

Rural Development Potential of Peripheral Areas – Case Study Bochov (Bohemia)

Lucie PERLINGEROVÁ¹, Antonín VAISHAR^{2*}

¹ Regional Office of the Karlovy Vary Region, Závodní 88, 360 21 Karlovy Vary, Czechia

² Mendel University in Brno, Zemědělská 1, 613 00 Brno, Czechia

* Corresponding author: antonin.vaishar@mendelu.cz

Received on <07-02-2012>, reviewed on <02-05-2012>, accepted on <02-05-2012>

Abstract

This paper analyzes the microregion of the town of Bochov in the Karlovy Vary Region as an example of an area located in the internal periphery of Czechia and at the same time indicating typical characteristics of the borderland, the result of postwar population transfer. Long-term population development can be characterized by a decreasing population and at the same its concentration in the center. Educational attainment statistics indicate unfavorable findings. Employment is dependent on commuting. Possible strategies include ensuring good living conditions for the population, supporting small and medium businesses, regional marketing, developing tourism and landscape stewardship, and maintaining the rural characteristic of the microregion. Microregions such as the Bochov microregion do not nor cannot have the same preconditions for development as central microregions. Their development should be focused on improving quality of life for local residents and visitors.

Keywords: *rural area, peripheries, demographic decline, developing models, Bohemia*

Rezumat. Potențialul de dezvoltare rurală al zonelor periferice – studiu de caz Bochov (Boemia)

Lucrarea analizează microregiunea orașului Bochov din Regiunea Karlovy Vary, ca un exemplu de zonă situată în periferia internă a Cehiei, prezentând în același timp caracteristici tipice unei zone de graniță, în urma transferului de populație după război. Evoluția populației pe termen lung poate fi caracterizată prin scăderea numărului de locuitori, și în același timp prin concentrarea acestora în partea centrală. Statisticile privind nivelul de educație relevă o situație nefavorabilă. Forța de muncă este dependentă de navetism. Strategiile posibile includ asigurarea unor condiții bune de viață pentru populație, sprijinirea afacerilor mici și mijlocii, marketingul regional, dezvoltarea turismului și păstrarea caracteristicilor rurale ale microregiunii. Microregiunile precum Bochov nu au și nici nu pot avea aceleași precondiții pentru dezvoltare ca microregiunile centrale. Dezvoltarea lor ar trebui să se bazeze pe îmbunătățirea calității vieții rezidenților și vizitatorilor.

Cuvinte-cheie: *zonă rurală, periferii, declin demografic, modele de dezvoltare, Boemia*

Introduction

Up until now rural development in Central and Eastern Europe has been synonymous with agricultural development to a certain extent. The Common Agricultural Policy of the EU is even set up this way, although recently there have been attempts to give it a new vision (Dwyer et al., 2007). In reality the rural landscape is particularly connected to the primary sector, whereas the rural population is less frequently employed in the primary sector. The countryside is becoming a

more complex space, whose inhabitants frequently must commute to towns for work, and where more and more secondary and in particular tertiary sector activities take place. In addition the rural landscape has other potential beyond intensive agriculture, which can be analyzed and mapped for the purposes of restructuring regional rural policy (van Berkel and Verburg, 2011). The paradigm of rural development research is also changing on both the theoretical and practical level: "Rural development is analyzed as a multi-level, multi-actor and multi-faceted process rooted in historical traditions that represents at all

levels a fundamental rupture with the modernization project" (van der Ploeg et al. 2000). This however is not changed by the fact that these changes take place relatively slowly (Galdeano-Gómez et al., 2011).

The first question we must ask however is what is the countryside? There are several definitions, most of which are based on the countryside - town dichotomy. These definitions have gradually developed from searching for infrastructural differences, through functional differences, to life style differences. Differences have been analyzed on one hand for individual municipalities (whether towns or villages), and on the other for regions including their centres (being rural, urban, or transitional regions). M. Woods (2005) analyzes the definitions on 16 pages in his book on rural geography to come to the conclusion that there is no definitive definition of the rural. This however is no reason for geographers to ignore the countryside. Although there are many arguable cases, bordering on the edges of different definitions, for many peripheral microregions there can be no doubt about their rural character.

In geography, peripheral (micro)regions are understood to be the result of spatial polarization. The Bochoř microregion in the Karlovy Vary Region is one such region. As part of a Master's thesis written at Mendel University in Brno, the potential for its development was analyzed. The aim of this study is to characterize the microregion based on various methods, to evaluate its strengths, weaknesses, opportunities and threats, and to address possibilities for development and their implementation. This should result in an attempt at generalizing the issue in relation to other peripheral regions.

Several authors have already dealt with peripheral microregions in Czechia. The "The peripheral regions in Czechia as the part spatial polarization in frames of European integration" project can be named (Marada et al. 2006).

Regional development and rural microregions

According to Wokoun et al. (2008), regional development on the academic level can be understood to mean the application of sciences (especially economics, geography, and sociology) dealing with phenomena, processes and

relationships of a given area that are influenced by natural, economic, and social conditions. The primary goals are to find casual relationships, prerequisites for the spatial organization of economic activities, unequal settlement patterns, and related tools for influencing these processes. On the practical level, it involves the greater utilization of and increasing the potential of an area by spatially optimizing socioeconomic activities and natural resource use. The goal is higher competitiveness, higher living standards, better environmental conditions, etc.

Rural development is part of regional development. Changes in the economic structure of rural areas and the creation of attractive environments for living and doing business have shown to be crucial. It is necessary to create new jobs by diversifying non-agriculture activities and to improve the quality of life in rural municipalities (ibid).

Microregions form an important territorial framework for analyzing development. In the jargon of public administration and local government experts they are called "voluntary associations of municipalities". In the geographic sense however, a region is understood to be a part of the world that has common functional relationships and the term microregion indicates in economic and social geography an elementary scale in research - as a rule (small) towns and their functional hinterlands as defined by Christaller's central place theory. The dialectical unit of town and the rural hinterland is significant as in most cases there is no sense in studying rural municipalities without taking into consideration the characteristics of their centers. In cases such as the Bochoř microregion, the center can have a rather rural character as opposed to urban.

Characteristics of the Bochoř microregion

The Bochoř microregion is located in the Karlovy Vary district (Fig. 1A, 1b). The actual town of Bochoř is located 17 km southeast from the regional capital. The microregion is comprised of one administrative municipality, composed of 17 settlements on 19 cadastral territories. Its area is almost 96 km². The population density is extremely low at 22 inhabitants per km². In the north, Bochoř neighbors the Hradiště military proving grounds. This boundary is a significant

barrier. One of the main roads in Bohemia, the I/6 from Prague to Karlovy Vary and Cheb, leads through the town, from which several lower category roads branch off.

The microregion is located in the Ore Mts. System of the Bohemian Highland on the borders of the Bečovská vrchovina Highland, the Hradištská hornatina Mountains, and the Tepelská vrchovina Highland geomorphological units. The bedrock is diverse, with granite dominating in the northwest, and shale, phyllite, schist and paragneiss in the southeast. These two parts are separated by a tongue of metamorphic volcanic rock. In places the bedrock contains large amounts of radon. Most of the territory is at an altitude of around 670 m. The area is generally sloped towards the south to the Střela Valley, but it also slopes to the north to Javorná Stream. The highest point is Mirotický vrch Hill (792 m).



Fig. 1a: The position of Karlovy Vary Region within the Czech Republic. Drawn by J. Pokorná

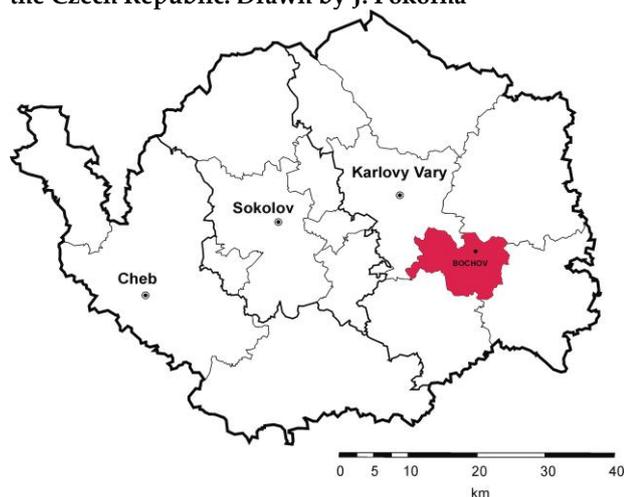


Fig. 1b: The position of Bochov within Karlovy Vary region. Drawn by J. Pokorná

Cambisol is the dominant soil group, with the occurrence of fluvic gleysols in stream valleys. The climate of the microregion is mildly warm,

slightly damp, and typical of highlands with an average annual temperature of 6-7°C and 600 – 650 mm of precipitation (Tolasz, 2007). The area is located in between two reservoirs - the Žlutice Reservoir in the Berounka watershed and the Stanovice Reservoir in the Ohře watershed. There are protected zones of natural groundwater accumulation, of natural curative waters and individual water resources. Besides the Střela River which serves as the southern border of the model area, it is drained by several streams. There are many ponds, the most important being in the Údrč pond system. There are a number of wetlands and headwater areas of ecological importance.

The dominant natural vegetation types of the area are *Luzulo-Fagetum* beech forests, dominated by beech with interspersed sessile oak, small-leaved lime, sycamore maple, fir, and spruce (Neuhäuslová, 1998). In reality however, deciduous forests make up only a small part of the species composition. Ecologically unstable spruce monocultures with interspersed pine dominate. About a quarter of the territory is located within the Slavkovský les protected landscape area. Part of the territory has been declared a NATURA 2000 site.

As a result of soil and climatic conditions, almost a third of the area is covered by forest and another third by permanent grasslands. Arable land is found on less than a quarter of the area (Fig. 2). The ecological stability coefficient is 2.13, indicating a favorable situation.

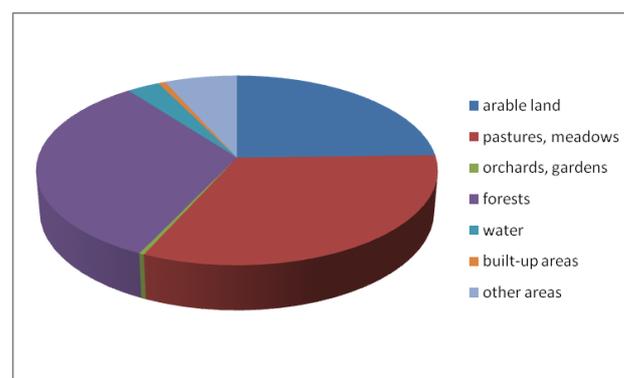


Fig. 2: Bochov: land use structure. Source of data: Czech Statistical Office - Prague

The town of Bochov was founded in the mid-14th century on the road from Prague to Loket by the Lords of Rýzmburk as a mining town (tin). Over the course of history the town was

transferred between many noble families, was destroyed several times, and also burnt down once in 1666. Mining was not very successful and the town remained a poor settlement of farmers, merchants, and tradesmen. Modernization took place at the turn of the 20th century, when at the same time the technical infrastructure was introduced. Development was interrupted by World War I, which together with the Spanish flu epidemic, claimed many victims.

World War II and the events which preceded and followed it however influenced the development of the Bochov microregion far more. In 1930, 95 per cent of the population of Bochov claimed German nationality. In 1938 Bochov was included in the Žlutice district of the Cheb Region of the Sudeten *Reichsgau* within the German Empire. The main transfer of the German population occurred in April 1946.

The resettlement of the area was not particularly successful. Settlers began working the land they had acquired without any previous experience and under difficult conditions. However, before they could develop a relationship to the land, collectivization took place. Many settlers decided to return to the inland. Thus, many settlements disappeared (Helebrant, 2001). The Bochov microregion is still struggling with the consequences of the transfer of the German population and the loss of the sense of community between the inhabitants, the land and the territory.

In the 1960s, apartment buildings and retail infrastructure were built. The integration of settlements started, which gradually resulted in today's town. In 2006 Bochov was once again returned town status.

The first modern census of 1869 counted 7,243 inhabitants, mostly of German nationality, on the territory of the modern Bochov microregion. From that time until the 1991 census, the population decreased (Fig. 3). The town of Bochov itself had only 1,800 inhabitants in 1869. However, besides this town there were several mid-sized villages: Kozlov (population 780), Dlouhá Lomnice (population 675), Rybničná (population 605), and four other villages with populations of between 400 and 500. In total there were 5,440 people living in Bochov's surrounding settlements.

In contrast 1,258 people lived in the core of Bochov in 2001. Since 1869 the population of the

town itself has decreased by almost 550. Population decrease outside of the center has affected the surrounding settlements, which have lost approximately 4,750 inhabitants, which is 87 per cent of the previous population.

Besides significant population decrease, there has also been a concurrent concentration towards the core of the settlement area. Whereas with the exception of the post-war decrease, the result of historical events, the town of Bochov has more or less maintained a constant population, all the surrounding settlements have lost an absolute majority of their inhabitants.

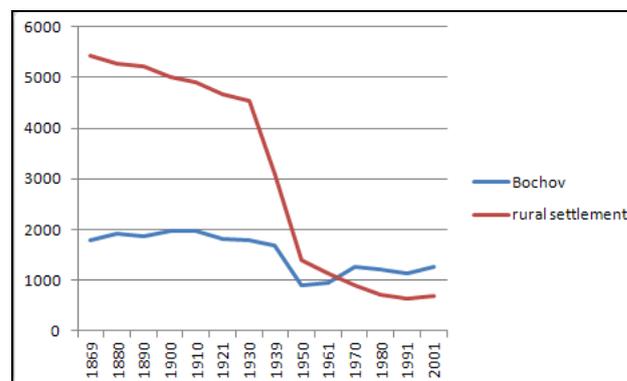


Fig. 3: The population development of Bochov and annexed municipalities 1869 - 2001

Source: *Historický lexikon obcí. Praha: Czech Statistical Office; For 1939: Amtliches Gemeindeverzeichnis für das Deutsche Reich auf Grund der Volkszählung 1939. Statistik des Deutschen Reiches, Band 550. Berlin: Verlag für Sozialpolitik, Wirtschaft und Statistik.*

The process of concentration took place during the entire study period as part of the process of urbanization. However, after World War II there was a significant decline, when several settlements could have dropped below their critical level of demographic sustainability, and thus population decrease in the settlements continued at a rather rapid pace until 1991. Since then, the population both in the core and in the settlements has risen slightly, which corresponds with the processes of suburbanization and counterurbanization.

In the last decade however, the population of the Bochov microregion has grown slowly, but steadily from 1,937 inhabitants in 2000 to 2,070 inhabitants in 2011 (i.e. about 7 per cent in 12 years). Natural movement as well as migration

contributed to this positive development. Two hundred twenty-six children were born in the microregion in this time, whereas 196 people died, 546 people moved in and 457 moved out.

It is clear that the Bochov microregion with the exception of the core, is made up of very small settlements (Tab. 1), whose local markets are apparently not capable of effective operation or providing basic services. These settlements are therefore practically dependent on the town of Bochov for everything.

Table 1 Population numbers in individual settlements of the Bochov microregions (2009)

Bochov	1,235	Herstošice	38
Dl. Lomnice	123	Něm. Chloumek	32
Kozlov	108	Dl. Ves a Teleč	29
Javorná	77	Nové Kounice	28
Rybničná	70	Polom	22
Těšetice	46	Číhaná	8
Sovolusky	44	Hlineč	5
Mírotice	40	Total	2,064

Source: *Bochovský zpravodaj 1/2010*

The age structure of the population of the Bochov microregion in 2001 is quite normal, as can be seen from the population pyramid (Fig. 4). The base of the pyramid, mainly influenced by the birth rate, is growing narrower.

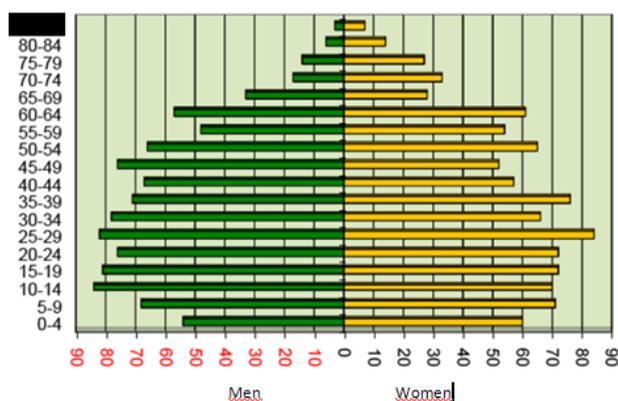


Fig. 4: Age pyramid for Bochov in 2001. Source: Population census 2001, Czech Statistical Office Praha

The percentage of women in higher age categories is increasing. Clearly there is a greater number of people born in the 1970s, when the birth rate of the postwar “baby boomers” combined with the pro-population measures of the contemporary Husák government. Despite this, the population of the Bochov microregion when measured using the old age index is

younger than the population of Czechia as a result of the young population base, which resulted during the resettlement of the microregion after World War II, which is today still reproducing.

Only 2.3 per cent of the population older than 15 years has university education, which is extremely unfavorable. Elementary school education and secondary vocational school education are the most common education qualifications (Fig. 5).

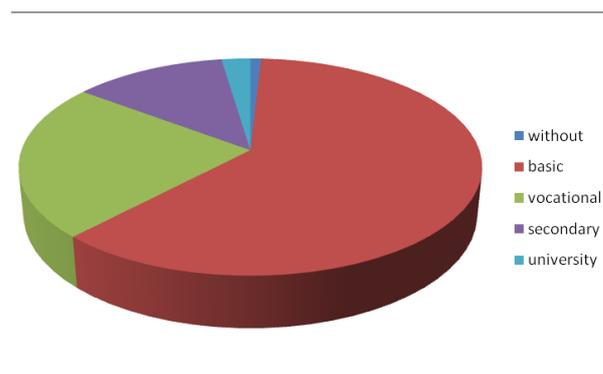


Fig. 5: Education attainment of the population of Bochov 2001. Source: 2011 census

Education attainment corresponds to the economic structure of the population to a certain extent. Most of the population is employed in productive sectors - industry, agriculture, forestry, and construction. Despite the fact that Bochov has town status, the economic structure of its population corresponds to the rural character of the microregion.

Clearly the unemployment rate is affected by this, as even in the most favourable of times it never falls below 12.5 per cent, while in times of crisis it exceeds 20 per cent. Seasonal fluctuations have also increased (Fig. 6).



Fig. 6: Unemployment rate [%] in Bochov in the period of January 2005 to December 2011.

Source: Ministry of Labour and Social Affairs of the Czech Republic.

Due to the recent history of the microregion, the nationality structure of the population could be of interest. The majority nationalities (Czechs and Moravians) make up only 67.3 per cent of the population. The largest minority group are the Slovaks (3.8 per cent). A mere 1 per cent are remaining Germans. The rest were mostly either transferred after the war, and remaining individuals have certainly been partially assimilated. About a quarter of population did not state their ethnicity.



Fig. 7: Bochoř from the South. Photograph L. Perlingerová

Other settlements have as a rule only lone farmers or smaller trade workshops. Services are essentially lacking. The town employs 511 people (2008)¹, which saturates about half of the employment demand.

Commercial tourism is not very developed. Accommodation capacity is small. The area is attractive for cycling and horseback riding, which however do not bring much money. The existing reservoirs are not well suited for swimming. A large part of the housing stock, especially in the settlements, has been transformed into cottages.

Due to the lack of employment opportunities inhabitants are forced to commute to work. Commuter routes from the settlements head towards Bochoř. Due to the sparse public transportation network, private means of transportation are necessary. The population as a whole mostly commutes either to Karlovy Vary, Toužim, or Žlutice. Students also commute to school to those places.

¹ Appendix to Regulation No. 276/2009 Coll.

Resettlement is reflected in the relatively low religiousness of the microregion (12 per cent), what nevertheless responds to the average of the whole district Karlovy Vary. Of the believers, 42% do not belong to any church, 38 per cent are Roman-Catholic. This has led to the abandonment or ruining of many churches and other church buildings.

The Bochoř microregion is almost untouched by industry. Productive businesses – if they exist – involve the primary sector or the processing of its products, or they are more related to the trades or production services including construction. Most businesses are concentrated in Bochoř.

Possibilities for and barriers to development

The main strengths of the microregion are its surroundings that are interesting for tourism, its environmental quality, and its good accessibility from Karlovy Vary and Prague. The most significant weaknesses are the acute lack of job opportunities, the loss of sense of community after World War II, and insufficient tourism infrastructure. Opportunities include supporting businesses, attracting passing through tourists, and utilizing natural potential. Significant threats are the departure of young and educated people from the microregion, a lack of finances, and competition from nearby attractions.

We propose the following strategy for developing the Bochoř microregion:

1. *Achieving overall satisfaction of the population by improving their conditions, keeping them in place, and eventually attracting new inhabitants.* Despite the recent gradual rise in the population, the threat of young and

educated people in particular leaving is still real. The main reason for this is a lack of job opportunities and the low amount of cultural and social activities. Town government is focused on completing and maintaining the technical infrastructure. This is certainly important, but is not very effective in small settlements. Supporting community and cultural activities could be important. Certainly residential areas and recreational opportunities for local inhabitants (i.e. swimming) need to be improved.

2. **Supporting business.** The largest employer in Bochov is the town itself. Due to this the current economic crisis has only slightly affected the number of jobs in the town. An industrial zone is planned for the northern part of the town, which could offer new opportunities to businesspeople. The question is what for employers should be attracted concerning the size, the branch and the origin of the owners. It is necessary to take into account low qualification level of working force and lower infrastructure (compare with Amin and Tomaney 1995).
3. **Promoting and marketing the microregion.** Although the town is located on one of the main roads in Bohemia, it is still little promoted. In today's world advertising is critical (via the Internet, tourism trade fairs, and orientation and promotion in the actual place, etc.). This of course is related to the infrastructure, which the town offers. Bochov is a part of the Association of Communes "Slavkovský les Forest for Rural

Renewal" and its territory comes under the LEADER+ Local Action Group "Our Region". Teplá town (in distance 28 km; 3,056 inhabitants in 2011) is the centre of both the associations.

4. **Developing tourism.** Due to the character of the territory, it would be appropriate to connect interesting natural attractions, religious architectural monuments, and vernacular buildings via tourist trails (bicycle trails) with the appropriate infrastructure and services. There is also the potential for developing agrotourism on family farms. Some of the target groups could be the original German inhabitants of Bochov or their descendants, families with children, and young people. It would also be appropriate to reconstruct at least several monuments, for example the palace in Javorná. The investors could be local businesspeople with a relationship to the microregion, and whose profits would stay within the microregion. Due to the lack of investment capital in Bochov this is however not very realistic.
5. **Management of the landscape and the rural character of the microregion.** The landscape of the Bochov microregion is less disturbed by human activities than other regions in Czechia. Suburbanization is not present here. Single, independent farmers stress the land less than large agricultural concerns. These aspects of the landscape should be maintained and any attempts to build inappropriate buildings should be regulated.



Fig. 8: The landscape of the Bochov microregion Photograph: L. Perlingerová

It is clear that the territory of the town must be differentiated according to development opportunities. Understandably the main focus will be concentrated on the core settlement of the town of Bochov. The construction of the R6 highway will

allow for the development around the space of today's busy I/6 road between Prague and Karlovy Vary. The regional plan defines the settlements of Dlouhá Lomnice, Údrč, and Rybničná as developing settlements for living, small-scale recreation, and

mixed use, the settlements of Javorná, Mirovice, and Krhov for living, services, and production, and all other settlements for secondary housing or other recreational functions.

Conclusion

Bochov indicates signs of the internal periphery Czechia, although according to Musil and Müller (2008) it does not belong clearly to the internal periphery. It is located in hilly terrain on the boundary of the influence of two regional centers, in this case the distant Prague and the closer, although much weaker, center of Karlovy Vary. The Bochov microregion, however, also has characteristics of the borderland periphery as a result of population transfer after World War II.

In the global, countrywide, and partially the regional perspective the Bochov microregion is almost unknown and is a low priority. However, it is such microregions that should be focused on in particular within the framework of regional policy. They can very easily become problem areas, sources of trouble, and places requiring financial support from the outside.

Mayors and other local and regional authorities often see the main solution in creating jobs. However, experience shows that there are several other factors which are often more important. The Czech population is not very used to moving for work (with the exception of first jobs after completing school), but they are starting to move for better environments. So-called amenity migration (Bartoš, Kušová, Těšitel 2009) may be one challenge for the Bochov microregion and other similar microregions.

On the other hand, it cannot be assumed that microregions such as Bochov can have the same prerequisites for development as areas in better geographic locations and with larger local resources. In this case development clearly will not take the standard path of economic growth, but instead will manifest itself as attempts to maintain and improve the quality of life of local inhabitants and visitors.

In recent times peripheral microregions have been focused on more highly. Their accompanying characteristics usually include a lack of investment capital, low qualification levels, and higher unemployment of the economically active population. On the other hand, these regions often have attractive natural surroundings and are not necessarily in demographic decline. This offers the

opportunity for finding prosperity via the development of tourism. On the other hand, in Czechia, tourism cannot be the only supporting sector even in the most attractive areas. Seasonality, insufficient infrastructure, and the fact that people are still poorly prepared for this stand in the way. Therefore it is essential to combine tourism with regional production and services.

Acknowledgements

The paper is based on the project of the Ministry of Education, Youth and Sports of the Czech Republic Nr. 2D06001 "Interests of Development in Border Regions" dealt with the borderland periphery (Vaishar et al. 2011). The empiric part is based on the diploma thesis (Perlingerová 2010).

Author contributions

L. Perlingerová is responsible for empiric research and graphical enclosures. A. Vaishar elaborated theoretical parts, updating the data and the final structure of the paper.

References

- Amin, A., Tomaney, J. (1995): The regional development potential of inward investments in the less favoured regions of the European Community. In Amin, A., Tomaney, J., eds., *Behind the myth of European Union. Prospects for cohesion* (pp. 201-220). Routledge, London.
- Bartoš, M., Kušová, D., Těšitel, J. (2009): Motivation and life style of the Czech amenity migrants (case study). *European Countryside* 1(3), 164-179. doi: 10.2478/v10091-009-0014-4.
- van Berkel D. B., Verburg, P.H. (2011): Sensitising rural policy: Assessing spatial variation in rural development options for Europe. *Land Use Policy* 28(3), 447-459. doi: 10.1016/j.lup.2011.03.031.
- Dwyer, J., Ward, N., Lowe, P., Baldock, D. (2007): European rural development under the Common Agricultural Policy's 'Second Pillar': Institutional conservatism and innovation. *Regional Studies* 41(7), 873-888. doi: 10.1080/00343400601142795.
- Galdeano-Gómez, E., Aznar-Sánchez, J.A., Pérez-Mesa, J.C. (2011): The Complexity of Theories on Rural Development in Europe: An Analysis of the Paradigmatic Case of Almería (South-east

- Spain). *Sociologia Ruralis* 51(1), 54-78. doi: 10.1111/j.1467-9523.2010.00524.x.
- Helebrant, V. (2001): *Bochov ve 20. století*. Studio Rubens, Karlovy Vary.
- Marada, M., Chromý, P., Jančák, V., Havlíček, T. (2006): Space polarization and peripheral regions in Czechia. *EUROPA XXI*, Nr. 15, pp. 29-34
- Musil, J., Müller, J. (2008): Vnitřní periferie v České republice jako mechanismus sociální exkluze. *Sociologický časopis* 44(2), 321-348.
- Neuhäuslová, Z. (1998): *Mapa potenciální přirozené vegetace ČR*. Academia, Praha.
- Perlingerová, L. (2010): *Potenciál rozvoje venkova v mikroregionu Bochova* [diploma thesis]. Mendel univerzity in Brno.
- Ploeg, J. D. van der, Renting, H., Brunori, G., Knickel, K.-H., Mannion, J., Marsden, T., Roest, K. de, Sevilla - Guzmán, E., Ventura, F. (2000): Rural development: From practices and Policies towards Theory. *Sociologia Ruralis* 40(4), 391-408. doi: 10.1111/1467-9523.00156.
- Tolasz, R. et al. (2007): *Atlas podnebí Česka*. Český hydrometeorologický ústav, Praha.
- Vaishar, A., Dvořák, P., Hubáčiková, V., Nosková, H., Nováková, E., Zapletalová, J. (2011): *Regiony v pohraničí*. Studia geographica 103. Institute of Geonics, Czech Academy of Sciences, Ostrava
- Wokoun, R. et al. (2008): *Regionální rozvoj*. Linde, Praha.
- Woods, M. (2005): *Rural Geography*. Sage, London.