

FINANCIAL RESULT ANALYSIS OF AGROTOURISTIC FARMS ACTIVITIES IN SIEDLCE REGION

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Abstract. In order to estimate the financial result of tourism activities in 2006 and 2007, 87 farms providing touristic services in the region of Siedlce were examined. Questionnaire, consisting of 27 questions regarding the size of the accommodation and the economic aspects of touristic activities, was sent to the farms owners. The obtained data were analyzed graphically and in form of tables as well as used them to calculate the following economic indicators: the economic size and the rate of rural recreational space, the index of the average number of nights and indicators analyzing the income compared to the demand (POR) and the supply (Yield). The value of direct costs, revenue and gross margin were also calculated. Statistical analysis was conducted by calculating the Pearson correlation coefficient (r) and coefficient of determination (R^2). The study showed that in touristic farms in the Siedlce region in 256 rooms, mostly 2- and 3-beds, there are 673 beds. The average annual gross margin of touristic activities amounts to the value in the range of 2,383.1 to 12,878.96 PLN z and this value proved to be significantly correlated with the attractiveness rate of the particular rural recreational space.

Key words: Siedlce region, agro-tourism, the gross margin, accommodation

INTRODUCTION

In the last two decades one can observe a very strongly growing involvement of the Polish countryside in the development of non-agricultural activities, which are the source of additional income as well as support for the functioning of agricultural holdings [Dębniewska and Szydłowski 2007]. Such undertakings, agritourism being one example, are of interest to many researchers from different disciplines. Under the current legislation, agri-tourism is defined as the business of providing tourist services on the farm [Act on Tourism Services, of 29 August 1997 (Dz. U. of 2004, No. 223, item 2268, as amended)].

At the base substance of agritourism is the belief that the farm is an essential subject of tourist services [Makarski 1999, Woźniak 2002, Kutkowska 2003]. Some authors like

Jalinik [2002] and Firlie [2000], in their studies on the classification of entrepreneurship in rural areas, rate agritourism as non-agricultural activities only indirectly related to agriculture, alongside such non-agricultural activities as agricultural produce processing, trading and public utility services. Moreover, the authors see it as an opportunity to improve farmers' household budgets by renting rooms, recreational equipment, selling meals, their own articles and produce [Migdal 1999, Karczewska 2003]. In any enterprise, and thus in the farm providing tourist services, it is the profit that is the measure of financial viability and business economic efficiency. Properly operating and efficiently managed, the farm should achieve a positive financial result [Dębniewska and Szydłowski 2007].

The objective of this study was to estimate the earnings from tourism activities in Siedlce region, to analyze the income of accommodation services on the background of supply and demand and to examine the relationship between the attractiveness of rural recreational space and the value of gross margin generated by tourism.

MATERIAL AND METHODS

The study was conducted in 2006 and 2007 in 87 agro-tourist farms operating in the region of Siedlce. Siedlce Region, according to the Guide Agritourism – Mazowsze [2005], includes six districts: Sokółów, Siedlce, Węgrów, Łosice, Garwolin and Mińsk. The study was carried out by means of direct interview method. A questionnaire containing 27 questions was sent to farm owners. The questions were related to the size of accommodation and economic aspects of tourism. The obtained data was compiled graphically as well as in the form of a table. Also, the given information was used to calculate the following indicators and economic values:

1. The Indicator of rural recreational space (in points) – it is the value assessing natural environmental values. The above ratio was calculated according to the formulas given by Dubel [2002]. The surface of arable land, meadows, pastures, forests and urban land were adopted from the data published on the website of the Statistical Office in Warsaw [www.stat.gov.pl/workshops.]. The data concerning the area of flowing and standing surface water in various districts of Siedlce Region was obtained from the Office of the Marshal of the Mazowieckie Voivodship, and developed by the Head Office of Geodesy and Cartography in Warsaw.
2. The Indicator of the average number of overnight stays: calculated as the quotient of the number of overnight stays in a given time (per year) and the number of beds (calculated according to formulas given in my paper “Recreational and Special Tourism” 2003).
3. Indicators analyzing income against demand (POR) and supply (Yield) [Kotaś and Sojak 1999]:
 - POR (Per Occupied Room) – accommodation services revenue attributable to one sold bed, calculated as the quotient of total revenue and number of beds sold during the year.
 - Yield – Total income from accommodation services attributable to one available bed (revenue per available room night), calculated as the quotient of income and the number of beds.

4. To calculate the costs of meals, the daily demand for food products per one tourist was estimated [Szarek 2006] assuming that the raw materials for obtaining these products come from our own farm, and if they are not used in meals, they will be sold. Therefore, retail purchase price included individual products and goods [The Statistical Yearbook of Agriculture and Rural Areas 2008]. Daily consumption of oil, sugar, coffee, tea and other items not produced on the farm is based on the average monthly consumption of food for one person in the household according to the Statistical Yearbook by CSO, 2008. The price included the cost of cereal milling based on the data from five mills operating in the test region. Moreover, the price of poultry meat and pork also included the price of livestock, the cost of slaughter, slaughter efficiency for pork and poultry and the cost of veterinary carcass examination, according to prices from local slaughterhouses [Osek and Milczarek 2005, Osek et al. 2007]. The above calculation does not include the farmer's own labor. However, the consumption of water and energy necessary to prepare meals is included in the daily maintenance of the tourist.
5. To calculate the estimated cost of maintaining the tourist, excluding food, the daily consumption of electricity, gas and water was taken into account in households of one person between 2006 and 2007, according to the Statistical Yearbook of the Central Statistical Office [2008]. The coal consumption for heating residential buildings was taken from Gradziuk [2001] and calculated for the surface of a residential building in particular household farms in Siedlce Region. The prices per unit of the above articles were provided by the CSO Statistical Yearbook [2008]. However, the cost of waste disposal, washing powder and other detergents was obtained in direct interviews with the respondents and the average cost per tourist was calculated on the basis of the average cost for the whole population. In a similar way, the value of the costs of promotion and advertising were defined. However, the following aspects of the daily cost of maintaining the tourist were not taken into account: the initial costs incurred prior to commencement of business operations, interest on loans, residential building depreciation, amortization of furniture, bedding, towels, kitchen equipment, tableware and the farmer's own labor.
6. Direct Revenue (in zlotys) was calculated for each farm by multiplying the number of sales of services (accommodation, food) and the unit price of services.
7. Direct Surplus (in zlotys) was calculated for each farm as the difference between the sum of direct costs in the prices of food and maintenance cost per tourist and the value of direct income.

These economic indicators and economic values were statistically analyzed by calculating the Pearson linear correlation coefficient (r) defining the degree of linear relationship between the measured variables and the coefficient of determination (R^2) as a measure of strength of the relationship between variables.

CHARACTERISTICS OF THE TOURIST FARMS

Human resources on the farm play an important role both in making production decisions and in non-agricultural development of commercial ventures, especially those based on interpersonal relations. Many authors [Strzembicki and Kmita 1994, Brelik

2007] point out that a very important element influencing the decision about running agri-tourist activities is the age of the farm owners. The results of this study indicate that this activity is undertaken mainly by people raging in age from 40 to 50 (Figure 1), who are open to changes and innovations. The second largest group were people of fifty to sixty years of age. A significant part in the study was the population in their thirties and forties. Also, farmers over sixty took part in the study. It is worth noting that farms run by people under 30 can be found only in two districts of Siedlce Region.

Another important feature of agri-tourist farms is education. In the literature [Kobyłecki 2003], it is noted that those with secondary or higher education are more open to the situation of “sharing” family life with others, often strangers. In general, they have good interpersonal skills and they are polite. Such personality traits should also characterize the farm owner’s family members, because tourism, as a form of leisure on the farm, involves social interaction between the whole farmer’s family and tourists. Farms in all the districts of Siedlce Region are mostly run by people with secondary education (Figure 2). There were only in a few cases, in the farms located in the district of Minsk and Łosice, of farmers with higher education engaged in agritourism.

In the opinion of many authors [Gąsiorowska and Zarzecka 2006, Żbikowski et al. 2006], agrotourism, as an additional activity carried out on a farm, should be the domain of small and medium-sized farms, where agricultural production is an insufficient source of income for the farmer.

From the research by Balińska and Sikorska-Wolak [2001], conducted in the Valley of the Bug, it appears that the average size of farms in the region amounted to 11.9 ha. The results of this study show that the agritourist farms acreage of Siedlce Region was very diverse. The average size of these farms was 7.07 ha. While analyzing the size of agritourist farms (Figure 3), it should be noted that the territorially largest ones belonged to the district of Mińsk and Garwolin (an average of over 8 ha); while the smallest holdings were in the district of Sokółów (5.78 ha).

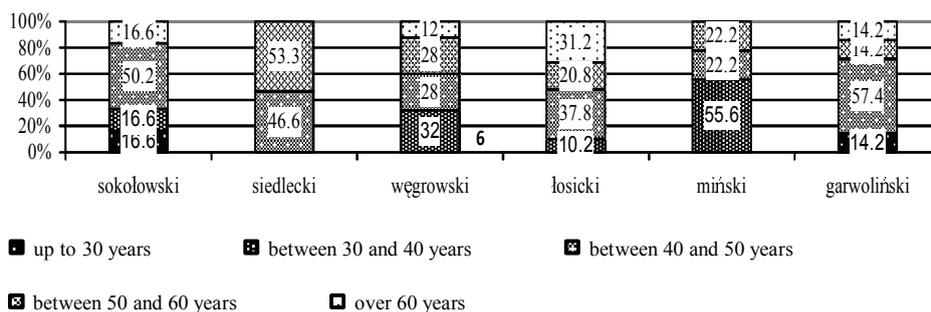


Fig. 1. The age structure of farm owners in various districts of the region of Siedlce (means from farms)

Rys. 1. Struktura wieku właścicieli gospodarstw w poszczególnych powiatach regionu siedleckiego (średnia z gospodarstw)

Source: Authors' research.

Źródło: Badania własne.

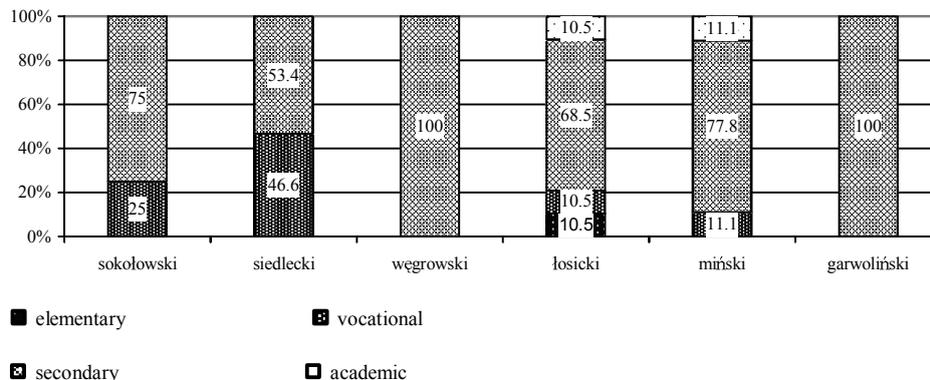


Fig. 2. The educational structure of the owners of touristic farms in various districts of the region of Siedlce (means from farms)

Rys. 2. Struktura wykształcenia właścicieli gospodarstw agroturystycznych w poszczególnych powiatach regionu siedleckiego (średnia z gospodarstw)

Source: Authors' research.

Źródło: Badania własne.

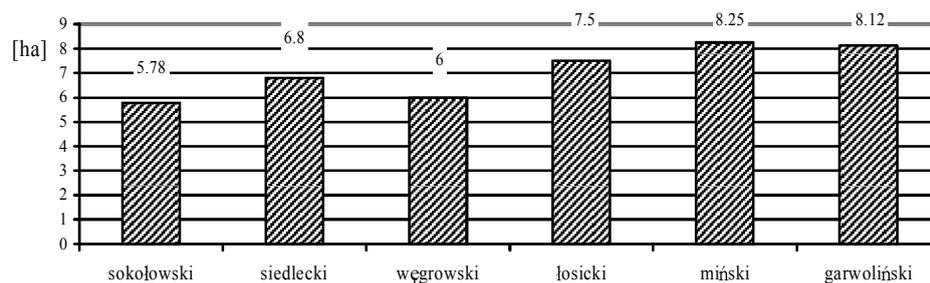


Fig. 3. The size of farms in various districts of the region of Siedlce (means from farms and years 2006–2007)

Rys. 3. Powierzchnia gospodarstwa agroturystycznego w poszczególnych powiatach regionu siedleckiego (średnia z gospodarstw i z lat 2006–2007)

Source: Authors' research.

Źródło: Badania własne.

In the region of Siedlce over 30% of tourist farms has been run for 5 to 7 years. In the region there were also holdings which have been dealing in rural tourism for 10 years. 258 rooms with 673 beds accounted for accommodation facilities in 87 agro-tourist farms (Table 1). In most rooms, it was also possible to use additional beds. It needs to be pointed out that farms offering 2 or 3 rooms absolutely prevail (62 farms out of 87). Only 8 farms in the test group had 5 rooms for rent, 14 farms offered 4 rooms as accommodation and 3 farms had 1 room for guests. A similar trend in the organizing of accommodation was observed in the north-east region of Mazovian Region [Ciepiela et al. 2007] and farmhouses situated in the valley of the Bug [Balińska and Sikorska-Wolak 2001].

Table 1. The volume of rural-touristic accommodation in farms in Siedlce region (means from years 2006–2007)

Tabela 1. Wielkość agroturystycznej bazy noclegowej w gospodarstwach regionu siedleckiego (średnia z lat 2006–2007)

County	Number of farms	Number of bedrooms	Number of beds
sokołowski	12	42	108
siedlecki	15	48	121
węgrowski	25	67	159
łosicki	19	55	150
miński	9	23	65
garwoliński	7	23	69
Total:	87	258	673

Source: Authors' research.

Źródło: Badania własne.

In the above mentioned agritourist farms 3- and 2-bed rooms were predominant and added up to 233 rooms, which is 90% of total accommodation. Occasionally, 4- and 1-bed rooms could be found (Figure 4). In a similar way was adjusted the accommodation on farms located in the district of Białowieża, where the 27 surveyed households offered primarily 2- and 3-bed rooms, which, respectively, constitutes 67% and 22% of the total accommodation [Kur-Kowalska and Ciepiela 2007].

In the surveyed accommodation facilities, apartments with one shared bathroom for guests prevailed in number. Therefore, it can be assumed that in Siedlce Region, most often tourists came across accommodation of one bathroom for several guest rooms. It

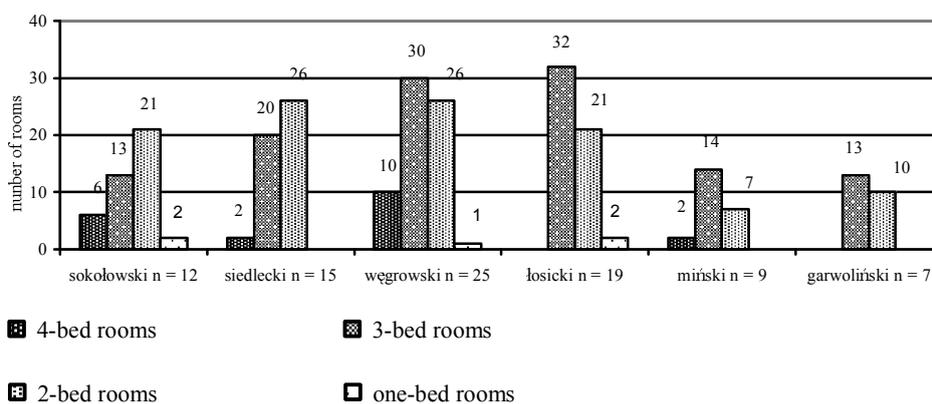


Fig. 4. Accommodation volume in touristic farms in various counties in Siedlce region (means from years 2006–2007)

Rys. 4. Baza noclegowa w gospodarstwach agroturystycznych poszczególnych powiatów regionu siedleckiego (średnia z lat 2006–2007)

Source: Authors' research.

Źródło: Badania własne.

should be noted that the sanitary facilities differed depending on particular districts of the region. The highest standard of accommodation was offered in Łosice District, where 33 out of 55 rented rooms were with an en suite bathroom. On the other hand, in Siedlce, Garwolin and Węgrów Districts, rooms with en suite bathrooms accounted for more than 40% of the share.

PROFITABILITY OF AGRITOURIST ACTIVITIES

An economic analysis of agro-tourism plays a large role. It allows to determine what financial result is brought by tourist activities, and where the main motivation is the desire to obtain additional income on the farm. A financial analysis of this activity involves a number of issues and is a complex tool that requires advanced accounting. Agritourist farms do not usually keep such advanced accounts. For that reason, the conducted study was limited to calculate direct costs and revenues connected with the catering and maintenance of tourists staying in the test farms in 2006 and 2007. The direct surplus of each farm was calculated directly on the basis of the above mentioned economic values.

Data presented in Table 2 shows that the average price of board for a tourist staying at agritourist farms located in various districts of Siedlce Region was varied and ranged in price from 23.58 PLN (Węgrów District) to 37.25 PLN (Mińsk District). It is also noteworthy that accommodation prices diverged markedly. The average price of accommodation in the farms of Węgrów District was 21.41 PLN on average, while in Mińsk District one usually had to pay 35.12 PLN per night.

The differentiation also concerned the number of sold services. Analyzing the average number of services sold per one farm in particular districts, it should be noted that Mińsk District took first place (185.03). The second was Garwolin District (178.31), and right behind it, Sokołów District (1730.8). The smallest number of tourist services was rendered by farms in Węgrów (123.07 on average) and Siedlce District (159 on average).

The annual direct cost of tourists' stay in individual farms was made up by the number of sold service units and the daily cost of meals and the maintenance of the tourist. The value of these costs per average household varies depending on the district, from 2094.52 PLN (Węgrów District) to 3056.63 PLN (Łosice District). The higher direct costs in Łosice District, compared to the district of Mińsk, Garwolin and Sokołów, where the number of services was higher, result from higher costs of heating a large surface of accommodation, administered by some owners of farms in Łosice District. The higher direct costs also result from higher expenditures on advertising and promotion of tourist services.

The total direct revenue, calculated as the product of the number of services sold in different agro-tourist farms and the prices of these services, was not always higher in those districts, where the average number of services was higher. The average monthly revenue per household in Siedlce District (10,245.38 PLN) was higher than in Garwolin Łosice and Sokołów Districts, despite the lower number of sold service units. This state of affairs was dictated by a much higher service price in holdings in Siedlce District in comparison to the above mentioned districts. Noteworthy is the fact that Mińsk District took first place in the ranking of income counted on the basis of supply against demand (Table 3), with an income of 206 PLN per available bed and with an income of 72 PLN per sold bed (average price). This proves a fairly good estimate of the size of provided

Table 2. Economic indicators of touristic activities in the region of Siedlce (means from farms and years 2006–2007)

Tabela 2. Parametry ekonomiczne działalności agroturystycznej w regionie siedleckim (średnia z gospodarstw i lat 2006–2007)

Specification		County						Mean for the region
		sokołowski	siedlecki	węgrowski	łosicki	miński	garwoliński	
Direct cost of services [PLN]	Catering	1064.45	978.18	667.58	1148.82	1137.93	1096.62	1015.59
	Accommodation	1947.88	1875.76	1426.94	1941.06	1830.86	1773.32	1799.20
The direct cost of the tourist visit [PLN]		3012.34	2853.94	2094.52	3056.63	2968.80	2869.94	2809.36
Price of service [PLN]	Catering	32.40	35.72	23.58	31.83	37.25	27.50	31.38
	Accommodation	24.60	28.77	21.41	28.16	35.12	27.50	27.58
Number of units sold [pc]		173.08	159.00	123.07	166.30	185.03	178.31	164.13
Direct revenue [PLN]	Catering	5576.12	5699.80	2906.36	5319.50	6922.80	4861.06	5214.27
	Accommodation	4300.01	4557.18	2631.90	4660.50	6490.92	4921.12	4593.60
Total direct income [PLN]		9876.13	10245.38	5538.30	9980.00	13413.72	9782.18	9807.87
Direct surplus [PLN]	Catering	4511.66	4723.83	2238.77	4203.93	5784.96	3744.44	4198.68
	Accommodation	2352.12	2681.42	1204.94	2719.44	4659.97	3147.80	2794.40
Total Direct surplus [PLN]		6865.29	7404.94	3442.77	6923.37	10444.93	6912.24	6993.08

Source: Authors' research.

Źródło: Badania własne.

Table 3. Analysis of income from touristic activities in the examined farms compared with the supply and demand

Tabela 3. Analiza przychodu z działalności agroturystycznej w badanych gospodarstwach na tle popytu i podaży

Analysis of income compared with the supply			Analysis of income compared with the demand		
Rating	County	Yield [PLN]	Rating	County	POR [PLN]
1	miński	206	1	miński	72
2	garwoliński	141	2	siedlecki	64
3	sokołowski	91	3	łosicki	60
4	siedlecki	84	4	sokołowski	57
5	łosicki	66	5	garwoliński	54
6	węgrowski	34	6	węgrowski	45
Region		14	Region		59

Source: Authors' research.

Źródło: Badania własne.

agrotourist service in relation to the existing demand in the market (the proper size of accommodation corresponding to natural attractiveness of the area). On the other hand, Węgrów District is an example of a market, where there was a significant overestimate of accommodation facilities in relation to the demand. Hence the revenue per available bed (34 PLN) was lower than the value of income attributable to one sold bed (45 PLN).

A reliable financial result of agritourist activities is the direct surplus, calculated as the difference between revenues and direct costs. Analysing the value of this surplus, one can observe significant differences (Table 2). Farmers from Mińsk District earned the most (10,444.93 PLN), while in Węgrów the least (3442.77 PLN). The average direct surplus of 6993.08 PLN was obtained in the region of Siedlce in 2006–2007.

The value of direct surplus from tourist services offered by the surveyed households, by far, depended on the number of services sold and their prices. In turn, the demand for tourist services presented as an indicator of the average number of overnight stays during the year was also dependent, as indicated by the statistical analysis, on the attractiveness of the natural terrain. Indeed, a positive correlation of these features (Figure 5), largely determined the relationship between the value of the direct surplus and the value of rural recreational space

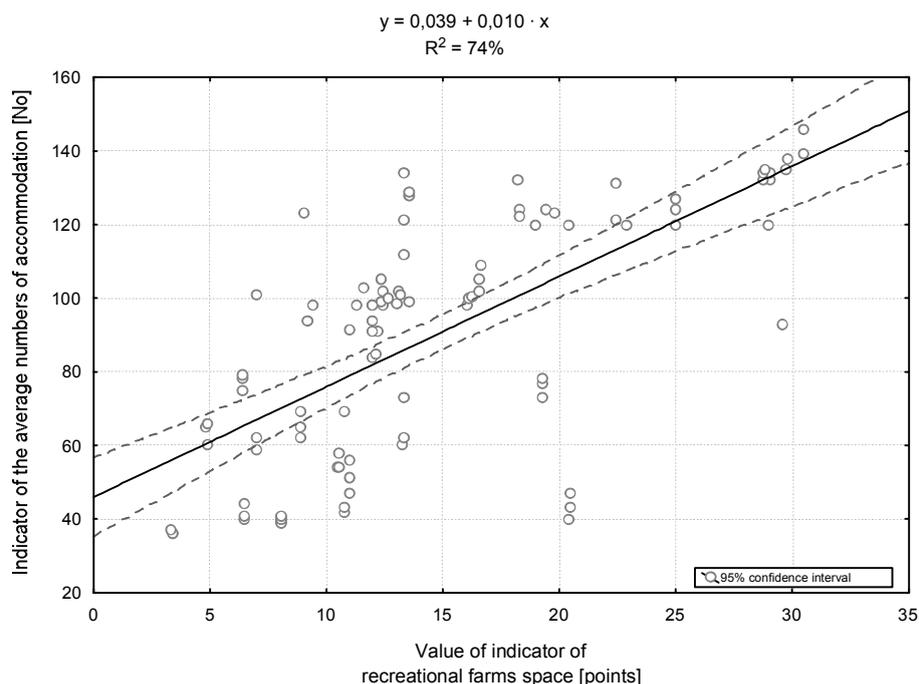


Fig. 5. The indicator of the average number of sold accommodation in the touristic farms in the region of Siedlce (per year) depending on the values of rural recreational space

Rys. 5. Wskaźnik przeciętnej liczby udzielonych noclegów w gospodarstwach agroturystycznych regionu siedleckiego (w ciągu roku) w zależności od wartości wskaźnika wiejskiej przestrzeni rekreacyjnej

Source: Authors' research.

Źródło: Badania własne.

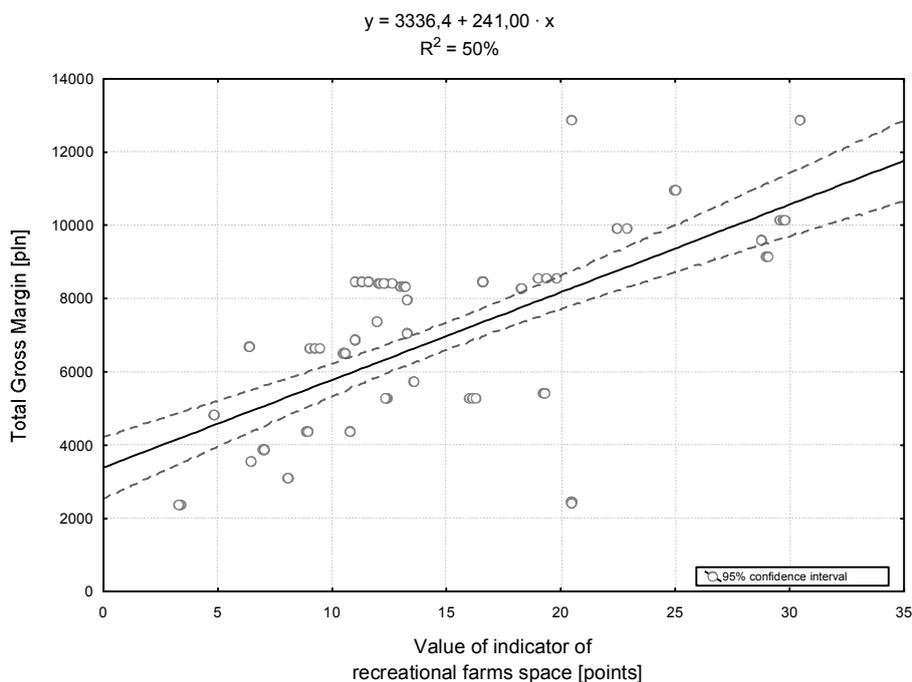


Fig. 6. The value of total direct surplus in touristic farms in the region of Siedlce, depending on the values of rural recreational space

Rys. 6. Wartość nadwyżki bezpośredniej ogółem w gospodarstwach agroturystycznych regionu siedleckiego w zależności od wartości wskaźnika wiejskiej przestrzeni rekreacyjnej

Source: Authors' research.

Źródło: Badania własne.

ratio. Furthermore, as depicted in Figure 6, the regression function indicates that the natural values significantly affect the amount of direct surplus from tourist activities received by farmers. The dependence of these traits was positively correlated. The value of the correlation coefficient was $r = 0.71$, which also means that the amount of surplus was in 50% ($R^2 = 50\%$) determined by the value of the rural recreational space ratio.

CONCLUSIONS

Based on the research, the following conclusions were drawn:

1. Agrotourism in Siedlce Region was run mainly by people aged between 40 and 50, predominantly with secondary education.
2. The area of surveyed tourist farms averaged 7.07 ha, and the largest share (46.3% on average) were the farms with the area from 5 to 7.5 ha.
3. The total number of lodgings in 87 agro-tourist farms in Siedlce Region in 2006–2007 amounted to 673 beds. These beds were located in 256 rooms, mostly 2- and 3-bed rooms. The best living conditions were on the farms in Łosice District, where 60% of the rooms had an en suite bathroom.

4. The annual direct surplus as a reliable financial result from agritourism ranged from 2,383.1 to 12,878.96 zł and its value was significantly correlated with the ratio of rural recreational space attractiveness. The value of this surplus depended largely on the price of services. The highest average direct surplus was gained by farm owners of Mińsk District. However, Węgrów District farmers earned the least.

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ANALIZA WYNIKU FINANSOWEGO Z DZIAŁALNOŚCI AGROTURYSTYCZNEJ GOSPODARSTW ROLNYCH REGIONU SIEDLECKIEGO

Streszczenie. W celu oszacowania wyniku finansowego z działalności agroturystycznej w 2006 i 2007 roku przebadano 87 gospodarstwach rolnych świadczących usługi turystyczne na terenie regionu siedleckiego. Do właścicieli skierowano ankietę zawierającą 27 pytań, dotyczących rozmiarów bazy noclegowej i aspektów ekonomicznych działalności turystycznej. Uzyskane dane opracowano graficznie i tabelarycznie, a także wykorzystano je do obliczenia następujących wskaźników i wielkości ekonomicznych: wskaźnik wiejskiej przestrzeni rekreacyjnej, wskaźnik przeciętnej liczby udzielonych noclegów oraz wskaźniki analizujące przychód na tle popytu (POR) i podaży (Yield). Obliczono także wartość kosztów bezpośrednich, przychodów i nadwyżkę bezpośrednią. Dokonano również analizy statystycznej, wyliczając współczynnik korelacji Pearsona (r) i współczynnik determinacji (R^2). Przeprowadzone badania wykazały, że w gospodarstwach agroturystycznych regionu siedleckiego w 256 pokojach, najczęściej 2- i 3-osobowych, znajdowały się 673 miejsca noclegowe. Średnia roczna nadwyżka bezpośrednia z działalności turystycznej kształtowała się w przedziale od 2383,1 zł do 12878,96 zł i jej wartość była istotnie skorelowana ze wskaźnikiem atrakcyjności wiejskiej przestrzeni rekreacyjnej.

Słowa kluczowe: region siedlecki, agroturystyka, nadwyżka bezpośrednia, baza noclegowa

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