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## **IMPACT OF THE GEOGRAPHICAL ENVIRONMENT ON AGRITOURISM DEVELOPMENT ILLUSTRATED BY THE EXAMPLE OF THE ŚWIĘTOKRZYSKIE PROVINCE**

### **Summary**

Management transformations which started at the turn of the eighties and nineties of the 20<sup>th</sup> century in Poland have thoroughly changed socio-economic conditions of the development of the country and its regions. The transformation of state-controlled management system required adjustment of various socio-economic and spatial structures to the new rules of market economy. This process, being based on transformation of the previous structures created in the centrally-steered management system and on the development of new structures, is being observed in many places in Poland, also in rural areas in the Świętokrzyskie Province. One of the most popular forms of development of rural areas is agritourism at present. The study attempts to assess the influence of geographical environment on agritourism development potential in the Świętokrzyskie Province. The analysis of elements of natural environment and tourist amenities makes it possible to evaluate how attractive rural areas are from the standpoint of agritourism development. The study gives numerical attractiveness indicators to show how rural areas are diversified in their likelihood of success for agritourism business

**Key words:** rural areas, tourist attractiveness, tourist amenities

### **INTRODUCTION**

In recent years the multifunctional development of rural areas has been discussed more frequently than before. The focus is put on non-agriculture enterprises. Tourism is perceived an important option as it provides farmers, primarily those living in tourists attractive regions, with an additional source of income [Pałka 2004].

The study aims to make an assessment of the impact of geographical environment on the agritourism development potential, the phenomenon is illustrated by the example of the Świętokrzyskie Province. The attractiveness of the Province's rural areas for agritourism is evaluated on the basis of the analysis of the natural environment components, tourists amenities and facilities. The study predicts which rural areas are most likely to succeed in agritourism enterprise by taking into account sightseeing values, specialist and recreational assets. The evaluation relies on the notion of tourist attractiveness.

The statistical indicator used in the study is as follows:

– attractiveness indicator (WA) computed in accordance with the formula [Warszyńska 1971]:

$$WA = \frac{A}{A_{max}}, \text{ where } A_{max} = 48 \quad \text{WA} = \text{from 0 to 1}$$

$WA$  – attractiveness indicator,  $A$  – tourist attractiveness,  $A_{max}$  – maximum attractiveness.

The source materials collected in the course of field research, geared to the appraisal of the degree of tourist attractiveness of rural areas in the Świętokrzyskie Province, had to be thoroughly analysed. The literature used for the present study discusses the role of tourism in rural areas while focusing mainly on attractiveness and tourist infrastructure. The literature could be classified into a few categories. The first group comprises papers on the characteristics of the natural environment components that play a decisive role in tourism development, especially in the evaluation of the natural environment. The second group discusses tourist infrastructure, its availability, distribution and assessment. The third thematic range covers the perspectives on tourism development in rural areas. While evaluating tourist amenities of the Świętokrzyskie Province rural areas, the author relied mainly on the works of Bar and Doliński [1975], Sidło [2000], Pałka [2002, 2004], Marcińczyk and Sowiński [1999] and also Mityk [1993]. Extensive investigations in this field of study were conducted by Warszyńska [1971] who presented the methods to appraise the natural environment for the sake of tourism, providing the basis for the evaluation with respect to tourist attractiveness.

#### **THE EVALUATION OF TOURIST AMENITIES OF THE ŚWIĘTOKRZYSKIE PROVINCE RURAL AREAS**

The values of the natural environment together with leisure facilities contribute to recreational amenities that encourage tourists to stay in a given area for some time. Clean air, quietness, low urbanization level are regarded as indispensable factors. Those advantageous ones include conditions that help facilitate active recreation, especially landscape beauty [Bar, Doliński 1975].

The analysis of recreational amenities of the Świętokrzyskie Province communes was carried out while taking into account selected components of the natural environment such as: terrain features, water and vegetation cover. The analysis was based on questionnaire survey. Recreational amenities decide about an area's potential for providing leisure opportunities. The Świętokrzyskie Province demonstrates spatial diversification as regards recreational amenities. The northern and central parts are characterised by excellent recreational assets. They are the Świętokrzyskie Mountains area with significant landscape value. The southern part of the Province comprising the Nida River Basin (Niecka Nidziańska) also shows high quality tourists assets. Rare gypsum geological formations, mineral springs and medicinal waters, as well as xerothermic flora and fauna are all found in the Nida River Basin area. Its unique features are gypsum outcrops making picturesque steeps that can be seen in closed mines, e.g., in Gacki. The diversity of neighbouring water-meadow ecosystems that occur in the Nida River Valley contributes to the richness of recreational resources. The presence of waters with bathing sites located on the edges greatly enhances recreational usage of the area. In the communes where agritourism and ecotourism has developed, fish ponds have been adapted to tourists needs, e.g. in Chmielnik, Nagłowice and Oksa. Forest cover is another factor that contributes to the tourist attractiveness of the area. The woodiness of the Świętokrzyskie Province area is diversified. Northern and north-western parts of the Province are characterised by the highest woodiness. Forests occur in compact complexes. In the region of the Świętokrzyskie Mountains, they cover ridges of mountain ranges. Remains of two primeval forests, namely Jodłowa (Fir) and Świętokrzyska Ancient Forests, both located in the Świętokrzyski National Park, are still preserved in the Province. Apart from fir-beech forests, typical sylvan vegetation includes pine-oak mixed forests with other species such as fir, larch, spruce and beech. Woodiness decreases towards the south of the Province, where soil and climatic conditions provide agriculture with a competitive advantage.

As regards recreational amenity, each commune has the indicator of this amenity (Ww) determined. Recreational amenity indicators are varied across the Province's area. The regions most attractive due to their recreational amenity (Ww above 0.5) are located in the northern and central parts of the Province. They are characterised by high Ww values because of scenic quality of landforms, concentration of woodland and numerous tourist tracks. The Jędrzejów, Pińczów, Wiślica, Staszów and Rytwiany communes are thought to be the most attractive because they lie on rivers and have landscape parks, areas of protected landscape and nature reserves. The communes located in the north, centre and west of the Province and also in the south of the area under consideration are characterised by a relatively high tourist attractiveness (Ww = 0.4 to 0.5). This also refers to five communes in Opatów District as they have landscape parks and a large number of nature reserves. The remaining Province's regions are

characterised by medium recreational amenity ( $W_w = 0.25$  to  $0.4$ ). They are communes of lower recreational resources because of less varied landscape or natural landforms. Only two communes, namely Czarnocin and Wojciechowice, show low  $W_w$  values (below  $0.25$ ) as they are typically agricultural areas of small woodiness.

Interests of modern tourists are very wide and greatly varied. They result from people's knowledge, personal tastes and preferences. It is also important whether general public are well-informed about the area they visit. All sites have their unique sightseeing and tourist potential, which is jointly termed sightseeing amenity [Bar, Doliński 1975]. Tourist amenity of sightseeing quality, later referred to as sightseeing amenity, is thought to be a physical object or a manifestation of spiritual heritage which is an object of interest for tourists [Lijewski, Mikułowski, Wyrzykowski 2002].

Sightseeing amenity of the Świętokrzyskie Province is varied in character. It refers both to elements of the natural and non-natural environment. Protection has been instituted for many of them. The most valuable natural environment object under legal protection is the Świętokrzyski National Park (ŚPN). No economic activities can be conducted in the Park area. Tourist services are the most active type of business that operates there. Five walking tracks, with a total length of approx. 26 km, are available. Visitors to the National Park are not permitted to walk off the tourist tracks which take them to the most interesting sites [Pałka 2004]. The Park area is covered mostly by woodlands that are the remains of Świętokrzyska Ancient Forest. In order to protect valuable features of the natural environment, as well as the cultural heritage and scenic quality, groups of landscape parks were established, namely the Świętokrzyskie Mountains, Ponidzie (the Nida River valley), Chęciny-Kielce Landscape Parks. The Province offers a great variety of sightseeing amenities. Apart from heritage and sightseeing merits which are represented by architecture monuments and churches, museums, old industrial monuments, one should not overlook the region's literary traditions and the viability of traditional folk culture.

The Province's most important industrial monument is, undoubtedly, ancient striped flint quarry in Krzemionki, near Ostrowiec Świętokrzyski. The world's unique pits date back about 4,000 years. In the north-eastern part of the Province, one can find the remains of one of Europe's biggest mining and metallurgy centres in Roman times (Świętokrzyskie Ancient Mining and Metallurgy Centre). The traditions of iron ore smelting were revived and are continued until nowadays in the form of festivities called "Dymarki Świętokrzyskie" in Nowa Słupia. Since Middle Ages, the Province's capital has had the traditions of lead ore mining and smelting, which is revived by the event called "Lead Smelting" held in Tokarnia village, the seat of the Kielce Region Rural Living Museum. Stonemasonry centres in Kunów, Chęciny and Pińczów regions, active in Middle Ages and later periods, produced a large volume of both ecclesiastical and

secular architectural monuments. In the 19<sup>th</sup> century, Ćmielów and neighbouring places became a major ceramics centre. Industrial structures were located mainly in the valleys of the Kamienna and Czarna Konecka rivers, often occupying the sites of earlier forging shops and metal works that used to belong to bishops and gentry. The remnants of industrial monuments of unique value in Europe can still be seen there.

The Province's past is also reflected in numerous monuments of material and spiritual heritage. A lot of archaeological findings of the Palaeolithic, Neolithic periods, ancient times and Middle Ages are scattered across the region. The oldest include: the Neolithic man camp in Jaskinia Raj (Paradise Cave), near Chęciny, a hematite mine in Rydno (not far from Skarżysko and Wąchock), numerous grave-mounds and burial grounds found mainly in the Province's south, in the Nida River Valley (Ponidzie) region, remnants of flint quarrying and working that date back 4,000 years (Krzemionki Opatowskie area). In the museum of ancient metallurgy in Nowa Słupia, the remnants of *dymarki*, primitive smelting furnaces, which are about 2,000-year old, can be seen. At Święty Krzyż (Holy Cross Mountain) an approx. 1.5 km long embankment of quartzite blocks, a site of pagan cult, was preserved. Besides pagan sacred places, one can find Catholic shrines, e.g. a 12<sup>th</sup> century Benedictine monastery at Święty Krzyż (Holy Cross Mountain) or a modern structure in Kałków-Godów, which are one of the most frequently visited sanctuaries in Poland. The Gothic collegiate church in Wiślica is one of the oldest architecture monuments in Poland. The oldest Cistercian monastery complexes are situated in Jędrzejów, Wąchock and Koprzywnica. The town of Sandomierz (10-19<sup>th</sup> cent.) is another gem, the heritage value of which is attributed to particular merits of urban development, architecture and landscape. The ruins of several knight castles are to be seen in the Province, among others, in Chęciny, Szydłów, Kurozwęki, Ujazd. In addition to heritage and industrial monuments, the history and culture of the Province was shaped by writes associated with the region, as well as folk culture traditions that are still celebrated.

Many eminent historians and men of letters were associated with what the land that is now called the Świętokrzyskie Province. They were, among others, Wincenty Kadłubek, Jan Długosz, Jan from Wiślica, Jan Chryzostom Pasek, Mikołaj Rej, Henryk Sienkiewicz, Adolf Dygasiński, Stefan Żeromski, Witold Gombrowicz and Gustaw Herling-Grudziński. The Province is one of Poland's regions where folk traditions are still alive. Inhabitants of rural areas locally use regional dialect and occasionally wear regional costumes. A lot of folk groups are based in the Province. All sorts of cultural events, international, all-Polish, regional and local, taking place annually contribute to the cultural landscape of the Province.

On the basis of sightseeing amenity the indicator of such amenity (Wk) was determined for each commune in the Świętokrzyskie Province. The values

of those indicators are clearly diversified across the Province area. Particularly attractive communes ( $W_k$  greater than 0.5) are located in the eastern and central parts of the Świętokrzyskie Mountains and in the Nida River Valley (Ponidzie). This is the area where the Świętokrzyski National Park and Nida River Valley (Ponidzie) Landscape Parks are situated. Moreover, the area is characterised by the concentration of ecclesiastical and secular architecture monuments and museums. North-western and south-eastern parts of the Province comprise regions of high ( $W_k = 0.4$  to  $0.5$ ) and medium ( $W_k = 0.25$  to  $0.4$ ) tourist attractiveness as regards sightseeing amenity. The remaining areas are of low attractiveness ( $W_k = 0.15$  to  $0.25$ ) or even unattractive ( $W_k$  below  $0.15$ ). Those are areas industrial (e.g. Sitkówka-Nowiny commune) or typically agricultural in character (Tuczepy, Wilczyce), having unvaried landforms and thus lacking sightseeing amenity.

Specialist amenity is understood to be the features of the natural environment that facilitate various forms of tourism, e.g. angling, sailing, canoeing, hunting, horse riding, skiing, hiking, cycling, cave exploration, etc. (Warszyńska, Jackowski 1985). Walking holidays is one of the options to choose from as the Province has 34 walking tracks, approx. 1108 km long in total, with different tourist amenities. A narrow-gauge railway line, built in 1926, runs in the south of the Province. Nowadays it is exclusively used for tourist purposes. The line route from Pińczów to Umianowice takes tourists on a journey through Nida River Valley (Ponidzie) Landscape Parks so that they can enjoy watching landscapes of high scenic value. On the Province's three waterways canoe trips are organised. In the south, on the Nida River (Motkowice-Pińczów-Chroberz-Nowy Korczyn with a total length of over 70 km), in the north, on the Kamienna River (Wąchock-Brody Iłżeckie-Ostrowiec Świętokrzyski) and also on the Czarna Konecka River. In addition to canoe trips, water rides enthusiasts can enjoy boat tours on the Vistula River near Sandomierz. The so-called "Kielce Loop" of the Małopolski Cistercian Route, a part of the Monastic Route showing the contribution of various religious orders into the cultural heritage and civilisation progress of different European countries, lies in the bifurcation of the Pilica and Vistula Rivers. The "Kielce Loop" forms a kind of square having its vertices at Wąchock, Jędrzejów, Koprzywnica and Sulejów. The first three places lie within the present borders of the Province. As distances between these Cistercian settlements are rather long, the route is recommended for motorists rather than pedestrian pilgrims.

Although snow lies for a shorter time in the Świętokrzyskie Mountains than in the Carpathians or the Sudeten, ski lifts operate in the area, among others, in Kielce, Krajno, Mąhocice and Tumlin. Those keen on gliding and paragliding can go to Masłów and Pińczów, which are seats of flying clubs.

The Province's water reservoirs, e.g. in Cedzyna, Sielpia and Chańcza, provide basis for sailing and canoeing. Woodlands with its flora play a very

important role. The abundance of forest floor undergrowth makes it possible for eager gatherers to harvest wild mushrooms, raspberries, blueberries, cranberries, herbs and others. Picking mushrooms and berries is especially popular in the Province's north-western and central parts, which have the concentration of woodland.

The Świętokrzyskie Province is attractive for speleologists because of numerous caves found in the rocks of the Chęcińskie Range, Bolomin Ridge and Łągów area. More than 20 horse riding centres and stud farms are located in the Province, e.g. in Michałów, Borków, Kaczyn and Pińczów.

The communes that are the most attractive due to their specialist amenity ( $W_s$  over 0.55) lie in the north, centre and in Nida River Valley (Ponidzie). They are characterised by the most attractive and versatile specialist amenities that are favourable for tourism development. High tourist attractiveness ( $W_s = 0.45$  to  $0.55$ ) is attributed to the northern, eastern and southern parts of the investigated area. Tourist tracks running through them jointly show nature, landscape and historical values. The remaining areas are either of medium ( $W_s = 0.3$  to  $0.45$ ) or low ( $W_s = 0.15$  to  $0.3$ ) attractiveness with respect to specialist amenities. Only one commune, namely Wojciechowice is considered to be unattractive ( $W_s$  lower than  $0.15$ ).

#### **EVALUATION OF RURAL AREAS IN RELATION TO TOURIST ATTRACTIVENESS**

Tourist attractiveness is a complex notion. It is determined by both tourist amenities, the quality of the transportation system and the supply of tourist services [Warszyńska 1971]. Thus the notion of tourist attractiveness integrates the components that are decisive for tourism development, that is tourist amenities, with amenities that satisfy the needs of tourist industry, that is tourist infrastructure. The evaluation, based on the method proposed by Warszyńska [1971], states the usefulness of the Province's communes for tourist and recreational usage. Although natural conditions were assumed to be the basic criterion as they are indispensable for the optimum and rational recreation, extra-natural sightseeing amenities were also accounted for as they complement and enhance the scenic value. The evaluation method used to specify tourist attractiveness relies on the scoring system that refers to selected features. They are as follows:

1. The natural environment amenities (recreational amenities) (0 – 15 points)

They comprise the following: landforms (0 – 5 points), surface waters (0 – 5 points), forests (0 – 5 points).

2. Specialists amenities (0 – 9 points): skiing, cycling, cave exploration (0 – 3 points), canoeing, sailing, angling (0 – 3 points), hunting, horse riding, fruit and mushroom gathering (0 – 3 points).

3. Sightseeing amenities (0 – 9 points): heritage monuments (0 – 3 points), national remembrance sites (0 – 3 points), museums, open air museums, museum rooms, folklore (0 – 3 points).

4. Additional points (maximum 6 points), if the following are located in the area: sites and structures under legal protection – national parks, landscape parks, nature reserves and monuments (up to 2 points), nationally and internationally recognised sites (up to 2 points), landscape rarities such as: caves, grottoes, scenic points and rare species of plants and animals (up to 2 points). Points are deducted from the score for air pollution with industrial dust and gas and surface water pollution (up to -2 points).

5. Points for the presence, in the unit investigated, of both quality elements of the natural environment and sightseeing amenities, which when combined greatly enhance tourist attractiveness.

They were calculated in accordance with the following formula:

$$R = 3 \cdot \frac{\frac{1}{5} \cdot \sum_{i=1}^n W_i + \frac{1}{3} \cdot \sum_{i=1}^m K_i}{2}$$

where:

R – the coincident occurrence value of the natural environment and sightseeing amenities,

W – sum of points scored for recreational amenities,  $n = 1, 2, 3$

K – sum of points scored for sightseeing amenities,  $m = 1, 2, 3$ ,

$n, m$  – number of amenities.

Tourist attractiveness is defined as a sum of points scored for occurrence intensity of three features: the natural environment elements that account for recreational amenities (w), specialist amenities (s) sightseeing amenities (k), additional points and negative points resulting from features combination (p) and points scored for coincident occurrence of recreational and sightseeing amenities denoted as (R).

Tourist attractiveness is expressed by the formula:

$$A = \sum_{i=1}^n w_i + \sum_{i=1}^k s_i + \sum_{i=1}^m k_i + \sum_{i=1}^j p_i + R$$

where:

$n = 1, 2, 3; k = 1, 2, 3; m = 1, 2, 3; j = 1, 2, 3$ .

$n, m, k$  – number of amenities,

In order to obtain results of relative values, the attractiveness indicator was developed (WA):

$WA = A/A_{\max}$ , where  $A_{\max} = 48$

WA = from 0 to 1

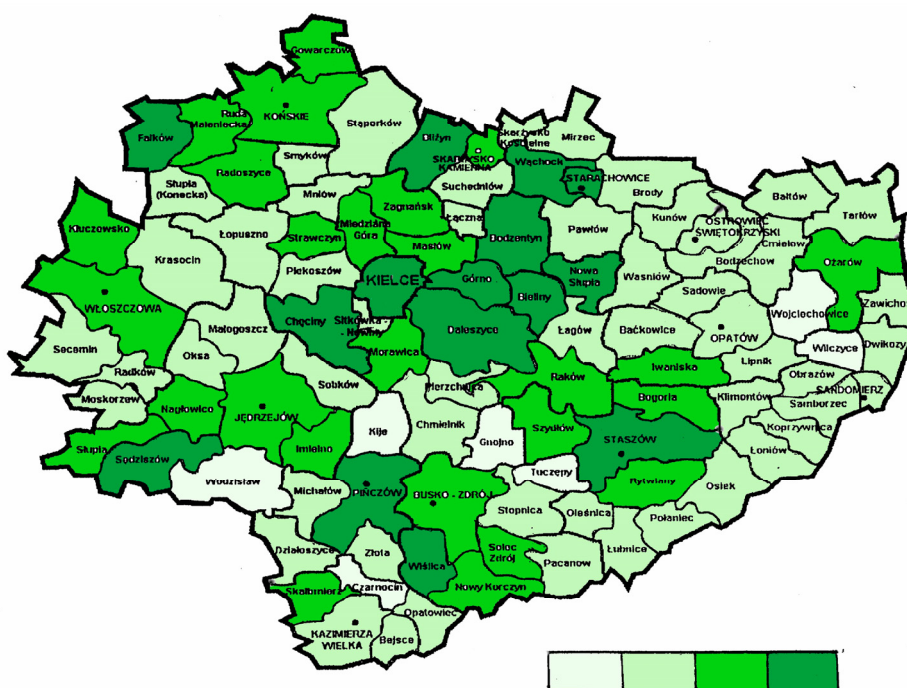


Moreover, partial indicators were calculated:

$$W_w = \frac{A}{A_{max}}, \quad W_s = \frac{S}{S_{max}}, \quad W_k = \frac{K}{K_{max}}, \quad W_p = \frac{P}{P_{max}}$$

where:

- $W_w$  – recreational amenities indicator,  $W_{max} = 15$ .
- $W_s$  – specialist amenities indicator,  $S_{max} = 9$ .
- $W_k$  – sightseeing amenities indicator,  $K_{max} = 9$ .
- $W_p$  – additional amenities indicator,  $P_{max} = 6$ .



source: author

below 0.25 0.25-0.4 0.4-0.5 above 0.5

**Figure 1.** The attractiveness indicator (WA) in communes in the Świętokrzyskie Province

The evaluation of the components of the natural environment and non-nature based amenities was conducted for the sake of tourism and recreation development. The attractiveness indicators were calculated for all communes of the Świętokrzyskie Province. With the adopted investigation procedure it was possible to show how the attractiveness differs across the Province area, and also to group the communes into five categories in relation to tourist attractiveness

indicator, that is to differentiate the communes' potential for agritourism development. The first category comprises the most attractive areas (WA greater than 0.5) of the Świętokrzyskie Mountains communes and three communes that lie in the Province's south: Pińczów, Wiślica and Staszów. The communes located in the Świętokrzyskie Mountains are characterised by very good recreational amenities and high woodiness. Daleszyce and Górnio communes have water reservoirs, which enhances the area attractiveness. Nowa Słupia, Bodzentyn, Wąchock, Suchedniów, Chęciny communes are rich in sightseeing amenities. Many sightseeing and recreational amenities are also found in Pińczów, Wiślica and Staszów communes. The above-mentioned areas can offer a wide selection of tourist activities, which are complemented by sightseeing assets, thus rendering them even more attractive.

The second category is composed of high attractiveness communes (WA = 0.4 to 0.5) located in the north, centre, south-west and north-west of the Province and also Ożarów commune. They have good recreational amenities, considerable woodiness, favourable climatic conditions but less varied landscape.

Over 50% of the investigated area falls into the third category of medium tourist attractiveness (WA = 0.25 to 0.4). They are the communes that do not have much woodland or valuable recreational amenities, e.g. Brody, Łagów, Połaniec, Małogoszcz, Oksa, Krasocin, Smyków. The fourth and the fifth categories are made of low attractiveness (WA = 0.15-0.25) or unattractive (WA lower than 0.15) areas. They are Czarnocin, Gnojno, Kije, Tuczępy, Wilczyce, Wodzisław and Wojciechowice communes which are agricultural in character, have no varied landforms and lack in sightseeing amenities.

## CONCLUSIONS

The Świętokrzyskie Province has a potential for the development of new kinds of tourism, such as agritourism or ecotourism, in rural areas especially those which have woodlands and valuable natural features. The steps should be taken to make full use of the natural heritage and to activate existing accommodation resources. Agritourism or ecotourism are supposed to stimulate economic activities in rural areas by means of capitalizing on hidden work force reserves and natural organic food production.

The interpretation of the results obtained in the investigations in relation to the agritourism development perspective is not clear. The study determined, on the basis of the analysis of the natural environment components, amenities and tourist infrastructure, the regions that are potentially most likely to benefit from agritourism opportunities. Experience shows, however, that capitalising on any potential does not always turn out to be a success. That depends on many social and political factors, including the local population openness to all kinds of novelty solutions, their skills and readiness to take initiative, and also the policy of

the commune and district local government. The study does not make statements that agritourism will develop only in the regions that are particularly or very attractive, but that their potential in this respect is high. They can become tourist industry product providing services for different kinds of tourism and accommodation, e.g. at farmhouses. They also can be visited by tourist relaxing in neighbouring areas. The communes with the highest or the high tourist potential have an opportunity to become popular tourist destinations. They will probably never be able to compete with traditional tourist regions, like the seaside, mountains or lake districts, as for that radical changes in leisure activities preferences would be necessary. They, however, can become interesting for quite a large number of people. Well organised local communities planning their activities around agritourism business, together with adequate policy of the local government may result in the increase in the population income and, indirectly, that of communes.

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