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Antonín Vaishar, Milada Šťastná, Zdenka Lipovská

Mendel University of Agriculture and Forestry Brno, Zemědělská 1, 61300 Brno,
Czech Republic

antonin.vaishar@mendelu.cz; stastna@mendelu.cz, zdel@centrum.cz

Possibilities for development of regions after mining: restoration of rural environment in the Czech-Saxon borderland

Abstract: *The paper discusses whether it is possible to turn a region after mining activities back to its rural substance. The micro-region Sokolov-East (Northwest Bohemia) was chosen as an example. The region was dramatically impacted by opencast coal mining after WWII. Also the settlement structure was modified. The mining activity still continues. Original state mines were privatised into the arms of local entrepreneurs. Thus, the mining company is interested in support of the local development. It shows that the landscape rehabilitation although very exacting and expensive is the minor problem which could be solved by the collaboration between mining company and regional and local bodies. Social rehabilitation seems to be much more difficult with respect to the special education and psychology of (from a big part immigrant) people and their weak relation to the landscape and localities. Also the improvement of a negative image of the region is a question of big importance.*

Keywords: *mining region; landscape reclamation; post-mining transformation; image; Northwest Bohemia*

Introduction

The period of industrial society is associated with intense exploitation of natural resources. Opencast coal-mining presents one of the most aggressive influences on the landscape; usually it was accompanied by the development of energy sector and the related heavy industry, primarily chemical. Whilst coal mining was destroying vast areas of landscape, the related industry was degrading the natural environment by solid, liquid as well as gaseous wastes. Changes in the social structure of the stricken areas were also very intense.

Regions with small towns as centres, originally rural, became urbanized and industrialized. The decisive workforce, differing from the original inhabitants in a number of criteria, immigrated from other regions. They did not have, and in many cases they did not even form their relations to the area, soil, landscape, towns and villages. A specific social situation arose.

Post-industrial period has brought major changes. A number of deposits were nearly depleted, or mining ceased to be economically effective. Economic but also political conditions have changed. The value of the environment has increased. This has led to a gradual restriction of mining up to closing of individual mines. A part of mine employees lost their jobs; nevertheless their qualification and social structure poses limits to the possibilities of their requalification. The specific social situation continues, albeit with other attendant phenomena and consequences.

The case territory is the area of Sokolov-East microregion. The special characteristics of this microregion are given by the existence of a microregional union as a voluntary union of municipalities, the continued mining by the Sokolovská uhelná a.s. Company with the perspective of termination only in the years to follow, and also by the location of the region within the Czech-Saxon borderland with all consequences of post-war exchange of inhabitants.

The question is, by what means it is possible to reclaim the devastated landscape and environment, how to solve the social problems of after-mining regions. Moreover there is the formulation of the problem of a potential possibility to use cross-border cooperation with the Saxon part. We even dare to question whether it is possible to at least partly restore the rural character of the originally country regions. The initial analysis and discussion are the goal of the presented paper.

The works follow up with the international ReSOURCE project of INTER-REG III programme, and the Interests of Development in Border Regions project No. 2D06001 of the National research programme II by the Ministry of Education, Youth and Sports of the Czech Republic.

Theory and methodology

European mining regions gradually undergo inevitable restructuring changes (basically from West to East) (Haas and Neumair, 2005). The problems of European opencast mining regions may be divided into the following groups:

- Irreversible interventions into the landscape, its relief, geological substratum, water regime, soils;
- Transformation of the original rural area into a territory of a usually polycentric character urbanized in a specific manner;
- Creation of a specific social structure of inhabitants with a great share of immigrants who have no relation to the area, and with a specific qualification structure.

In relation to the gradual termination of mining or after mining it is usually necessary to solve the following issues:

- Is it better to try and restore the landscape to a state more or less similar as before mining, or to make use of the reality formed by mining to create a new landscape? What should the character of this new landscape be like?
- Does the created settlement structure provide a basis for a further development? Is there a centre which could take on a responsibility for the entire region by an installation of the relevant tertiary functions? To what direction and on what impulses should such centre develop?
- What is the manner of solving the accumulated social problems in the spheres of employment rate, qualification, emigration and motivation? To what extent is the social system capable of restructuring, and how can its relative stability in the future be secured? How to solve the issue of a negative industrial and mining image of the region?

In the circumstances of the Czech mining regions there is another fact on top of these issues: a number of these regions are situated in the northern borderland. In the Middle Ages these regions were largely colonized by German settlers considered to be experts in mining. Owing to the events before, during and after World War II the German inhabitants were compulsorily transferred and replaced by new people with no relation to the local traditions. The questions may be extended by further ones:

- In this situation, does the borderland position present a barrier, or an opportunity? Would it be possible to compensate for the peripheral position from the national perspective by cross-border cooperation?
- Is it possible to restore a mining region to the state prior to commencing the intensive opencast mining, i.e. to a rural way of life? To this issue it would be suitable to discuss the difference between urban and rural.

It is fairly typical that the majority of articles in journals primarily deal with the influences of mining on the environment, and with changes and reclamation of the landscape. Social problems are sometimes conceived as a reaction to environmental degradation after mining (Turnock, 2001; Szabó et al., 2008).

So far analyses of social issues practically do not occur. Nevertheless from the angle of the future prosperity of regions after mining the solution of social system, qualification structure of mining and heavy industry workers, negative image of the landscape and their implications is much more important, and mainly more challenging and long-term. Westermann (2008) mentions a formation of the so-called social regions. In the Czech literature the hitherto works mainly relate to the Ostrava-Karviná mining district (e.g. Vaishar, 2006). The issue of employment rate is frequently dealt with (Riley and Tkocz, 1999); however this is not only a result of an absolute decrease of job opportunities, but also a difficult re-qualification of the existing workforce.

From the methodological point of view the authors will use methods of regional geography including the study of literature and sources, statistic data analysis, field research, behavioural geography. Research of this type will be enhanced by sociological methods of structured conversation. From the application point of view the work is directed to the sphere of regional politics (c.f. Baeten et al., 1999).

It may be hypothetically assumed that carrying out of landscape modifications is easiest, starting of new economic development is more complicated, and a very long-term and difficult to solve task will be the solution of social problems including the possibilities to use cross-border cooperation and to establish a new image of the region (Gwosdz, 2001 on the example of Upper Silesia). As far as the revival of the rural way of life is concerned, this should be an attempt to create a multi-functional country with small towns as its centres, and with maintaining the achieved level of civilization. A question emerges whether it would be even possible to talk about a specific geography of miner (micro)regions (Wirth and Lintz, 2006).

Some experience of German regions is available concerning the after-mining revitalization. They come both from Ruhr as well as from Saxony (e.g. Dürr, 1993; Hüttl and Weber, 2001; Ganser, 2001; Krajewski et al.; 2006, Dickmann and Dickmann-Boubaker 2008). The majority are directed to the problems of landscape change and the creation of free-time activities. Also EU projects such as REKULA or READY (<http://www.cadses.net/en/projects/apprpro.html?projectId=1522&topic=projects/apprpro>) were directed preliminary to the landscape changes. In general, big cities in post-mining regions are looking for new prospects in the development of the service sector. But much less attention has been paid to the rural regions after mining activities until now.

The research is implemented in close cooperation with local self government bodies represented mainly by the union of Sokolov-East municipalities with the head office in Královské Poříčí, and the local Sokolovsko action group.

The Sokolov-East microregion

The fertile soil of the Ohře River basin was originally cultivated by the Slavs. During the German colonization in the 12th and 13th centuries an important role was played by the monastery in Waldsassen. Apart from agriculture the colonists also developed ore mining. Until the Thirty Years' War the administrative centre of the area and the support of central power were the fortified castle and the town of Loket. Sokolov remained a small serf town until the 18th century.

The 18th century saw a development of crafts (e.g. construction of organs) and also hop-growing. Although the existence of coal was known, originally it was rather pyrites and shales to be extracted at bed outcrops. In Staré Sedlo alum, vitriol and sulphuric acid were produced since the 16th century. Brown coal

mining (initially underground at the sites of the richest beds) was developed in the 18th century as well. The sales possibilities improved first through an imperial road from Karlovy Vary to Cheb in the 1830s and by an extension of the Buštěhrad Railway from Chomutov to Cheb in 1880. Coal mining was followed by industrial production and Sokolov gained an industrial character. Since 1810 production of china has developed in Chodov with mechanical engineering, glassmaking and constructional production following later. In Loket pottery has been produced since 1815. By contrast, the last hop field closed in 1880, more or less terminating the agricultural character of the area.



Figure 1. Sokolov-East: the situation

Source: mapy.cz

Job opportunities caused an immigration of Czech families from the interior, and a powerful Czech minority emerged in the region. Construction works were on the increase, public buildings – schools and ecclesiastical buildings - included. The more or less correct relations between the Czechs and the Germans lasted until World War I. A majority of the Germans took the break-up of Austria-Hungary negatively and were involved in the preparations for the Deutsch-Böhmen province. Easing of the situation came as late as in the latter half of the 1920s.

In the Sokolov region, world depression had a more marked effect than inland. Unemployment soared and societal tension increased, augmented after Hitler seized power in Germany. In a few years Henlein party took control over both the town and the district. Prior to the occupation by the German Empire in

1938 Czechs, German anti-fascists and Jews left Sokolov. After the war 25 % of the town was destroyed by bombing. The number of compulsorily transferred Germans is estimated at 8,000. There were even intents not to renew Sokolov any more, and let the entire town make way for coal mining.

The post-war economy was characterized by a precipitant industrialization. In the 1950s and 1960s there was a mass-scale construction of new prefabricated blocks of flats for employees of industrial enterprises. Chemical plants in Sokolov and Vřesová emerged in the mining district. The energy sector is represented by enterprises in Vřesová and Tisová. Starý Chodov was almost eliminated to give way to housing development for the workers of fuel processing plant in Vřesová and Chodos engineering company, a producer of presses for the rubber industry. The agricultural character of Březová was changed by a vast housing development for glass-making factories and mines in Dolní Rychnov. Coal mining and manufacture of glass and china also markedly changed the character of Nové Sedlo.

The territory consists of a basin filled mostly with acid sands and clays, with a number of waterlogged sites, and with biota considerably disturbed by opencast mining. Most of the bioregion area was cleared, in the existing forest stands secondary wood plant composition prevails (spruce, pine). Formerly meadows and pastures were widely represented, in the recent past their tracts were greatly decreased. The territory is characterized by anthropogenic shapes (opencast mines, mine dumps, settling pits).

The local climate is moderately warm and relatively dry due to mild rain shadow. Especially during winter months it is influenced by strong regional temperature inversions. The Ohře River valley has exposure climate and stronger valley inversions (Culek 1996). Average yearly temperature is around 7°C, average annual precipitation amount is 700 mm (Tomášek, 2008). The area of interest falls into the Ohře River basin. There are ponds in many places; some are used for fish rearing. In the surroundings of industrial zones sedimentation basins occur quite often. In the past decade water has been used for reclamation of areas stricken by opencast mining activities.

The landscape of the Sokolov region is largely influenced by anthropogenic activity. The most distinctive negative influences are exerted by opencast brown coal mining. The beginnings of a more systematic brown coal exploitation in the Sokolov region fall into the half of the 18th century. After 1945 there was a gradual transition from underground to more effective quarry exploitation that was gaining importance in the 1950s. At the beginning of the 1990s this activity has concentrated into three state enterprises, out of which the Sokolovská uhelná, a. s. Company emerged on 1 January 1994 (Frouz et al., 2007).

The area under study is defined by the boundaries of the Sokolov-East microregion (Figure 1). It is a result of a voluntary union of municipalities for the purpose of a joint solution of the arising problems. This delimitation has

been chosen as we would like to stress the human capital, which is, inter alia, expressed by activities coming from below. The microregion is situated within the territory of the Sokolov and Karlovy Vary districts and is overlapped by the territory of the local Sokolovsko action group.

The natural axis of the microregion is the Ohře River valley the southern part of which is delimited by Slavkovský les. The I/6 road passing through the valley in a southwest – northeast direction connects Cheb and Prague, a railway track links Cheb and Ústí nad Labem. The centre of the Sokolov microregion is 18 km away from the regional metropolis of Karlovy Vary, but it directly borders on this city through the Hory municipality. Nevertheless Karlovy Vary is among the weakest Czech district centres although there are undoubtedly certain suburbanization tendencies in their surroundings.

The position of the microregion towards German states is more interesting. Saxony, bordering upon the Sokolov region by its Vogtland district, is about 35 km distant from Sokolov, but this is through the Ore Mountains. Moreover, Saxon centres are approximately other 30 to 40 km distant from the border. The same holds for the 35 km distant Bavarian border, although without natural barriers. The German A93 highway connecting to a number of important centres is accessible in a 15 km distance from the border.

The centre of the microregion is a medium-sized town Sokolov (24,488 inhabitants as of 1 January 2008). The territory also includes cadastral areas of small towns Březová (2,729), Chodov (14,321), Loket (3,174), and Nové Sedlo (2,704). With the exception of historical Loket all these towns have undergone an extreme development after World War II. Březová and a great part of Nové Sedlo had to give ground to mining, whilst old Chodov was almost entirely demolished with housing development built in its place in relation to the construction and operation of Vřesová processing plant. The territory of the microregion also includes large rural communities of Dolní Rychnov (1,424 inhabitants), Lomnice (1,164), and Vintířov (1,177), medium-sized rural communities of Jenišov (588), Královské Poříčí (820), and Staré Sedlo (797), and small rural communities of Hory (206), Mírové (246), and Šabiny (296 inhabitants). Thus the microregion has 54,134 permanent residents.

The demographic structure of the population is quite favourable. With the exception of Březová the average age of the residents in the individual villages is lower than the national average. Vintířov has the average age of 34.1, i.e. more than six years lower than the entire Czech Republic. Dolní Rychnov and Jenišov also count among very young municipalities as does the town Loket with the average of 36 years. It may be assumed that this is the demonstration of the reproducing young population base from the period of high immigration caused by the post-war exchange of population and industrialization.

The current demographic development in the microregion's municipalities, according to data from the population balances. Czech Statistical Office, Prague, is particularly interesting (Table 1). The microregion as a whole had

a slight increase of inhabitants amounting to 87 people. However the re-distribution of inhabitants is noteworthy. Only the three largest towns have seen a decrease in numbers of inhabitants in the mentioned period; this was due to a migration decrease. Five municipalities had a natural decrease, all three smallest villages included, but it was balanced by a higher immigration.

Some of the rural communities have recorded very high migration increases. This is primarily Jenišov, where almost 40% inhabitants have accrued during the recent five years. The municipality is a typical suburb of Karlovy Vary, where districts of new, mainly typified family houses of urban type are constructed. More than 10% accruals were manifested also in Královské Poříčí and Dolní Rychnov. To a lesser extent suburbanization tendencies are also manifested in Hory. All the three small communities have grown by 8% in five years. This development differs from the assumptions known from other post-mining regions. In Jenišov and some other communities of the microregion's eastern part the suburbanization of Karlovy Vary might have manifested itself. The natural movement was understandably influenced by the entry of strong age groups of the 1970s into the process of reproduction. However the overall devastation of the landscape and its negative image has by no means justified an assumption of a positive demographic development. This situation should be a subject of further monitoring.

Table 1. Demographic development in the Sokolov-East microregion's municipalities in 2003-2007 (persons)

Municipality	NM	MB	TD	‰
Sokolov	141	-652	-511	-21
Chodov	194	-332	-138	-10
Loket	50	-98	-48	-15
Bězová	-48	72	24	9
Nové Sedlo	2	45	47	17
Dolní Rychnov	27	118	145	102
Vintřov	24	43	67	57
Lomnice	-11	62	51	44
Královské Poříčí	16	93	109	133
Staré Sedlo	3	49	52	65
Jenišov	23	204	227	386
Šabina	-1	25	24	81
Mírová	-10	31	21	85
Hory	-1	18	17	83

Note: NM = natural movement balance; MB = migration balance; TD = total development of inhabitants; ‰ = relative development with regard to the number of inhabitants in ‰

Nevertheless the microregion is affected by above-average unemployment that already reflects the current depression. In the majority of municipalities (according to data sourced from the integrated portal of the Ministry of Labour and Social Affairs of the CR as of April, 2009) unemployment exceeds 10%, culminating in Vintřov (18.8%), Nové Sedlo (18.7%), Dolní Rychnov (17.5%) and Královské Poříčí (17.0%). As regards unemployment, Šabina is

exceptional with this indicator amounting to just 3.2%. The values of unemployment indicator by no means correspond with migration activities. This indeed is a general phenomenon in the Czech Republic. Moreover, this indicator has to be assessed in the context of the microregion, where centres show a lower level of this indicator (Sokolov 9.6%, Karlovy Vary 8.1%), although it is above average from the national perspective.

The quality of human capital expressed by formal qualification poses a major problem. The qualification gravity centre of the microregion's inhabitants (Table 2) consists of people with completed apprenticeships (including secondary vocational schools without general certificate of education) and of people with a basic education (including incomplete). The share of people with no education is slightly above average. The highest share of skilled workers is a traditionally strong segment of the Czech labour market. It should be noted, however, that the current manufacturing technologies on the one hand, and the transfer of workforce from the industrial to service sector in Europe on the other, require a different education. Contrary to the national situation the share of people with completed secondary, vocational and university education is below average. The situation in Sokolov as the microregion's centre is only a little better (25% inhabitants with GCE, 3% advanced vocational training, 5% universities).

Table 2. Education structure of population 15 years and older

Education level	Sokolov-East [%]	Czech Republic [%]
No education	1	1
Basic education	31	23
Completed apprenticeship	39	38
General certificate of education	22	25
Advanced vocational training	2	4
University	5	9
Total	100	100

Source: according to the population census 2001, Czech statistical office Prague

The course and issues of landscape restructuring

The Sokolovská uhelná Company systematically effaces the mining activity influences, and on a long-term basis transforms the territories thus renewed into valuable landscape units, both from the perspective of creating biologically valuable ecosystems and from creating conditions for recreation activities. There is primarily silvicultural, agricultural and water reclamation performed in the Sokolov district, but also other activities (see also Zborník, 2006). Silvicultural reclamation is mostly carried out on slopes, and the options out of hardwood are mainly grey and black alder, sycamore maple, common ash, durmast and pedunculate oak and mountain ash; out of softwood these are Scots pine, Norway spruce and European larch. Domestic shrubs,

primarily fructiferous, are also planted. Agricultural reclamation is either carried out using topsoil removed with appropriation of land in a 35 cm layer, or without topsoil, directly on cypris clays that form the majority of the local mine dumps. A part of reclamation is also the creation of suitable biotopes for protected plant and animal species.

Accomplished reclamations

To provide information about ecological specifications of mine dumps and patterns of their natural development, in 1995 the so-called „Ježkova“ nature trail was built above Lomnice municipality in the area of the Podkrušnohorská mine dump. In the close vicinity of Sokolov (near the new grammar school) a vast arboretum was created at the Antonín mine dump.

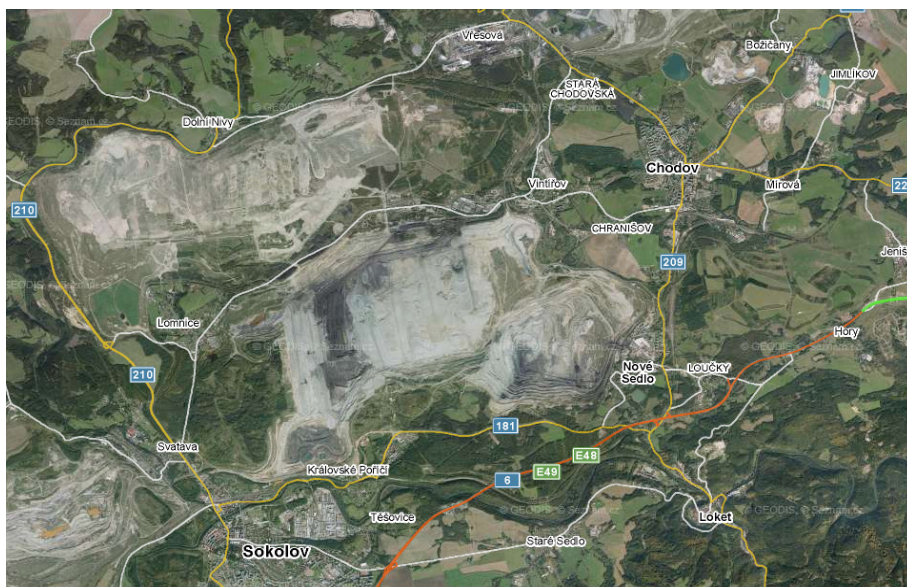


Figure 2. The satellite image shows the impact of mining on the landscape.

Source: mapy.cz

Reclamations aimed at a creation of new water reservoirs for various purposes occur quite often (c.f. Berkner, 2001). Two smaller water bodies of 15 ha area emerged at the Boden quarry, ca 300 m from Habartov town, where a part of residual pit has undergone water reclamation. The smaller reservoir has 5 ha, 75,000 m³ volume, and 4 m maximum depth, and is used for fishing purposes. The bigger one has 10 ha area, 328,000 m³ volume, and 6.5 m maximum depth and is used during summer season for recreation of the town dwellers and the immediate vicinity. The nearby territory is being afforested and grassed.

Another water body emerged in the area of Michal mine. Bathing pool Michal with an area of 29 ha is so far the largest recreation water reservoir in the vicinity of Sokolov. It was established in 2002 and its operation for recreation started in

2004. Its volume amounts to 800,000 m³, it has 5.6 m maximum depth and 2.85 m average depth. The maximum water stage in the reservoir is 452.00 m above sea level. Sports and recreation grounds built on the northern slopes of the water reservoir have enhanced its usage. The grounds consist of a sandy beach, grassed surfaces planted with full-grown wood plants, on which facilities like a restaurant, cloakrooms and showers were constructed including utility lines and an access road with a large parking area. The structures also include a big toboggan, a chute, floating piers, a boathouse and a mini-golf course. Forest reclamations are under way in the remaining part of the former Michal quarry. Landscape planning documentation has made the reservoir a part of Sokolov suburban zone.

Between Vřesová village and Chodov town there is Smolnická mine dump, on the margin of which “Bílá voda” water body extends (Figure 2). At its eastern side Sokolovská uhelná Company has built a sandy beach for the public that is used during summer season for recreational and sports activities. The adjacent areas around the reservoir have undergone forest reclamation and grassing.

In the eastern part of the Silvestr locality near Dolní Rychnov village a golf course consisting of 18 holes was built on an area of almost 100 ha. Reclamation works consisting of rough ground shaping, draining with the creation of seven small-sized water bodies, and silvicultural and agricultural reclamation were carried out from the funds for redevelopment and reclamation. The remaining final works like facilities for golf-players, irrigation equipment, final shaping of the golf course, grassing, development of greens and teeing grounds were settled from the own means of Sokolovská uhelná, legal assignee, a.s.

Current reclamations

Currently the reclamation of residual pits area of the former Medard – Libík, Lítov – Boden, and Gustav quarries is under way. The future Medard - Libík Lake should be filled with water by 2012. The total area will exceed 485 ha and the maximum depth will be 50 m. The eastern part of this area should be used for recreation related to the water body – water sports, sports centre, and holiday accommodation of various forms. The western part should be devoted to culture and fine arts in relation to the St. Mary’s pilgrimage church in Chlum, to education, science, research, a golf course and recreation.

Planned reclamations

In the next stage of the planned works between Březová town and Dolní Rychnov reclamation of the Silvestr II.A mine dump will be carried out, also on an area of almost 100 ha. The goal is to build a zoopark, a forest park, a bio-centre, geological and ecological nature trails with the necessary facilities.

The last large residual pit that will emerge with the termination of coal mining in the Sokolov region in the Jiří and Družba quarries after 2036 is determined for flooding. A lake with 1,322 ha area, 515 million m³ water volume, 93 m

maximum depth and a 40 m average depth should thus come into existence. Both of these large waterworks are intended to be flooded by the water of the Ohře River.

Economic and social re-structuring and the role of local and regional institutions

The success of re-structuring largely depends on the so-called human capital and its capability to create a vision and to secure its implementation. From the perspective of state administration the territory falls within the Karlovarsko Administrative Region, and within this it is a relatively important part (18% inhabitants). For statistical purposes it is a part of the Severozápad Cohesion Region together with Ústecko Administrative Region. After the disestablishment of district councils (albeit a number of other authorities at the district level have remained) the state administration is based on the system of municipalities with extended powers (in this case Sokolov) and authorised municipal offices (in this case Chodov).

In the sphere of self-administration municipalities form voluntary unions at various levels. In this case it is the Sokolov-East union of municipalities with the head office in Královské Poříčí, the territory of which is the subject of this study. In a broader frame the local action group Sokolovsko, o.p.s. with the head office at Březová has functioned since 2006. It seems that both unions are backed up by a similar group of people, who are the driving force of the entire microregion's development. The Sokolovsko local action group (LAG) has accepted an integrated development strategy that defines the main development goals of the microregion. The main priorities are: quality of life, restoration of monuments and development of tourist business, human resources and employment, and a support of partnership. The territory of the LAG is indeed markedly larger than the microregion under study.

The Karlovarsko Administrative Region is an important subject of regional development. In the documents under elaboration the Sokolov area is delimited as a specific microregion important from the perspective of mineral raw materials extraction and its consequences – by the side of microregions important for balneology, protection of nature, agriculture and urbanization (Koubek et al., 2008). Diversification of functions of the Karlovarsko territory is another significant fact that has to be considered with the development potential analyses. The most important Czech balneal places but also territories with an intense protection of nature are located at a minimum distance from the “moonscape” following opencast mining.

From the perspective of cross-border cooperation the Sokolov district, together with other three districts in the Czech Republic (Karlovy Vary, Cheb, Tachov) and the relevant territorial units of Saxony and Bavaria, is a part of Euroregion Egrensis. So far it does not seem, however, that this partnership has an important effect. For establishing of contacts, exchange of experience

and getting to know the neighbours a direct cooperation between partnering towns or municipalities (e.g. Chodov and Oelsnitz/Erzgebirge) may be more beneficial, although even this cooperation so far apparently does not bring direct economic effects. Körner (2007) assumes that not even direct neighbours in this area (Kraslice – Klingenthal) can be expected to significantly directly cooperate in the sense of strengthening of centres.

The most important economic subject of the microregion – the Sokolovská uhelná a.s. Company – should not be forgotten either. Although its job description does not include regional or territorial control, its interventions into the landscape are most significant. The company has elaborated a material called „Creation of a new landscape in the Sokolov region“, in which it defines its main priorities in this respect. It has to be stressed that the company is legally responsible for the reclamation of landscape but not for the related and consequent effects in the social sphere. In spite of this, nowadays the Company activity within the territory is taken in positively and it is appreciated that during privatization the Company has got into hands of people who have their roots in the region, and thus a personal interest in improving the situation.

Discussion

If we want to answer the question whether rural character will be successfully restored in the landscape of the Sokolov-East microregion, we should make clear what its present character is and what desirable changes it should go through. So far rural has been defined as an opposite to urban. Village used to be something that was not a town. But is this the case even today, at the time of suburbanization and counterurbanization, transfer of industrial manufacturing plants from cities to their surroundings, concentration of hypermarkets near highway crossings, and multifunctional development of the country?

A landscape with vast opencast mines is by no means agricultural. More likely it can be labelled as industrial, but nowadays this division does not precisely testify to the relation between urban and rural. Local inhabitants are primarily employed in mining, industry and services. However because a great number of people commute to work, this rather relates to lifestyle than to the character of the area. Incidentally, the city and country way of life are getting closer to each other very fast. What would then be the criteria we should use to define this issue?

If we ensue from the character of settlement, a country landscape should consist of country habitations and small towns as their centres. This is true by and large; the only question to be left is the role of Sokolov, which - according to our criteria - belongs to medium-sized towns by the number of its inhabitants on the one hand, and by its function of a district town on the other hand. It may be questioned to what extent these small towns adequately fulfil their function of rural background centres. In this respect the situation is not too favourable, as the entire structure of small towns has been re-modelled by mining. Thus one of

the goals of rural landscape restoration should be to restore the function of small towns. This should not necessarily concern all small towns within the microregion – after the loss of central functions and parts of their physical structure that had to give ground to mining some of them might become country habitations.

As far as landscape is concerned, a mark of a country landscape is a prevalence of agricultural and forest land in combination with water bodies and small habitations. Recently the share of land devoted to recreation also increases. The microregion so far does not fulfil this characteristic; however most of reclamation measures are directed towards this utilization. But Rothbauer et al. (2004) bring forward that agricultural businesses in the territory under study are not competitive in the conditions of the unified European market. The disparity between the production of permanent grassland and the number of livestock is not sustainable even with the aid of subsidies. The future then can rather be seen in a prevalingly subsidised polyfunctional agriculture aimed more at landscaping and maintenance of landscape, non-food production, special products, afforestation, agrotourism and complementary activity.

As usual, people are the biggest issue. If we perceive country inhabitants as identified with their municipality, land and microregion, the inhabitants of the Sokolov-East microregion are definitely not rural and do not even come anywhere near such characteristics. This fact is primarily a consequence of the post-war ethnic exchange of population, intense immigration caused by the industrialization of the socialist period, but also vast changes of the landscape. The above processes have broken the integrity of both inhabitants and landscape; they apparently present the main problem from the perspective of considering a possible restoration of rurality in the area in a relatively near-by time horizon. Even if the creation of a new landscape and the stabilization of inhabitants are successful, it will probably take some decades before it will be possible to realistically reflect on the return to country roots. Woodland management has a better economic perspective, even if at the beginning it will also have non-producing functions: soil conservation, ameliorative, hydrological, hygienic, climatic and esthetical.

However the stabilization of inhabitants itself presents a grave future problem. Mining will obviously be terminated within the 2020 horizon. It may be assumed that landscape reclamations will be carried out in an appropriate quality. The main task, though, will be the substitution of roughly ten thousand job opportunities in mining and the induced activities. The direction of efforts is quite obvious: to establish a diversified structure of small and medium-sized businesses in traditional industries, service and tourist industry, so that the new structure is relatively resistant even to market swings affecting the individual industries.

However the question arises to what extent is the qualification structure and mentality of mining, energy and chemical sectors employees suitable and prepared for these necessary changes. The suburbanization tendencies of Karlovy

Vary as manifested in the eastern part of the microregion will have to be taken into account. Because of a small distance from the state border transformed in the Schengen Area the solution has another variable coming into play - the future cross-border influences, i.e. possibilities of cooperation on the one hand, and opening to international competition on the other hand.

The image of the microregion will no doubt play its role in the entire process. It appears that a change of image is a more long-term issue than the removal of environmental damage and improvement of social situation alone. On the other hand, at the level of the region, municipalities, microregional unions and other subjects a lot of active measures can be taken to improve the image.

Therefore it is possible to assume that while the reclamations of landscape, incidentally already started, will lead to the transformation of the microregion into a rural one relatively faster, changes of the social system will be rather of a long-term character, will have to struggle with a range of problems and their outcome is uncertain. Moreover, the situation will be influenced by some external factors that are not easy to predict. For this reason, it will be appropriate to continue to monitor the development.

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