
Agro Tourism as Public Good in Rural Areas: A Case Study

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Abstract:

The paper presents the relationship between the variables of the attractiveness of communities of the West Pomeranian and economic, social and ecological variables as feature of agro tourism farms owners. The χ^2 test of independence was used in order to identify the role of the public good provided by agritourism farms owners and the relationship between independence. The attention was drawn to the concept of multifunctionality of agriculture and the importance of the tourism activities.

Key Words:

Agriculture, agro tourism, public goods, multifunctional, agriculture

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1. Introduction

Multifunctionality of agriculture is already noticed in the past and the scale of its occurrence is characterized by the utilization of labour resources and physical capital on farms and the scale of non-agricultural employment. In the Polish scientific literature there is a discussion of the multifunctionality of the country and the rural areas (multifunctionality of rural areas), which consists of rural economic diversification and thus increasing employment opportunities in non-agricultural activities in rural areas (Wilkin, 2008). According to the definition of pure public goods which are delivered to all citizens in the area without being able to exclude anyone from consumption and the marginal cost of supplying those goods is zero. In terms of tourist visiting the region of agro-tourism services can be a public good or club, depending on whether it is possible to exclude anyone from consumption. They can also be good in a club or private, depending on whether these goods are competitive. From the perspective of the inhabitants of the region carry out the tasks of a municipality within the rural tourism can be regarded as providing a pure public good.

The premise of the present paper is the multifunctional development of the current issues of agriculture which is to include reinforcing elements increasing rural tourism values by enriching the attractiveness of the landscape and tourism development. Noticeable is the lack of definition in the literature that treated rural tourism as a public good provided by local or central government. Under the law the task of municipalities is to conduct and financing of tourism policy. Selection of paper topic and related issues has been conditioned by the need to supplement, to systematize and update knowledge of the relevant aspects and conditions for development of multifunctional agriculture (especially tourism), taking into an account the characteristics of natural, social and economic environment for local and regional levels.

Against the background of the study there will be attempt to answer the following questions:

- Whether the provision of public goods by agro tourism affects its profitability?
- Whether agro-tourism services have an impact on the profitability of farms or if only by a purely market-based revenues, or through transfers from public funds?

The development of tourism in rural areas is possible. More than half of rural communities meet the criteria for recreational space and has favourable conditions for development of tourism. However, it is noted that there are significant barriers concerning human capital. They influence the decision to be taken in shaping changes in rural areas and do not allow full use of the existing possibilities.

2. Material and research methods

The research on the evaluation of agro tourism as a public good was carried out in the Western Pomerania communities. The questionnaire method was used to collect data. The source materials on the opinion of owners of agro tourism farms were the result of research carried out in 2011. The research involved 40 farm owners. In order to identify following questions: (a) whether the provision of public goods by agro tourism affects its profitability? (b) whether agro tourism services have an impact on the profitability of farms or if only by a purely market-based revenues, or through transfers from public funds? The χ^2 test of independence, which allows to determine the statistical significance of the relationship between both measurable and non-measurable variables, was used. The test involves comparing the number of responses received in a number of researches that can be expected under the assumption that there are no relationships between the analysed variables. The values of χ^2 and degrees of freedom (df) are working and are generally not assessed. The interpretation covers primarily the level of probability (p), on the basis of which the existence or lack of dependence are predicated. The article adopted a critical significance level $p < 0.10$.

The available data storage statistics do not specify the precise scale projects related to rural tourism and the number of people taking a rest in agro tourism farms. Therefore, the questionnaire method was used to collect the raw data. The number of farms involved in agro tourism and rural tourism is increasing every year in the majority of Polish regions. In many countries of the European Union, the number of farms offering agro tourism services is growing rapidly, e.g. in Italy the number of such farms in the years 2007-2003 doubled (OECD, 2008). In 2005, in Poland there were 18,653 individual accommodation facilities (including 6,550 lodging agro tourism) offering 309,157 beds (including 7,692 rural tourism lodging). In 2009 the number of agro tourism accommodation increased to 8,402 i.e. by 9.62% (calculation based on Biełkowska 2009, p. 50). The number is not significant, which in case of support for such initiatives from the European Union funds indicates the presence of significant barriers to the formation of this type of activity. The number of beds in agro tourism farms increased much faster (by 33.19%), indicating the rapid expansion of existing farms. The largest number of facilities were found in Pomerania, Lesser Poland and Western Pomerania Regions. Some of the regions faced sharp decline in farms number in 2010 compared to 2007 (Warmia and Mazury, Pomerania, Podlaskie, Subcarpathian regions), which may result from the reduction in tourist activity due to the global crisis. Therefore, it is worth to take a closer look to the opinion of the owners of such entities assessing the agro tourism as a public good in rural areas.

3. Factors characterizing the role of public goods provided by the farms owners in the concept of multifunctional agriculture

The concept of multifunctional agriculture is based on the assumption that agriculture can provide important non-production functions for the society, which is not achieved by other sectors of the economy. The multifunctionality of agriculture has its own historical background. For centuries agriculture has shaped the landscape and has been a part of the traditions of many regions. As a result, it provides a number of public goods, such as (Van Huylenbroeck and Durand, 2003; Brouwer, 2004; Cahill, 2001): the conservation of biodiversity, the maintenance of landscape aesthetics, space, conditions for recreation, water accumulation, nutrient recycling and preserving wildlife, protecting against extreme weather events and flood. According to a research conducted by Brunstad *et al.* (1999, p. 539) non-production functions are gaining importance in the developed countries and introducing fees for them are becoming more accepted by societies in those countries. In the case of agricultural multifunctionality, it means that the assessment of the contribution of farms to the socio-economic system requires common consideration of all externalities generated in the operation of farms (Randall, 2002, pp. 290-292). The very concept of providing non-food agricultural goods is not new and of itself, is not controversial. However, the problem is the possibility to provide economic benefits to pay for the implementation of non-production functions. The often posed complaint is the question of excessive social and environmental functions combining only to agriculture. Multifunctionality is not a phenomenon reserved only for agriculture, but there are specific problems as well as public goods produced in the sector. A very important feature in this context is the natural character of the resources (especially land) in agriculture. It is therefore necessary to state clearly that the lack of formation of the markets does not provide a valuation and consequently payment for the provision of public goods by agriculture (Czyzewski and Kulyk, 2011).

The property rights and the ability to unambiguously assign property rights to certain assets are key features. This often requires regulation by the state, so as to be able to assess properly the entity's contribution to the creation of good. Then it is possible to, at least partially, implement the market fee for the provision of public goods, which allows simultaneously increasing farmers' incomes, and thus moving the profitable agricultural production by reducing the over-intensification. One of the sample solutions is to promote the development of agro tourism. In the European Union agro tourism is supported and funded by the European Leader Program, which aims to promote endogenous, integrated and sustainable development in rural areas. Agro tourism activity in this approach is combined with agricultural production by "complementary binding". In this sense, rural tourism is based on the benefits provided by the farm, and cannot exist without agricultural production. Therefore, in some countries in the detailed solutions it is reserved that agro tourism

activities may apply only to farms that produce agricultural production at the same time [e.g. the provisions of Italian law (OECD, 2005, pp. 34-40)]. Thus other benefits are implemented for the development of tourism. Furthermore, both diversification and modernization of agriculture occur, as well as a better use of the resources involved (especially the labour force). Such solutions also shape the complex relationship between agricultural production and the provision of public and private goods, provide benefits, and from their production. Adopted regulations concerning property rights in the concept of multifunctionality of agriculture at the same time takes into account several aspects: the connection between agricultural production and reducing externalities and market imperfections allocation, which in other case does not allow the market to ensure the benefits of the provision of public goods. The implementation of the concept of eco-tourism focused primarily on preserving the environment and promoting environmental awareness among tourists and local residents became an extension of this idea and indicated differentiation compounds.

Due to the competition with traditional agricultural products and high price flexibility of demand prices for agricultural products, farmers do not pay much attention to properly maintain the environment (OECD, 2008). The problem lies in the proper assessment of the benefits to be gained from promoting farmers for organic production and increasing concern for the environment. It may be noted that the commitment to the development of tourism activities on farms is dependent on the perception of their owners of the benefits of such activities and, indirectly, the attractiveness of the area in terms of the possibility of such activity (Brunstad *et al.*, 1999). The awareness of the impossibility of the smooth functioning of tourism and tourism product development without attractive natural assets on the one hand, and awareness of the increase in requirements of tourists to the natural environment on the other hand means the attitudes of the inhabitants of communities are becoming more ecological (Rapacz, Gryszel and Jaremen, 2008).

The role of public goods provided by the farm owners was analysed due to the gender, age, education and income of the researched respondents. The gender of the head of the household was the first of the analyzed factors. It turned out that gender generally does not differentiate the role of public goods. Most of the residents of the West Pomerania communities indicate that the protection of water and soil is the most important role of the public good provided by agro tourism farm owners. However, it should be noted that the percentage of the role of public goods, the head of which are women or men, are quite similar, with a slight predominance of farm women, 63.2% of whom assessed phenomenon as conservation of biodiversity.

Table 1 presents the results of χ^2 test of independence in the assessment of different aspects, depending on gender, age, education and income of the respondents. It shows the exact value of the test, the number of degrees of freedom (df), the critical

value for this test, and so called p-value, which limit the level of significance. Italics in the table indicates the cases for which the relationship between the measured features is considered as statistically significant ($p < 0.10$). It can be noted that there are only five of those cases: very important dependency is between the relationship of education and the protection of soil and water ($p = 0.0587$ and $p=0,0496$ - dependence) and between age and the protection of water ($p = 0.0446$). According to the income there are two cases, dependency is between protection of water and care rites and customs ($p=0,0975$ and $p=0,094$). Depending on the characteristics of the above in detail illustrated in Table 2 in the depicted so. Odds ratio, compared to the probability of a given aspect of the three-step evaluation, for example, what are the chances of the assessment of the aspect of the "occur" and that as "does not exist" and "lack".

Table 1: Strength of the relationship between the role of public goods provided by the farms owners and gender, age, education and income of the researched respondents

Research aspect:	Analysed variable:															
	Gender				Age				Education				Income			
	χ^2	df	critical value	p	χ^2	df	critical value.	P	χ^2	Df	critical value	p	χ^2	df	critical value	p
The role of public goods provided by the farms owners:																
Conservation of biodiversity	4,28	2	5,99	0,8072	4,94	6	12,59	0,5512	1,11	4	9,49	0,8932	2,76	2	5,99	0,2516
Preserve the diversity of the landscape	1,12	2	5,99	0,571	4,03	6	12,59	0,6723	7,09	4	9,49	0,131	0,46	2	5,99	0,7955
Protection of soil	0,03	1	3,84	0,8554	0,46	3	7,81	0,9272	5,67	2	5,99	0,0587	1,47	1	3,84	0,2249
Protection of water	0,22	2	5,99	0,8967	12,90	6	12,59	0,0446	9,51	4	9,49	0,0496	4,66	2	5,99	0,0975
Care rites, customs	1,23	2	5,99	0,5399	3,34	6	12,59	0,765	1,00	4	9,49	0,9091	4,73	2	5,99	0,094

Source: Author's research

Table 2: Selected odds ratios describing the researched variables

Researched aspect	Analysed variable	Type of odds ratio	Variable variant/	Value of odds ratio
The role of public goods provided by the farms owners:				
Protection of soil	education	occur/does not exist	vocational	0,47
			secondary	3,5
			higher	0,666

	age	occur/does not exist	36-45	1,2
			56-65	2,333
			46-55	10
			18-25,26-35	0,25
	education	occur/does not exist/ lack	vocational	1,181
			secondary	0
			higher	1
Protection of water	income	occur/does not exist/ lack	over than 1200	1,25
			801-1200	9
Care rites and customs	income	occur/does not exist/lack	over than 1200	1,500
			801-1200	9

Source: Author's research

The fact that public goods are mainly supplied in the form of water conservation by the owners of tourist farms significantly affects three characteristics: age, education and income of farm tourism attempt were made to determine how the two characteristics together shape the distribution of scores on another aspect of. For this purpose, an analysis of the correspondence, this is to find the relationship between the factors studied when they are qualitatively. It consists in that the so formed correspondence diagram in which each category of agent is represented by a single point on the graph. Then evaluate the relative position of these points: the closer to find that these categories have between them a stronger dependence; in turn position on opposite sides of the axis indicates that between them there is no significant relationship. Correspondence analysis is based on the χ^2 test of independence is in a way an extension of the analysis presented earlier, except that it can include more than two traits at a time.

4. Conclusions

The factors affecting the tourist experience from staying in the country are largely beyond the scope of the impact of the rural accommodation, ranging from the attractiveness of tourist attractions, the services of other companies, to the generally understood the quality of life in a given place, including the availability and quality of social and technical infrastructure, safety, friendliness of local residents to visitors, the number and behaviour of other tourists. A significant part in shaping the quality of tourist offer of the town have nature goods (the original) and public goods that affect not only the shape of the tourist offer, but also the quality of life of local residents. Economic, social and ecological balance is considered to be key factors affecting the competitiveness of tourist destinations in the long term. Finding the right balance between the free development of tourist reception areas and the protection of their resources is a very difficult task. It is related to the implementation of the concept of multifunctional agriculture providing both private and public goods.

The analysis of the questionnaire results included in the hereby study showed that in the Western Pomerania the owners of agro tourism farms assess the researched communities as good in terms of their attractiveness and clean environment. The research has shown a strong correlation between owners' age, education, incomes and clean environment assessed by them as well as education and attitude of the authorities to the society. The environmental awareness of communities' residents is also increasing, which directly relates to the quality of life of the society. It should be noted that this area, in which a relatively fast (compared to other regions of the country) increase was observed, considers both farm tourism, and accommodation in these farms. The significant association between the perception of the communities' attractiveness by the farm owners and the decisions about their development and conversion of farmhouses is observed.

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