingly important, because it helps to solve the problems of rural development, namely: the outflow of young people to cities, declining employment, low incomes of the rural population, and more. The purpose of the article is to study rural agritourism and substantiate the tourist potential of rural areas of Ukraine on the basis of sustainable development. In the process of studying the dynamics of rural green tourism in Ukraine, it was found that the number of farmsteads in Ukraine is increasing and the development of agritourism is intensifying. In the article we found that the saturation of rural tourist farmsteads is unevenly distributed throughout Ukraine, due to natural and climatic conditions, the presence of historical and cultural sites, and the preservation of ethnic traditions. In the article we proved that the development of rural green tourism not only helps to preserve and develop recreational areas in rural areas but also helps to solve socio-economic problems of the village, which reduces rural unemployment by attracting youth and the local population, reproduction of labour potential, slowing down migration processes in villages, increasing the level of infrastructure in the region, replenishing local rural budgets.

Key words: agritourism, rural areas, rural green tourism potential, sustainable development

INTRODUCTION

Sustainable development of rural areas is extremely important in the process of ensuring the growth of socio-economic indicators of regional development. At the same time, the UN Sustainable Development Program directly provides for the definition of such goals, the achievement of which will overcome the problems of ecology, poverty, and education, which is extremely relevant for rural areas. At the same time, one of the important areas of management and support of measures to achieve these goals may be the accelerated development of the tourism industry in rural areas. In particular, in Ukraine, rural areas have a very rich natural resource potential for recreation, which is the basis for the development of agritourism.

However, its effective development is impossible without the proper development of infrastructure and the functioning of an effective organizational and management mechanism for green tourism.

In addition, recently in the world new trends were noticed regarding the assurance of high environmental friendliness in all areas of economic activity, which has received appropriate support from the tourism industry. Currently, thanks to the development of agritourism, many countries have reduced unemployment among the rural population by involving them in activities in a new area. Also in most European countries, the priority of rural development is the reorientation of the rural population to activities in the field of services, one of which is green tourism. In addition, global trends of intensification of

agritourism development are also explained by the fact that this is an area of rapid capital turnover with relatively small investments. On the other hand, agritourism is an effective means of ensuring the development of the existing infrastructure of rural areas, as well as a contributing factor to the diversification of the region's economy and industries that serve the tourism sector. Therefore, in the context of the financial and economic crisis and international restrictions on population movement caused by the COVID-19 pandemic, the importance of domestic tourism for Ukraine, as well as any country, is growing significantly.

Studies of the problems of ensuring the socio-economic development of rural areas are quite widely disclosed in the works of modern scientists and practitioners. It is possible to identify two typical approaches of different researchers to the importance of green tourism. In particular, scientists such as O. Agres [1], I. Balaniuk [3], Y. Chaliuk [7], V. Byrkovych [6], M. Dziamulych [9-14], M. Latynin [17], I. Marcuta [19], L. Melnychenko [20], T. Shmatkovska [34-36], O. Stashchuk [40-42], N. Vavdiuk [45-46], Ya. Yanyshyn [49], I. Zhurakovska [51] and others define green tourism as a traditional element of the service sector and emphasize the need to ensure the infrastructural aspects of the development of this area. Such views are based on the principles of agritourism development as a separate element of the general sphere of tourism business and provide for the use of appropriate tools to regulate demand, involving significant investment in services.

Another approach, which is revealed in the works of such researchers as O. Apostolyuk [2], O. Binert [4], A. Boiar [5], N. Dyshliuk [8], A. Hrebennikova [15], V. Lypchuk [18], L. Neschadyi [21], A. Popescu [22-33], R. Sodoma [37-39], I. Yakoviyk [48], O. Yatsukh [50] and others, involves the consideration of agritourism in a broader sense – taking into account the need to achieve sustainable development of rural areas. In our opinion, the relevance of these approaches is higher, as it involves ensuring the effective functioning of not only a single area of economic activity, but also implies the comprehensive development of services,

which includes green tourism, and also requires the growth of socio-economic development of rural areas.

MATERIALS AND METHODS

The purpose of the article is to study rural agritourism and substantiate the tourist potential of rural areas of Ukraine on the basis of sustainable development.

In order to determine which patterns are embedded in the distribution of data and at what value are grouped most indicators with deviations, the study used the grouping method, which is the division of the statistical population into groups that are homogeneous on a certain basis. The method of statistical groupings allows us to trace the relationship between the characteristics that underlie the grouping, and the selected indicators. The method of statistical groupings makes it possible to develop primary statistical material so that all the essential features and peculiarities of the studied social phenomena are clearly expressed.

When grouping, the number of groups depends on the degree of variation of the grouping feature and the size of the population. For a discrete feature, the range of variation of which is limited, the groups are usually as many as the feature. In the case of general variation of the discrete feature, as well as continuous, the range of variation is divided into n intervals.

That is if the grouping feature has a planned nature of variation and equal intervals are used, then the number of intervals (groups) can be tentatively determined by the Sturgis formula:

$$n = 1 + 3.322 \lg N$$

where:

n – number of intervals (groups);

N – aggregate scope.

Next, you need to determine the width of the interval. The grouping interval is the difference between the maximum and minimum value of the feature in each group. The magnitude of the intervals is divided into equal and unequal. If the variation of the grouping feature is insignificant, and the distribution of population units is relatively uniform, then equal intervals are used.

The value of the interval when grouping using equal intervals is determined by the formula:

$$h = \frac{X_{max} - X_{min}}{n},$$

where:

- h – the magnitude (width) of the interval,
- X_{max} – the maximum value of the grouping feature,
- X_{min} – the minimum value of the grouping feature,
- n – number of groups.

If the grouping feature changes in size use unequal intervals in which the difference between the upper and lower limits is not the same. Determining the boundaries of the intervals, the width h should be rounded, and the boundaries themselves are denoted with such precision that the division of the elements of the population into groups was unambiguous.

RESULTS AND DISCUSSIONS

Rural tourism in a market economy is becoming increasingly important, because it helps to solve the problems of rural

development, namely: the outflow of young people to cities, declining employment, low incomes of the rural population, and more.

Rural tourism in general and agritourism, in particular, solve the problems of business diversification in the regions engaged in agricultural production and increase the level of employment of labour potential through the creation of additional jobs. At the same time, rural tourism performs a huge cognitive function and contributes to the education of citizens to care for nature, understanding the nature and problems of labour in agriculture. In addition, rural tourism is a kind of relatively cheap, but quite pleasant and at the same time active recreation, recreation, and health [44].

In order to assess the economic potential of agritourism entities, it is necessary to study the dynamics of rural green tourism development by the main characteristics, namely: the number of farmsteads, the number of vacationers, the average capacity (Fig. 1, 2, 3).

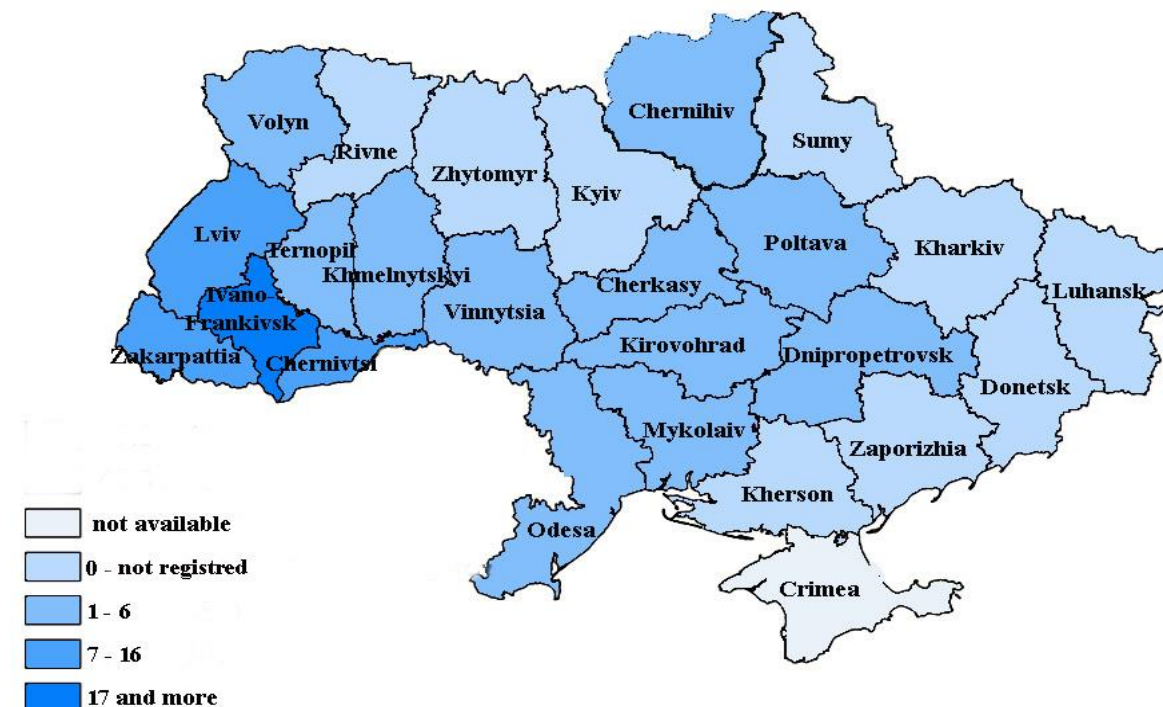


Fig. 1. Cartogram based on the results of grouping the regions of Ukraine by the number of tourist farmsteads in rural settlements in 2017, units (taking into account natural persons-entrepreneurs operating in the field of agritourism)*

*Data on Luhansk, Donetsk regions, and the Autonomous Republic of Crimea are not available due to their temporary occupation by the Russian Federation and in accordance with the Law of Ukraine "On Temporarily Occupied Territories".

Source: own development.



Fig.2. Cartogram based on the results of grouping the regions of Ukraine by the average capacity of tourist farmsteads in rural settlements in 2017, units, (taking into account natural persons-entrepreneurs operating in the field of agritourism)*

*Data on Luhansk, Donetsk regions, and the Autonomous Republic of Crimea are not available due to their temporary occupation by the Russian Federation and in accordance with the Law of Ukraine "On Temporarily Occupied Territories".

Source: own development.

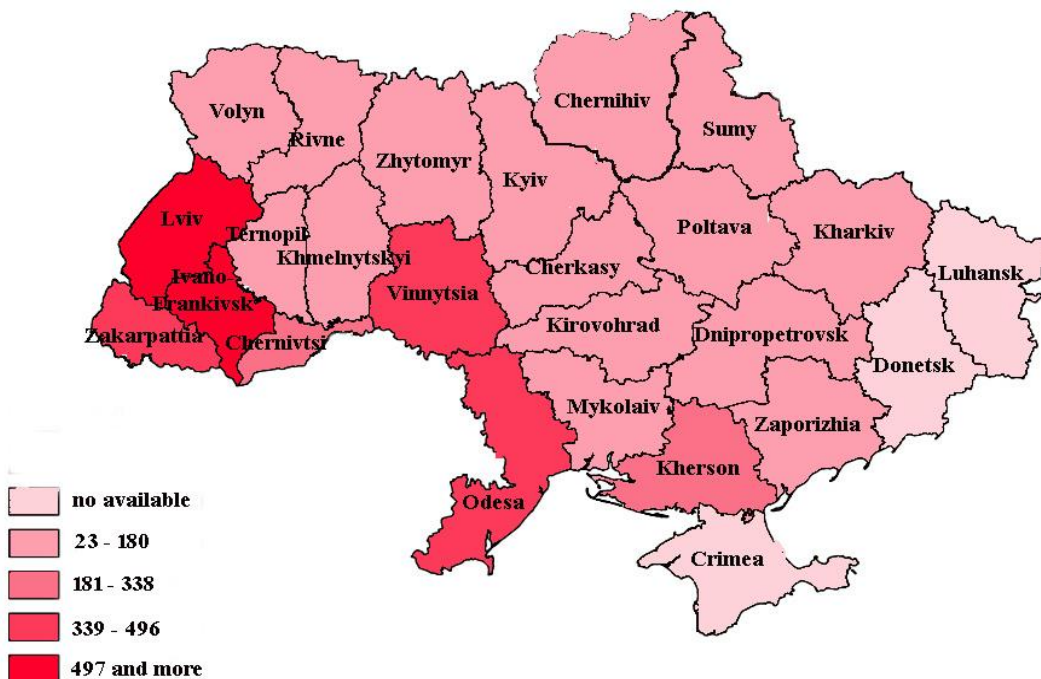


Fig. 3. Cartogram based on the results of grouping the regions of Ukraine by the number of tourist farmsteads in rural settlements in 2020, units (taking into account natural persons-entrepreneurs operating in the field of agritourism)*

*Data on Luhansk, Donetsk regions, and the Autonomous Republic of Crimea are not available due to their temporary occupation by the Russian Federation and in accordance with the Law of Ukraine "On Temporarily Occupied Territories".

Source: own development.

In the process of studying the dynamics of rural green tourism in Ukraine, it was found that the number of farmsteads in Ukraine is increasing and the development of agritourism is intensifying, as evidenced by statistics on the number of tourists (Figs. 1 and 2). But there is a fact that the official and actual data of business in the field of agritourism differ: first, this is due to the fact that a significant number of domestic tourists do not always use the services of tour operators or travel agents, in contrast to outbound tourists; secondly, a significant part of rural farmsteads are not officially registered, i.e. they are cut down «in the shadows», which in turn is associated with minimal support from both local authorities and the state as a whole.

According to the results of the study, the largest number of rural farmsteads is concentrated in the Western region of Ukraine, in particular, 81.2% of farmsteads are located in the Ivano-Frankivsk region, 4.2% of farmsteads are located in the Chernivtsi region, and 3.7% of farmsteads are registered in the Lviv region of Ukraine (Figs. 1 and 3). Thus, it can be stated that the saturation of rural tourist farmsteads is unevenly distributed throughout Ukraine, due to natural and climatic conditions, the presence of historical and cultural sites, and the preservation of ethnic traditions [16].

To study the specifics of additional services offered by owners of tourist farmsteads in rural areas of Ukraine, a questionnaire was conducted to determine a detailed list of additional service offers for tourists offered in modern realities in rural settlements of the Lviv region (Table 1).

Based on the analysis of Table 1 it is determined that the most popular for tourists additional offers of goods and services were: barbecue and firewood (96.8%); gazebo and gazebo (95.5%); hiking in the woods (92.9%); harvesting berries, mushrooms, medicinal herbs (90.3%); toboggan and ski rental (78.7%); cooking home meals to order (71.0%). Slightly fewer farmsteads offered: transport services (68.4%); bicycle rental (61.3%); the possibility of swimming in the river and lake (63.2%); care and feeding of domestic animals (58.1%); fishing (29.7%);

taking a bath (27.2%); horseback riding (20.6%). Thus, it can be argued that active recreation is not a priority of green tourism.

Table 1. List of additional offers, goods, and services in rural tourism farmsteads of the Lviv region in 2020, UAH

Offers, goods and services	Availability		Average cost, UAH
	Number of farmsteads	%	
Cooking homemade dishes to order	110	71.0	150-300
Horseback riding for 1 hour	32	20.6	100-200
Sledding and carriage rides, for 1 hour	29	18.7	350-550
Bicycle rental, for 1 hour	95	61.3	25-40
Swimming in the river and lake	98	63.2	-
Boating, for 1 hour	21	13.5	100-150
Toboggan and ski rental, per day	122	78.7	50-160
Fishing, for a day	46	29.7	80-170
Hiking in the woods	144	92.9	-
Availability near medical sources	37	23.9	-
Harvesting berries, mushrooms, herbs	140	90.3	-
Transport services, by arrangement	106	68.4	100
Barbecue and firewood (one bundle)	150	96.8	40-80
Gazebo and gazebo	148	95.5	-
Care and feeding of pets	90	58.1	-
Bath (3-5 people), for 1 hour	43	27.7	150-320
Apitherapy, sleep on hives, for 1 session	5	3.2	100-300
Folk crafts (master class)	12	7.7	100-200
Dairy products	75	48.4	-
Meat products	86	55.5	-
Baked goods	48	31.0	-
Vegetables and fruits	134	86.5	-
Wines, liqueurs and tinctures	27	17.4	-
Eggs	96	61.9	-
Fish	10	6.5	-
Beekeeping products	13	8.4	-
Mushrooms, berries, herbs	140	90.3	-

Source: Own development based on [43].

In addition, according to the results of the questionnaire, it was found that of household products in rural farmsteads, tourists asked the most: vegetables and fruits (86.5%); eggs (61.9%); meat products (55.5%); dairy products (48.4%); bakery products (31.0%). The smallest of the list of domestic products offered were domestic low-alcohol beverages (17.4%), beekeeping products (8.4%), and live fish (6.5%). In general, this characteristic indicates a slight change in preferences compared to the traditional consumer food basket of the average tourist.

It is important to note that the cost of services and products in rural farmsteads in Ukraine is characterized by a certain price differentiation. In particular, home cooking of

Ukrainian cuisine cost from 150 to 300 UAH, fishing – from 80 to 180 UAH, sleigh rides, and carriages costs from 350 to 550 UAH per hour. This is due to both the difference in the quality of relevant services and the infrastructural features of a particular rural farmstead.

Significant adjustments in the functioning of the tourism industry in general, including rural agritourism, were made by the COVID-19 pandemic, which virtually stopped activities in this area for more than half of 2020. In particular, according to the UNWTO,

international tourism has missed more than 1 billion international tourists. At the same time, the loss of total export earnings from international tourism on a global scale is estimated at \$ 1.3 trillion. In total, there are between 100 and 120 million direct tourist jobs in the world.

It should be noted that in early 2021, the UN World Tourism Organization has developed a model of intensification of tourism around the world, considering the positive and negative scenarios (Fig. 4).

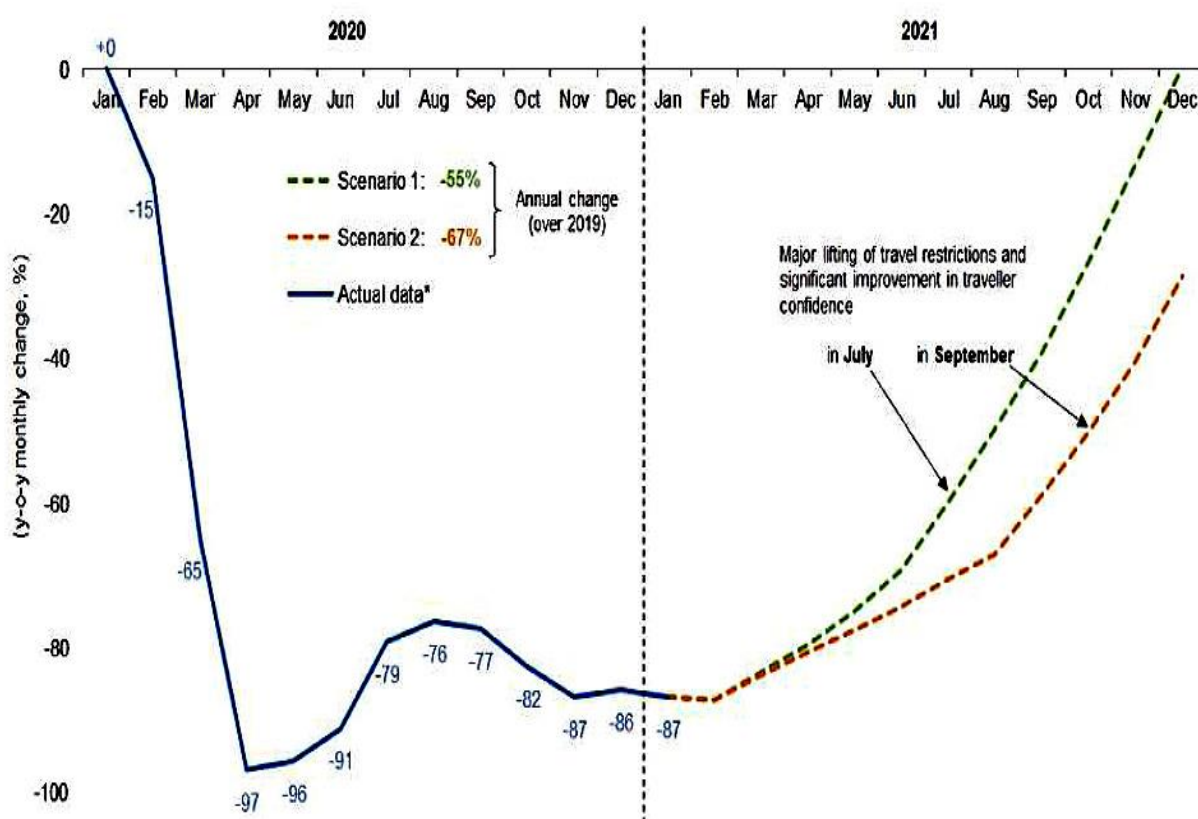


Fig. 4. International Tourist arrivals in 2020 and Scenarios for 2021 (y-o-y, monthly change)

*Actual data is preliminary and based on estimates for destinations which have not yet reported monthly results (Data as of March 2021).

Source: [47].

Given that the annual results will be summarized only in 2022, it can already be argued that the positive scenario did not work, and to achieve the indicators of January 2019, the tourism sector will not succeed in the near future. The next waves of the pandemic lead to further restrictions on the movement of tourists and pose a systemic threat to the

tourism business in general and rural agritourism in particular.

However, rural agritourism, as limited to local areas, in most cases does not require its participants to travel cross-border or may even take place within one region at relatively short distances for tourists relative to their homes. In this aspect, rural agritourism has good prospects for development in a

pandemic, because even weekend tours often take place in the form of recreation in rural areas.

The main properties of tourist resources and the level of their impact on the functioning of rural agritourism in Ukraine were studied by us on the basis of a survey of representatives of the tourist market and owners of rural farmsteads, which was conducted by questionnaire (Fig. 5).

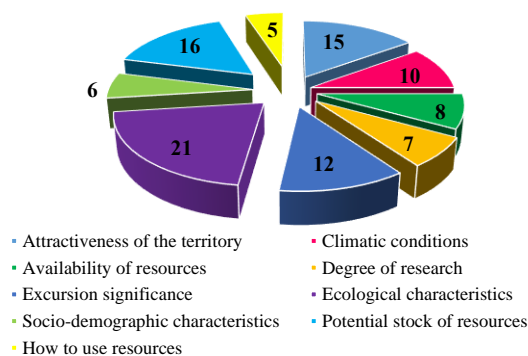


Fig. 5. The degree of influence of tourism resources on the organization of rural green tourism in Ukraine in 2019, %
 Source: [43].

As we can see from the survey, the most significant impact on the organization of rural green tourism in Ukraine has the ecological characteristics of the territory – 21%. At the same time, 16% of respondents give priority to the potential stock of resources that can be used in the tourism sector. For 15% of experts, the most important factor is the attractiveness of the territory, 12% – the availability of excursion potential, 10% – climatic conditions in the region. Other characteristics received less than 10% of the votes of experts and can be considered insignificant in their overall importance for the development of rural agritourism in today's realities in Ukraine.

Thus, we can conclude that the environmental component remains the basis for the organization of rural green tourism. Improving the efficiency of agricultural farms working in this area should be largely based on the provision of environmentally friendly services to their customers.

The level of arrangement of rural farmsteads is also important for green tourists, which depends on the general state of infrastructure

development in rural areas. Therefore, to assess it, consider the infrastructure of households in Ukraine (Fig. 6).

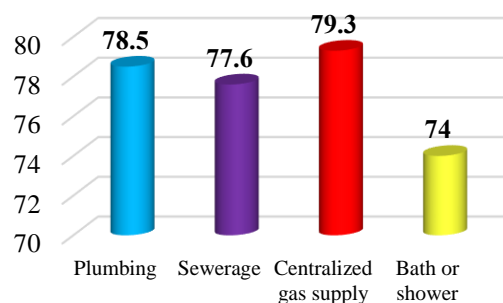


Fig. 6. Arrangement of rural tourism farmsteads and housing of rural households in Ukraine in 2019, %
 Source: [43].

As you can see, according to the results of the analysis, 78.5% of households have water supply and sewerage, 79.3% – equipped with gas supply services, and 74% – have a bath or shower. At the same time, the absence of these conditions in households applies to rural areas, where instead of the general water supply is used individual water supply from artesian wells for individual farms, and sewerage is based on a system of local septic tanks that require specialized maintenance. Such factors complicate the functioning of farmsteads. At the same time, the lack of gas supply can be a competitive advantage, as heating with firewood is an important component of agritourism, which is characterized by its traditionalist perception of tourists and in this aspect plays the role of a popular service.

We will also consider the specifics of assessing directly by rural households the level of their access to socio-economic benefits (Fig. 7).

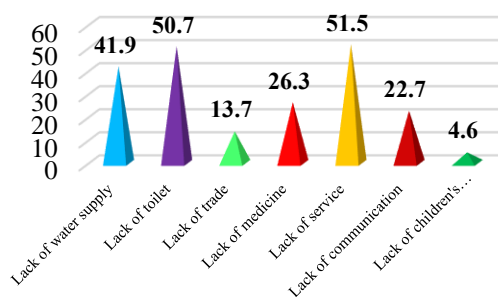


Fig. 7. Assessment of the availability of socio-economic benefits by rural households in Ukraine in 2019, %
 Source: [43].

Based on Fig. 7 it can be concluded that the majority of the rural population of Ukraine notes problems with the proper provision of certain socio-economic benefits. In this aspect, it should be noted that 41.9% of rural households are not provided with a water supply and 50.7% – with centralized sewerage. The lack of social and public service facilities has also been identified as a problem. Undoubtedly, this creates many inconveniences for rural residents. In turn, these problems create obstacles for the development of agritourism, as they require from the owners of farmsteads additional investments to ensure the appropriate level of comfort for their visitors. At the same time, certain problems are unsolvable by the owners of green tourism facilities (for example, easily accessible medical care or logistical problems of communication) and require the involvement of state institutions to address these issues.

If we talk about the dynamics of income from agritourism in the leading countries of the world, the indicators indicate a trend of increasing incomes in this area. In particular, according to the analysis of the European Bank, in countries with developed agritourism, the average value of income received by farmsteads is correlated with the annual income of the farm from one cow [20].

Consider the dynamics of income from green tourism in some European countries (Fig. 8).

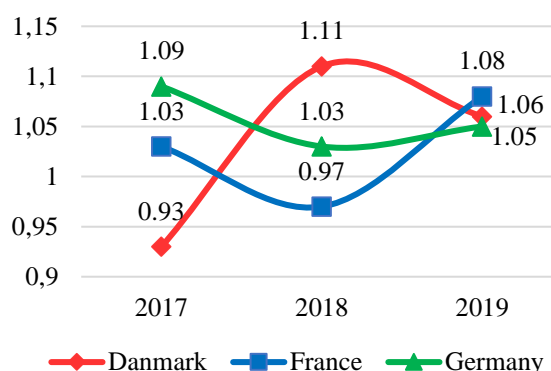


Fig. 8. Income growth rates in the field of rural agritourism in European countries for 2017-2019
 Source: [43].

The study found that by 2020, the average growth rate of income from rural agritourism in some European countries was quite stable and had a general upward trend. At the same time, the data of 2020 are objectively distorted due to the total decline of the entire tourism sector. However, as already mentioned, the potential for the resumption of rural agritourism is greater than the rapid resumption of global interstate tourism flows. At the same time, for comparison, we analyzed the economic indicators of the functioning of rural agritourism in Ukraine for 2015-2019 (Table 2).

Table 2. Economic indicators of rural green tourism entities in Ukraine for 2015-2019

Investigated indicators	2015	2016	2017	2018	2019	Relative deviation, 2019 to 2015, (%)
Income from agritourism services provided, UAH thousand	10,189.7	16,966.7	11,219.9	18,369.0	41,879.5	411.0
Expenses, thousand UAH	5,046.6	10,283.0	6,756.8	10,186.9	25,052.8	496.4
Financial result, thousand UAH	5,143.1	6,683.7	4,463.1	8,182.1	16,826.7	327.2
Number of nights, units	112,520	130,695	93,341	106,233	200,709	178.4
The average length of stay, man-days	2.2	2.6	2.4	2.2	2.5	113.6
Coefficient of the utilization of the capacity of estates	0.26	0.19	0.15	0.19	0.16	61.5

Source: Own development based on [43].

According to the analysis of the Table 2 established that for the five years preceding

the crisis of 2020, the dynamics of income from rural agritourism services in Ukraine

recorded their overall growth by 411%. At the same time, the costs of farms operating in the field of rural agritourism increased, which increased by a total of 496.4%. This is due to both a significant increase in the cost of utilities, which occurred during this period and an increase in costs to improve the material base of rural farmsteads. Regarding the specific characteristics of the industry itself, it is worth noting the positive trends in the increase in the number of overnight stays by visitors to rural farmsteads by 78.4%, as well as an increase in the average length of stay of guests – by 13.6%. Thus, we can say about the positive trends in the development of rural agritourism, as the growth of these indicators indicates an improvement in the quality of services provided by farms operating in the study area.

CONCLUSIONS

Thus, we come to the conclusion that in Ukraine agritourism, as a separate and specific area of the tourism industry has significant prospects for the development and increase in the number of tourists involved in this type of recreation. The positive dynamics of the industry's performance, which was observed before the global economic downturn due to COVID-19, indicates an increase in demand for this type of service. In addition, financial indicators show an increase in the number of funds raised by the owners of farmsteads for the development of their own businesses. Given the current conditions, it can be argued that further intensification of tourist flows aimed at the development of green tourism will also contribute to the inflow of investment resources from financial institutions interested in investing in both current and long-term. Currently, an additional factor that stimulates the development of agritourism is the cross-border anti-epidemiological sanitary restrictions that restrain external tourist flows, some of which are aimed at rural green tourism. This allows farmsteads and farms involved in this field to obtain and accumulate the resources needed to maintain and develop

their own business in rural areas and expand it in the future.

In the current conditions of the global pandemic and the permanent economic crisis, rural agritourism in Ukraine is becoming an effective alternative to foreign resorts, as many Ukrainians will choose ecological rural estates for active recreation. Thus, the development of rural green tourism not only helps to preserve and develop recreational areas in rural areas but also helps to solve socio-economic problems of the village, which reduces rural unemployment by attracting youth and the local population, reproduction of labour potential, slowing down migration processes in villages, increasing the level of infrastructure in the region, replenishing local rural budgets, etc.

The results of the study indicate that the prerequisite for sustainable development of rural areas in Ukraine is the stimulation and support of entrepreneurship in the field of rural green tourism at both the state and regional levels. That is why in order to intensify the development of rural agritourism and bring farmsteads “out of the shadows” there is a need to improve the existing regulatory framework, find new sources of financial and investment direction, as well as to develop an appropriate set of organizational and economic measures.

REFERENCES

- [1] Agres, O., Sadura, O., Shmatkovska, T., Zelenko, S., 2020, Development and evaluation of efficiency of leasing activities in agricultural sector of Ukraine. Scientific Papers: Series «Management, Economic Engineering in Agriculture and rural development», Vol. 20(3): 53-60.
- [2] Apostolyuk, O., Shmatkovska, T., Chykalo, I., Husak, A., 2020, Assessment of the rural population economic activity in the system of united territorial communities development: a case study of Volyn Region, Ukraine. Scientific Papers: Management, Economic Engineering in Agriculture and Rural Development, Vol. 20(3): 99-108.
- [3] Balaniuk, I., Kyrylenko, V., Chaliuk, Yu., Sheiko, Yu., Begun, S., Diachenko, S., 2021, Cluster analysis of socio-economic development of rural areas and peasant farms in the system of formation of rural territorial communities: a case study of Volyn region, Ukraine. Scientific Papers Series “Management,

Economic Engineering in Agriculture and Rural Development”, Vol. 21(3): 177-188.

[4]Binert, O., Sodoma, R., Sadovska, I., Begun, S., Shmatkovska, T., Balash, L., 2021, Mechanisms for improving economic relations in the milk subcomplex of the agricultural sector: a case study of Ukraine. Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”. Vol. 21(2): 101-110.

[5]Boiar, A., O., Shmatkovska, T. O., Stashchuk, O. V., 2018, Towards the theory of supranational finance. Cogent Business & Management. 5(1).

[6]Byrkovych, V. I., 2011, Rural green tourism - a priority for the development of the tourism industry of Ukraine. Strategic priorities. Vol. 1(6): 138-143

[7]Chaliuk, Y., Dovhanyk, N., Kurbala, N., Komarova, K., Kovalchuk, N., 2021, The digital economy in a global environment. AD ALTA: Journal of Interdisciplinary Research. Vol.11, Special issue XVII: 143-148.

[8]Dyshliuk, N. I., 2008, Tourism as a component of management of complex development of rural territories. Problems of management improvement in modern conditions. Vol. 16(3): 63-67.

[9]Dziamulych M., Moskovchuk A., Vavdiuk N., Kovalchuk N., Kulynych M., Naumenko, N., 2021, Analysis and economic and mathematical modeling in the process of forecasting the financial capacity of milk processing enterprises of the agro-industrial sector: a case study of Volyn region, Ukraine. Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”. Vol. 21(1): 259-272.

[10]Dziamulych, M., Sadovska I., Shmatkovska T., Nahirska K., Nuzhna O., Gavryliuk O., 2020, The study of the relationship between rural population spending on peasant households with the main socio-economic indicators: a case study of Volyn region, Ukraine. Scientific Papers: Series «Management, Economic Engineering in Agriculture and rural development», Vol. 20(2): 217-222.

[11]Dziamulych, M., Shmatkovska, T., Gordiichuk, A., Kupyra, M., Korobchuk, T., 2020, Estimating peasant farms income and the standard of living of a rural population based on multi-factorial econometric modeling: a case study of Ukraine. Scientific Papers: Series «Management, Economic Engineering in Agriculture and rural development», Vol. 20(1): 199-206.

[12]Dziamulych M., Shmatkovska T., Petrukha, S., Zatsepina, N. Rogach, S., Petrukha, N., 2021, Rural agritourism in the system of rural development: a case study of Ukraine. Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”, Vol. 21(3): 333-343.

[13]Dziamulych M., Stashchuk O., Korobchuk, T., Mostovenko, N., Martyniuk, R., Strelkova, I., Grebeniuk, N., 2021, Banking innovations and their influence on the formation of digital banking. AD ALTA: Journal of Interdisciplinary Research. Vol.11, Special issue XVII: 108-112.

[14]Dziamulych M., Yakubiv V., Shubala I., Filiuk D., Korobchuk L., 2020, Analysis and evaluation of the rural labour market and employment of the rural population: a case study of Volyn region, Ukraine. Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”, Vol. 20(4): 165-174.

[15]Hrebennikova, A., Artemchuk, L., Nahorni, V., Daliak, N., Ruban, O., 2021, Assessment of the network interaction synergistic effect according to the organization life cycle. Journal of eastern European and Central Asian research, 8(3): 311-323.

[16]Kaminska, I. M., 2008, Integral estimation of financial ability of Ukrainian regions. Actual problems of economics. Vol. 83: 92-101

[17]Latynin, M. A., Prymolenna, L.M., 2012, State regulation of rural green tourism development in Ukraine. State building. 2012. Vol. 1: 52-58.

[18]Lypchuk, V. V. Lypchuk, N. V., 2008, Agrotourism: organizational and economic principles of development. Lviv, 160 p.

[19]Marcuta, L., Popescu, A., Marcuta, A., Tindeche, C., Smedescu, D., 2021, The impact of the COVID-19 crisis on tourism and its recover possibilities. Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”. Vol. 21(1): 495-500.

[20]Melnychenko, O. B., 2011, Status and prospects of rural tourism development in Ukraine. Economy. Management. Innovations. Vol. 1: 5-10.

[21]Neschadyi, L., 2015, Development of green tourism as a factor in improving the social sphere of Cherkasy region. Journal of European Economy. Vol. 4: 400-407.

[22]Popescu, A., 2018, A Statistical overview on the agrotourist guesthouses versus tourist guesthouses of the county of Sibiu, Romania. Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”. Vol. 18(2): 347-358.

[23]Popescu, A., 2018, Analysis of Agro-Tourism Concentration in Romania. Vision 2020: sustainable economic development and application of innovation management. 32rd International-Business-Information-Management-Association (IBIMA) Conference: 4315-4329.

[24]Popescu, A., 2021, The impact of COVID-19 pandemic on Romania's tourist flows in the year 2020. Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”. Vol. 21(1): 655-666.

[25]Popescu, A., 2019, Trends and Correlations between Accommodation Capacity and Tourist Flows in the EU-28 Top 10 Tourist Destinations in the Period 2008-2017. Education excellence and innovation management through vision 2020. 33rd International-Business-Information-Management-Association (IBIMA) Conference: 1253-1270.

[26]Popescu, A., 2019, Tourism and Travel Competitiveness in the European Union New Member States. Education excellence and innovation management through vision 2020. 33rd International-

Business-Information-Management-Association (IBIMA) Conference: 3316-3333.

[27]Popescu, A., 2018, Tourist arrivals concentration - a case study in Romania's central area. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 18(3): 331-337.

[28]Popescu, A., Hontus, A. C., Caratus-Stanciu, M., 2020, Trends and changes in tourist flow in Romania in the period 2009-2018. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 20(1): 425-436.

[29]Popescu, A., Marcuta, A., Marcuta, L., Tindeche, C., 2021, Trends in Romania's tourism demand and offer in the mountain resorts during the period 2010-2019. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 21(1): 623-636.

[30]Popescu, A., Marcuta, A., Marcuta, L., Tindeche, C., Hontus, A., 2021, Demand and offer in balneary tourism of Romania in the period 2010-2019. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 21(1): 613-622.

[31]Popescu, A., Marcuta, A., Marcuta, L., Tindeche, C., Hontus, A., Plesoianu, D., 2020, Romania's tourism trends and characteristics on the seaside resorts of the black sea in the period 2010-2019. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 20(4): 417-430.

[32]Popescu, A., Plesoianu, D., 2019, Comparison regarding the tourism impact on the economy of Bulgaria and Romania. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 19(1): 395-408.

[33]Popescu, A., Tindeche, C., Hontus, A., Marcuta, A., 2019, Tourists' satisfaction degree for service quality in hotel industry. a case study in Romania. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 19(3): 463-474.

[34]Shmatkovska, T., Dziamulych, M., Gordiichuk, A., Mostovenko, N., Chyzh, N., Korobchuk, T. 2020, Trends in human capital formation and evaluation of the interconnection of socio-demographic processes in rural area: a case study of Volyn region, Ukraine. Scientific Papers: Series «Management, Economic Engineering in Agriculture and rural development», Vol. 20(2): 437-444.

[35]Shmatkovska T., Dziamulych M., Yakubiv V., Myshko O., Stryzheus L., Yakubiv R., 2020, Economic efficiency of land use by agricultural producers in the system of their non-current assets analysis: a case study of the agricultural sector of Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 20(3): 543-554.

[36]Shmatkovska T., Nikolaeva, A., Zabedyuk, M., Sheiko, Yu., Grudzevych Yu., 2020, Increasing the efficiency of the labour resources usage of agrosector

enterprises in the system of sustainable development of the rural territories: a case study of Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 20(4): 467-476.

[37]Sodoma, R., Brukh, O., Shmatkovska, T., Vavdiuk, N., Bilochenko, A., Kupyra, M., & Berezhnytska, G., 2021, Financing of the agro-industrial complex in the context of the implementation of international experience. Financial and credit activity: problems of theory and practice, 38(3): 341-350.

[38]Sodoma, R., Cherevko, H., Krupiak, I., Andrusiak, H., Brodska, I., Shmatkovska, T., 2021, Regulation of the lending market and prospects of financial sector stabilization in Ukraine. Financial and credit activity-problems of theory and practice. Vol. 36(1): 4-13.

[39]Sodoma R., Shmatkovska T., Dziamulych M., Vavdiuk, N., Kutsai, N., Polishchuk, V., 2021, Economic efficiency of the land resource management by agricultural producers in the system of their non-current assets analysis: a case study of the agricultural sector. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 21(2): 577-588.

[40]Stashchuk, O., Boiar, A., Shmatkovska, T., Dziamulych, M., Skoruk, O., Tesliuk, S., Zintso, Yu., 2021, Analysis of fiscal efficiency of taxation in the system of filling budget funds in Ukraine. AD ALTA: Journal of interdisciplinary research. Vol. 11(1) Special Issue XVII: 47-51.

[41]Stashchuk, O., Shmatkovska, T., Dziamulych, M., Kovalska, L., Talakh, T., Havryliuk, O. Integrated assessment, analysis and management of financial security and stability of joint-stock companies operating in the agricultural sector: a case study of Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 21(2): 589-602.

[42]Stashchuk, O., Shmatkovska, T., Dziamulych, M., Kupyra, M., Vahnovska, N., Kosinskyi, P., 2021, Model for efficiency evaluation of financial security management of joint stock companies operating in the agricultural sector: a case study of Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 21(1): 715-728.

[43]State Statistics Service of Ukraine, <http://www.ukrstat.gov.ua>, Accessed on November 1, 2021

[44]Stavska, Y. V., 2018, Features and trends in the rural tourism industry. Eastern Europe: economy, business and governance. Series: Economics and management of the national economy. Vol. 6(17): 84-91.

[45]Vavdiuk, N. S., Koretska, N., Galushchak, V., 2019, Monetary and fiscal policies interaction in developing countries' economy: evidence from Ukraine. Financial and Credit Activity: Problems of Theory and Practice. Vol. 2(29): 326-338.

[46]Vavdiuk, N., Stryzheus, L., Koretska, N., Tendyuk, A., Galushchak, V., Abramova, I., Vasilik, N., Koshchii, O., 2021, Management of current assets of the enterprises. AD ALTA: Journal of interdisciplinary research. Vol. 11(2). Special issue XX: 30–34

[47]World Tourism Organization (UNWTO), <https://www.unwto.org>, Accessed on November 1, 2021

[48]Yakoviyk, I., Chyzhov, D., Karpachova, N., Hlushchenko, S., Chaliuk, Yu., 2020., National security policy in Ukraine: a change in the system of power relations of the modern world. Revista San Gregorio. Vol. 42: 224-235.

[49]Yanyshyn, Ya., Sodoma, R., Markiv, G., Lipych, L., Shmatkovska, T., Shidnytzka, G., 2020, Economic efficiency of the nuts complex business in the agriculture of Ukraine. Scientific Papers Series «Management, Economic Engineering in Agriculture and Rural Development» Vol. 20(2): 531-536.

[50]Yatsukh, O., Demchenko, I., Ilnytsky, D., Tsap, V., Shmatkovska, T., 2021, Management of banking innovations in the conditions of digitalization. AD ALTA: Journal of Interdisciplinary Research. Vol.11, Special issue XVII: 123-127.

[51]Zhurakovska, I. V., Sydorenko, R. V., Shmatkovska, T. O., Brodska, I. I., 2020, Factors of influence on employment in small and medium-sized business in Ukraine. Financial and credit activity: problems of theory and practice. Vol. 32(1): 109-119.