

## SOURCES AND STRUCTURE OF INCOME OF AGRITOURISM FARMS IN THE POLISH CARPATHIAN MOUNTAINS

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**Abstract.** The paper contains an analysis and evaluation of sources and structure of income in small agritourism farms, located in the region of the Polish Carpathian Mountains. Empirical data were obtained using a questionnaire interview with 73 farms. Their analysis enabled separating five types, i.e. agritourism farms with marginalized agricultural production below 2 ESU, semi-subsistence farms with predominance of plant production 2–4 ESU or with predominance of animal production 2–4 ESU and economically viable farms with predominance of plant production above 4 ESU or with predominance of animal production above 4 ESU. It was demonstrated that the structure of income of all types of the surveyed agritourism farms is dominated by non-agricultural sources of income, i.e. agritourism and accompanying services and permanent or seasonal work beyond the farm, business activities, as well as social benefits – retirement pensions and disability pensions, rather than income from agricultural production. Income from agritourism activities has the greatest and positive effect on profitability of the surveyed farms.

**Key words:** agritourism, small farms, sources of income, Polish Carpathian Mountains

### INTRODUCTION

Over centuries, sources of income, their tangible form, and importance for the quality of living were changing but they were always necessary for the human existence. However, for primary societies income alone was not the main purpose of their activities.

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Their needs were reduced to getting food necessary to survive and after satisfying these needs they were ceasing activities which today are described as business activities for the purpose of earning income. With time, income became one of the basic purposes of business activities, especially when the entities hiring employees started dealing with these business activities, and income generation became a purpose both for employees and business units alone [Zegar 1999].

A characteristic feature of income of agricultural farms is their diversity. The structure of income in agricultural farms includes: income from agricultural production, income from non-agricultural activities, work beyond the farm, but also retirement pensions, disability pensions or allowances. As indicated by the findings of other research, creating alternative sources of income is also one of the most often indicated reasons by farmers and country inhabitants who apply for financial support for projects from EU funds [Satoła 2009]. According to the research, agricultural farms and rural areas in Poland were strongly supported under the Common Agricultural Policy (CAP) of the European Union (EU) in the period 2004–2013 [Kania 2009, Kania and Bogusz 2010, Bogusz and Kielbasa 2014].

Traditional source of income of a farmer's family, namely agricultural income, becomes more and more often enriched with non-agricultural sources related both to the farm, e.g. agritourism, and, first of all, gainful employment beyond own farm and social benefits [Zegar 1999, Musiał et al. 2005].

In respect of personal income of peasants' families, the following can be distinguished [Zegar 2004]:

- families where the basic source of income are agricultural activities in own farm (agricultural income);
- families whose maintenance basis is mainly income from work beyond the farm;
- families whose source of personal income is both income from agricultural activities and from other non-agricultural sources.

One of the ways of stimulation of the development of rural areas and their multifunctional development is the development of agritourism activities [Wiatrak 1996, Sikora 1999]. Agritourism as a form of business activities of agricultural families is the subject of social policy analyses and the Common Agricultural Policy. It has a significant role in the development of agricultural farms and multifunctionality of rural areas. This is also an example of additional source of farm owners' income and one of the elements of the development of rural areas. It uses accommodation, nutritional and recreational base in an agricultural farm and its natural, production and service environment, thereby ensuring an opportunity to improve the quality and living standard for the inhabitants of rural areas.

The essence of agritourism is the fact that it involves a specific type of tourist services and, what's most important, sorts of these services and their quality. According to Krzyżanowska and Roman [2012], it is one of the most crucial factors which have an impact on this sort of activity. Agritourism it can be a specific local product [Dziekański et al. 2014].

According to Sikora [2012], an agritourism farm, like every business entity, requires economic analysis. Kutkowska [2003] also states that agritourism requires economic analysis and evaluation. On the other hand Marks-Bielska et al. [2014], as well as Roman [2015], are interested in the subject of agritourism, as a form of business activity.

The income of agritourism farms has not been well analysed yet. Although it was the subject of research carried in Wielkopolskie Province [Jęczmyk et al. 2015], it hasn't been investigated in details in mountainous regions. Hence, an attempt of this paper's authors to analyse agritourism farms in the Polish Carpathian Mountains.

The Carpathian Mountains are the largest and most important mountain tourist region of Poland, the only one that features a mountain landscape [Lijewski et al. 2008]. The area of the Polish Carpathian Mountains belongs to the most attractive areas of Poland in terms of tourism. It is a region with unusual natural and cultural wealth. On the other hand, it is an area of small scale of farms and large work resources, and its production space is dominated by individual farms. Basic economic indicators that characterize the Polish Carpathian Mountains in respect of agriculture include: large number of agricultural farms, fragmented areal structure of farms, low soil bonitation index, large share of the area of arable lands covered by the support for disadvantaged areas, relatively low yields of plants, high share of permanent grasslands in the area of arable lands and low level of agricultural income [Musiał 2008].

## **PURPOSE, SCOPE AND RESEARCH METHODS**

The purpose of the paper is indicating sources and assessment of the structure of income in agricultural farms conducting agritourism activities, located in the geographic region of the Polish Carpathian Mountains where natural and cultural conditions foster the development of this form of non-agricultural activities. The research hypothesis was formulated as follows: agritourism activities and income obtained have a significant impact on the economic situation of the surveyed agricultural farms in the Polish Carpathian Mountains.

The surveys covered over 240 small agricultural farms, located in 17 counties of Małopolskie, Podkarpackie and Śląskie Provinces. On the first stage about 10% of agritourism farms in the Polish Carpathian Mountains registered in the Institute of Tourism were investigated. On the basis of the results, the above agritourism farms and their activities were described. The conclusions of the research were basis to a detailed analysis of the income of these farms.

On the second stage 73 farms were analysed which comprised approximately 30% of the total number of all farms investigated on the first stage. It comprised about 3% of all farms registered in the Institute of Tourism. In this paper the authors have presented the results from the second stage. Farms were selected purposefully for the surveys. The selection criterion were: location of a farm in rural areas of the Polish Carpathian Mountains, registering and conducting agritourism activities for minimum three years, arable lands in less developed areas (LFA), a farm registered in the Agency for Restructuring and Modernization of Agriculture (ARMA) as the beneficiary of direct payments.

The source data include the year 2011 and they were acquired by the method of standardized interview using questionnaires. Questions included in it made it possible, among others, to calculate income from agricultural production, income from area payments (direct payments, payments for LFA, agro-environmental payments) and income from non-agricultural activities, i.e. agritourism, services accompanying agritourism, permanent or seasonal work of a farmer beyond the farm, own businesses and social benefits

(retirement pensions and disability pensions). Because of the difficulties connected with confirming data concerning the income not connected with farm activity, they are treated as estimated data. Hence, calculated structure of income reflects only the standpoint and opinions of respondents.

Taking into account the classification of the economic size of agricultural farms in ESU<sup>1</sup> for the purposes of accounting (FADN<sup>2</sup>) in Poland and in EU [Goraj et al. 2004], five types of agritourism farms were distinguished, for which the economic analysis was conducted (Table 1).

When analysing the impact of various sources on total income of the farm, the Pearson's linear correlation was used, which determines the level of linear dependence between random variables [Kukuła 1998]. In the correlation analysis, the following elements were taken into account:  $X_1$  – agricultural income,  $X_2$  – income from area payments,  $X_3$  – income from agritourism activities.

Agricultural income in the analysed farms was estimated on the basis of the rear volume of sale and consumption of agricultural products and incurred direct and indirect costs according to the data obtained from respondents, including in-depth interviews using a questionnaire.

The level of income from area payments (including payments for less favoured areas – LFA) under CAP was obtained on the basis of decisions from the County Offices of the ARMA received by farmers.

The level of income from agritourism activities was estimated by the research authors on the basis of information obtained in the questionnaire interview that contained data concerning the number of person-days of stay in agritourism farms, revenues and expenses incurred in these activities.

Owing to the criterion of number, two criteria were used using the Pearson's linear correlation. The first one includes total surveyed farms (group 4), the second criterion

Table 1. Types of agritourism farms distinguished in the surveys and their number

Numbering	Name of type of agritourism farms	Economic size in ESU	Number of farms (N)
1st type	agritourism farms with marginalized agricultural production	<2	31
2nd type	semi-subsistence agritourism farms with predominance of plant production (>50% of total production)	2–4	13
3rd type	semi-subsistence agritourism farms with predominance of animal production (>50% of total production)	2–4	10
4th type	economically viable agritourism farms with predominance of plant production	>4	8
5th type	economically viable agritourism farms with predominance of animal production	>4	11

Source: Author's own research.

<sup>1</sup> ESU – European Size Unit – presents economic size of a farm, calculated on the basis of standard gross margin (1 ESU = 1,200 EUR).

<sup>2</sup> FADN – Farm Accounting Data Network.

includes economic size of farm expressed in ESU (groups 1–3), thus the previously analysed five types of farms were reduced to three groups in consequence of excluding in the typology the division of standard gross margin separately for plant production and animal production, but including the whole agricultural production. Therefore, the first group included farms <2 ESU, the second group 2–4 ESU and the third group included farms >4 ESU.

Calculating the standard gross margin (SGM) for plant and animal production as well as for the whole farm was possible on the basis of the data received from the area payments and from the registration of animals (ARMA).

## RESEARCH FINDINGS

### Structure of income in agritourism farms by types of farms

As it seems from Figure 1, in farms with marginalized agricultural production (1st type), the main source of income was permanent work beyond the farm (34.7%). Agritourism activities accounted for high percentage (25.9%). It was noticed that the surveyed farms gain in this type also income from services accompanying agritourism (3.6%). Income from agricultural production is a minute share, because on average only 4.5%. Significant share in income, as much as 22.6%, have social benefits, and, by the way, for many years it has been a situation quite typical of the Polish countryside [Kowalska 2009].

In farms with predominance of standard gross margin from plant production (2nd type), the largest percentage in income – of 32.5% is recorded by permanent work beyond

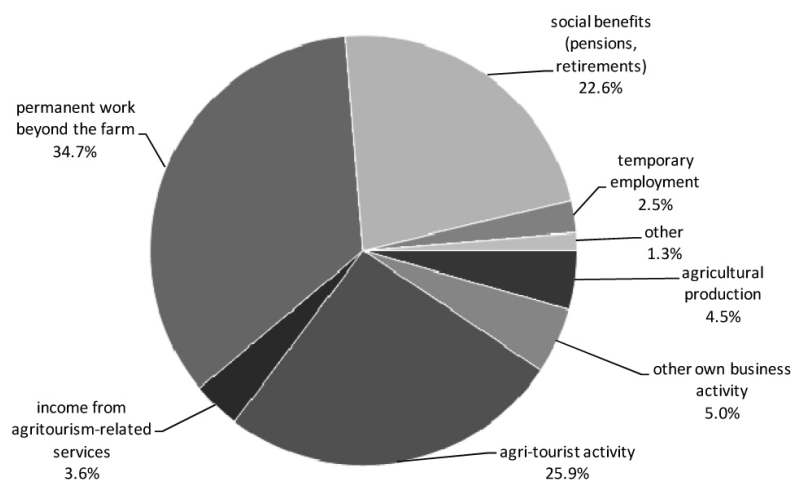


Fig. 1. Structure of income in agritourism farms with marginalized agricultural production – 1st type ( $N = 31$ )

Source: Author's own research.

the farm and agritourism activities. Income from non-agricultural activities accounts for 14.2%, while social benefits account for 13.1% (Fig. 2).

From the analysis of semi-subsistence farms with predominance of animal production (3rd type) it results that the main source of their income was permanent work beyond the farm (40.5%). It was noticed that with regard to the concerned types of farms the percentage of income from agritourism activities decreased (17.2%). Private business has a relatively high share (13.8%) in income. By analogy to the second type of farms, income from agricultural activities in total income is minute share (15.5%) – Figure 3.

To sum up the findings of the analysis of types of semi-subsistence farms that conduct agritourism activities, it can be concluded that agricultural production is not in them a significant income of farmer's family. Permanent work beyond the farm has the largest percentage in the structure of income.

Analysing the 4th type, i.e. economically viable farms with predominance of plant production (Fig. 4) it was concluded that the main source of income in them was agricultural production (42%). With regard to previous types, the percentage of income from work beyond the farm decreased (27%). Agritourism activities had a significant share in income (25%).

We may thus conclude that the structure of particular income sources depends on the farm's economic value. The greater the sum of standard gross margin, the greater the importance of income from non-agricultural activities in the overall structure, as compared to agritourism activities which account for a significantly smaller percentage share.

By analogy to the 4th type, it was noticed that in economically viable farms with predominance of animal production (5th type), the main source of income is income from agricultural activities (37.5%). On the contrary, income from agritourism activities

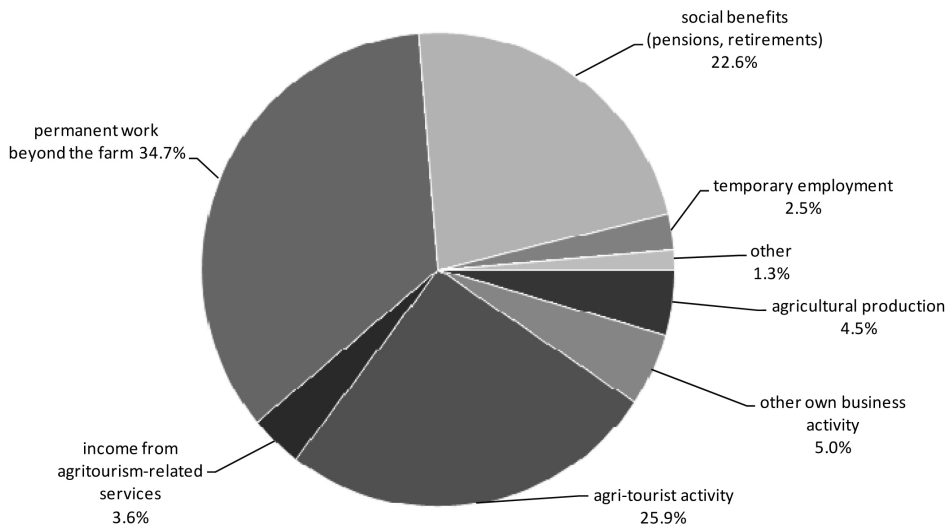


Fig. 2. Structure of income in semi-subsistence agritourism farms with predominance of plant production – 2nd type ( $N = 13$ )

Source: Author's own research.

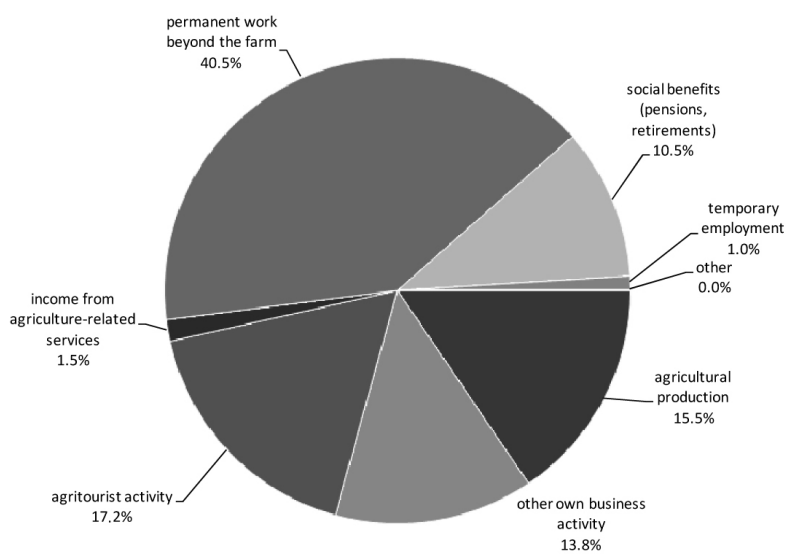


Fig. 3. Structure of income in semi-subsistence agritourism farms with predominance of animal production – 3rd type ( $N = 10$ )

Source: Author's own research.

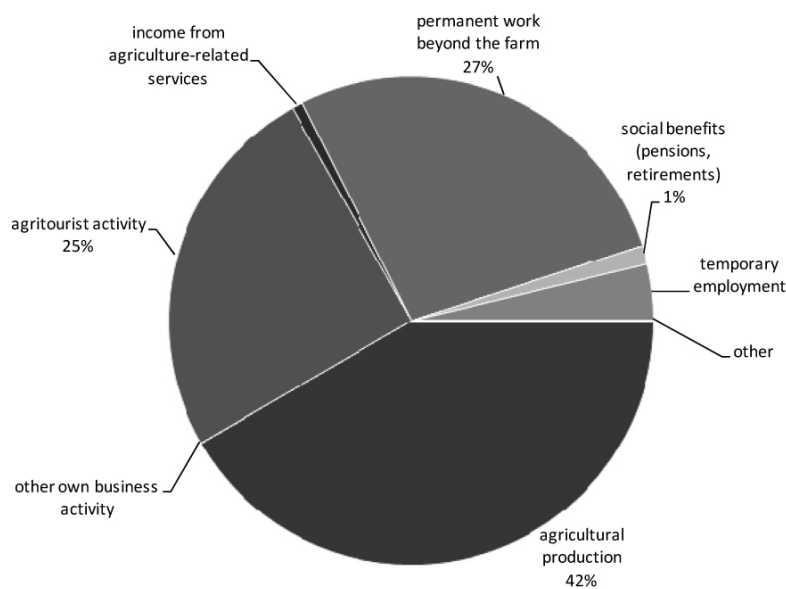


Fig. 4. Structure of income in economically viable agritourism farms with predominance of plant production – 4th type ( $N = 8$ )

Source: Author's own research.

reaches the same level as from permanent work beyond the farm (24.4%) – Figure 5. It can, therefore, be concluded that the structure of income in economically viable farms with predominance of plant and animal production is similar, and income from agritourism activities is at the level of 24.3%.

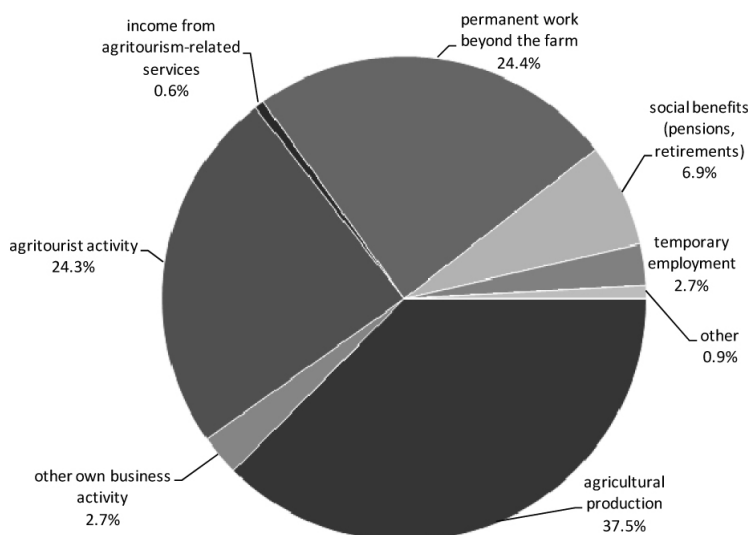


Fig. 5. Structure of income in economically viable agritourism farms with predominance of animal production – 5th type ( $N = 11$ )

Source: Author's own research.

To sum up, the analysis of structure of income in particular types of farms showed that agritourism activities were in them only additional income. In any of the analysed types, it was not the main source of income. It was noticed that income from services accompanying agritourism was minute and did not exceed a few per cent, which proves that in the analysed area owners of agritourism farms are not specialized in the provision of additional accompanying services and do not develop their agritourism offer, and focus mostly on basic elements of agritourism, including overnight accommodation and board.

### Statistical evaluation of the selected sources of income on economic situation of the surveyed farms

When analysing the degree of correlation of particular variables (Table 2), it was noticed that in the group of total farms the correlation was weak between total income and income from agricultural production and income from area payments, while the correlation between total income and income from agritourism activities was strong ( $r = 0.932$ ). It may thus be concluded that income from agritourism activities had the greatest impact on total income of farms with marginalized agricultural production.

When characterizing the second group of semi-subsistence farms, it may be concluded that there was a moderate correlation between total farms and agricultural income. On



the other hand, total income of farms to income from area payments was hardly significant (low correlation). A considerable dependence was recorded between total income of farms and income from agritourism activities ( $r = 0.836$ ). Therefore, in 2nd group of farms 2–4 ESU (semi-subsistence) the income from agritourism had the strongest dependence.

The third group of farms >4 ESU (economically viable farms): the correlation between total income of farms and particular sources of income was positive. It was proven that the greatest degree of correlation was between total income of farms and income from agritourism activities ( $r = 0.889$ ). A high correlation was present also between total income of farms and income from area payments ( $r = 0.680$ ).

It may be concluded that in all the surveyed farms the largest dependence was between total income from farms and agritourism activities, which is positive from the point of view of promotion and development of agritourism.

When characterizing the fourth group (all 73 surveyed farms), high correlation was noticed between total income and farms and agricultural income and income from area payments. On the other hand, very strong dependence (very high correlation) was between total income of farms and income from agritourism activities ( $r = 0.844$ ). In turn, income from area payments was most important in economically viable farms.

Table 2. Correlation for surveyed groups of farms between ESU and different income categories

Specification	Categories of income					
	agricultural income $X_1$		area payments $X_2$		income from agritourism activities $X_3$	
	$n$	$r$	$n$	$r$	$n$	$r$
Group 1: <2 ESU, $Y_1$	31	0.181	31	0.138	31	0.932
Group 2: 2–4 ESU, $Y_2$	23	0.595	23	0.200	23	0.836
Group 3: >4 ESU, $Y_3$	19	0.540	19	0.680	19	0.889
Group 4: total surveyed farms, $Y_4$	73	0.630	73	0.671	73	0.844

$n$  – number of farms;

$r$  – value of Pearson's linear correlation coefficient;

$Y_1 - Y_4$  – total income of agricultural farms;

Source: Author's own research.

When analysing the degree of correlation between total income of farms and three sources of income, i.e.: from agricultural activities, area payments and agritourism activities a strong correlation was shown between variables, and agritourism activities had definitely the greatest impact on total income.

## CONCLUSIONS

The analysed research results were the basis to reach the aim of the research that is indicating the sources and estimating the structure of income in agritourism farms.

As it results from the conducted analysis, the structure of income in the surveyed types of farms was diverse. Only in the fourth and fifth type, where economic size

exceeds 4 ESU, the main source of income was agricultural production (42 and 37.5%, respectively), however, it was not a significant advantage. In all of the surveyed agritourism farms part of other household members, apart from work in agriculture, were performing other activities, mainly working for economic purposes (as hired workers) beyond the farm, or on the basis of self-employment.

The survey also proved that in each of distinguished types of farms, the structure of income included social benefits which, in semi-subsistence farms and in farms with marginalized production accounted for even over 10%.

Considering the structure of income of the surveyed farms it should be noted that non-agricultural occupational activity of farming population is necessary, as it raises the standard of living of agricultural families. In addition, large agrarian fragmentation in the area of the Polish Carpathian Mountains and unfavourable conditions of management justify the need for setting up small businesses with the use of farm's resources, e.g. in agritourism activities, but also they justify the need for working beyond the farm. The diversity of the structure of income of the surveyed farms and presence of income from small entrepreneurship should be considered as a positive phenomenon.

The social and economic conditions of rural areas of the Polish Carpathian Mountains, with a large agrarian fragmentation, unfavourable conditions of management, often not regulated ownership of farms, as well as mental considerations constitute an important barrier in agricultural production in that area. Alternative sources of income – especially agritourism become more and more important in the development of those areas.

From the analysis of the obtained survey findings it can be concluded that the structure of income of the surveyed farms in the Polish Carpathian Mountains is dominated by non-agricultural additional sources of income, i.e. agritourism activities, services accompanying agritourism, private business, permanent or seasonal farmer's work beyond the farm and social benefits (pension and retirement), rather than income obtained from agricultural production.

Strong dependence, i.e. positive correlation of total income from a farm to income from agritourism, enables concluding that growth in income of the surveyed farms is mainly an effect of successful agritourism activities.

The level and structure of obtained income in the surveyed farms shows clearly that agritourism occupational activity of agricultural population significantly raises the standard of living of agricultural families by generating additional sources of income. It enables verifying the research hypothesis that conducting agritourism activities and obtained income have a significant effect on the economic situation of agricultural farms within the area of the Polish Carpathian Mountains.

## **ŹRÓDŁA I STRUKTURA DOCHODÓW GOSPODARSTW AGROTURYSTYCZNYCH W KARPATACH POLSKICH**

**Streszczenie.** W pracy dokonano analizy i oceny źródeł oraz struktury dochodów w drobnych gospodarstwach agroturystycznych, położonych w regionie Karpat Polskich. Dane empiryczne uzyskano przy użyciu kwestionariusza wywiadu z 73 gospodarstw. Ich analiza

pozwoili na wyodrębnienie pięciu typów, tj. gospodarstwa agroturystyczne ze zmarginalizowaną produkcją rolniczą poniżej 2 ESU, gospodarstwa niskotowarowe z przewagą produkcji roślinnej 2–4 ESU lub z przewagą produkcji zwierzęcej 2–4 ESU oraz gospodarstwa żywotne ekonomicznie z przewagą produkcji roślinnej powyżej 4 ESU lub z przewagą produkcji zwierzęcej powyżej 4 ESU. Wykazano, że w strukturze dochodów wszystkich typów badanych gospodarstw agroturystycznych dominują pozarolnicze źródła dochodów, tj. agroturystyka i usługi towarzyszące oraz stała lub sezonowa praca poza gospodarstwem, działalność gospodarcza, a także świadczenia społeczne – renty i emerytury, a nie dochody z produkcji rolniczej. Największy i dodatni wpływ na dochodowość badanych gospodarstw wywierają dochody z działalności agroturystycznej.

**Słowa kluczowe:** agroturystyka, drobne gospodarstwa, źródła dochodów, Karpaty Polskie

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