Vol. 22/2014 No. 1

MORAVIAN GEOGRAPHICAL REPORTS



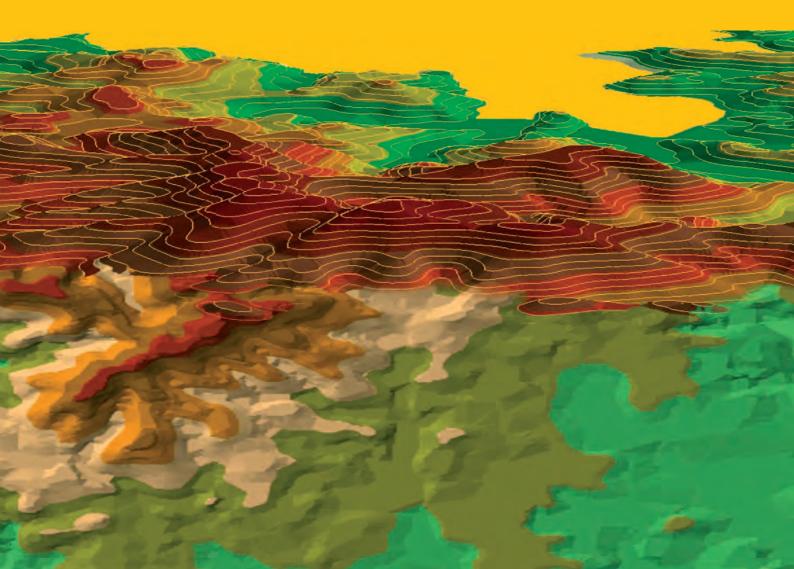




Fig. 1: In the case of intensively cultivated agricultural landscape, agritourism is locally developed near areas of higher natural value or in the vicinity of urban areas (source of demand); \check{Z} at region from the top of the hill Raná (Photo: O. Konečný)



Fig. 4: Interconnection of agritourism and viticulture is relatively common. Especially when such locality has a natural or culture-historical potential (vineyard on the background of the protected landscape area Pálava – photo: O. Konečný)

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PRICE

280 CZK (excluding VAT) per copy plus the postage 800 CZK (excluding VAT) per volume (four numbers per year) plus the postage

PUBLISHER

The Academy of Sciences of the Czech Republic Institute of Geonics, v. v. i. Identification number: 68145535

MAILING ADDRESS

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Brno, March 31, 2014

PRINT

 $NOVPRESS~s.r.o.,~n\'am.~Republiky~15,~614~00~Brno\\ ©~INSTITUTE~OF~GEONICS~ASCR,~v.v.i.~2013$

ISSN 1210-8812

Articles:

Ilona SVOBODOVÁ, Antonín VĚŽNÍK, Michael KRÁL VITICULTURE IN THE CZECH REPUBLIC: SOME	
SPATIO-TEMPORAL TRENDS	
(Vinohradnictví v České republice: prostorově-časové trendy))

Ondřej KONEČNÝ

Stanislav KRAFT, Marián HALÁS, Michal VANČURA THE DELIMITATION OF URBAN HINTERLANDS BASED ON TRANSPORT FLOWS: A CASE STUDY OF REGIONAL CAPITALS IN THE CZECH REPUBLIC ... 24

(Vymezení zázemí měst na základě dopravních toků: případová studie regionálních center České republiky)

Waldemar CUDNY

(Vliv televizního seriálu "Komisař Alex" na rozvoj Lodže (Polsko) očima jeho obyvatel)

Blanka MARKOVÁ

CREATIVE CLUSTERS IN THE CZECH REPUBLIC – A STRATEGY FOR LOCAL DEVELOPMENT OR A FASHIONABLE CONCEPT?44

(Kreativní klastry v České republice – strategie lokálního rozvoje nebo módní koncept?)

VITICULTURE IN THE CZECH REPUBLIC: SOME SPATIO-TEMPORAL TRENDS

Ilona SVOBODOVÁ, Antonín VĚŽNÍK, Michael KRÁL

Abstract

From a global perspective, the growing of grapevines in the Czech Republic is of peripheral importance. For a group of grape-growing villages in southern Moravia, however, the making of wine is bound up with local history, traditions and cultural life, and contributes significantly to the local economy. This paper describes the current status of viticulture in Bohemia and Moravia, addressing changes in the number and structure of wine producers and pointing out some qualitative changes that the business is undergoing. Changing consumer tastes have brought a demand for quality wines of local origin, which cannot be met without high quality care of vineyards throughout the lifetime of the vines. Special attention is given to two alternative ways of tending vineyards – the development of integrated production, and organic viticulture – that are developing rapidly in the Czech Republic even when compared to Austria and Germany.

Shrnutí

Vinohradnictví v České republice: prostorově-časové trendy

Pěstování vinné révy v České republice má sice z hlediska celosvětového spíše okrajový význam, velkou roli však hraje v řadě vinařských obcí převážně v regionu jižní Moravy, kde je tradičně silně spjato s místní historií, současným kulturním životem a představuje přínos pro lokální ekonomiku. Předkládaný příspěvek se zabývá současnou situací v českém, resp. moravském vinohradnictví – pozornost je věnována nejen změnám v počtu a struktuře pěstitelů, ale řadě kvalitativních změn, kterými odvětví prochází. Změny ve spotřebitelských návycích obyvatel zvyšují poptávku po kvalitních vínech domácí provenience, jež se neobejdou bez neméně kvalitní péče o vinohrady v průběhu vegetačního období. Pozornost je rovněž věnována rozsahu alternativních způsobů hospodaření ve vinicích (rozvoji integrované produkce a ekologickému vinohradnictví), které se i ve srovnání s Rakouskem či Německem rozvíjí v ČR velmi dynamicky.

Keywords: viticulture, vine-growers, organic viticulture, integrated production, Czech Republic

1. Introduction

Grapes have been grown in Bohemia and Moravia since ancient times, as shown by the first written records from the Great Moravian Empire (ninth century A.D.), as well as by archaeological findings. The planting of vineyards came into its own during the High Middle Ages (eleventh to thirteenth centuries), when large vineyards were planted, the first applicable legal regulations were established, knowledge of viticulture spread among the local populations, and wine trading increased. Throughout their history, viticulture and wine making have undergone frequent cycles of feast and famine, expanding and then declining again. These fluctuations have often been connected with the general political, economic and social environment in the Czech lands. Living conditions influence every farmer. The twentieth century was no exception and vine growers as well as wine makers in Bohemia and Moravia were influenced by many internal and external factors even to the present. There are currently more than 19,000 farmers engaged in viticulture in Bohemia and Moravia, many of whom make their own wine. Especially in southern Moravia, vine growing and wine making are widespread, inseparable parts of the history and cultural life of many villages, and that make significant contributions to the local economy.

The principal objective of this article is to analyse the current situation of the industry from the perspective of the most prominent recent changes. Some trends in the viticulture of neighbouring countries can occur in the Czech Republic as well. Studies already published show changes in consumers' habits, the lifestyles of inhabitants in particular,

which, in return, influence the sector of wine production and subsequently growers (e.g. Kraus et al., 1999). The increasing demand for high-quality wines, as well as the availability of a wide range of foreign wines, develops pressures towards high-quality production and care for grapes even during their ripening in vineyards. The growth of vineyard areas in the system of integrated production comprises the most conspicuous tendency influencing Czech grape growers and wine producers. As well, the organically farmed vine area is growing considerably.

The extent to which Czech producers can compare to their foreign competitors will depend not only on the quality of their products (for some consumers, even the term "organic" itself implies high quality), but also on their marketing abilities, emphasising the singular character of some products reflecting local natural conditions, i.e., the phenomenon known as "terroir" in the wine-growing terminology. According to numerous wine makers, wines with a distinctive "terroir" come from grapes grown with a minimum use of synthetic substances (pesticides or fertilizers), emanating from grapes from integrated production and from grapes from organically-farmed vineyards.

2. Literature review

According to van Leeuwen (2009), no other agricultural product has such a strong relationship with the soil as wine. The concept of terroir as an interactive ecosystem at a given place, including climate, soil and wine, is poetically expressed by Banks et al. (2007) who claim that "wine is the essence

of a place in a bottle". Overton, Murray and Banks (2011) assert that what makes a wine unusual or even unique in the world of globalized products, is its close association with its place of origin. The controversial, mystical phenomenon of terroir has a power to explain different prices of wines with similar organoleptic characteristics. It can give competitive advantages in wine marketing (Vaudour, 2002; Corinto, 2011). Chartes (2006) points out that human factors, among different local factors reflected in terroir and influencing the wine, are important as no vineyard exists without the intervention of mankind. According to Gade (2004), the quality of wine depends heavily on local traditions and experience. Vaudour (2002) studied in detail the connection with the above-mentioned idea of terroir and label of origin. From his book, as well as from many of the studies mentioned above, we can conclude that the quality of wine and the knowledge of its origin are often considered to be closely connected. While premium wine is designated by its origin from a specific region (even a specific vineyard), bulk wine has no such designation or interpretative function (Charters, 2006). Finally, Schamel (2006) claims that drinking of especially expensive wine has to do with the knowledge of place.

Lately, in both the traditional wine producing countries (France, Spain, Italy and Portugal), as well as among 'New World' producers (Australia, New Zealand, Argentina, Chile, USA), there are many qualitative changes in the wine sector. Although it is quite difficult to explain them briefly in global terms, for many countries almost all over the world several trends are apparent. One issue is that consumers have started to place more emphasis on preferring the origins of the vine of a particular area, of a growing community, or even the individual farmer. Consumers have also become more demanding and less price-sensitive. This "consumer turn" towards traditional or typical food products (in general, i.e., not only for the case of wine), is also seen in the recent agro-food literature, a summary of which is offered by Barham (2003). On the other hand, it needs to be noted that certain consumers prefer New World wines, which are cheaper and at the same time of a comparable quality to the traditional European wines.

On a global scale, viticulture is described as having experienced a significant shift from a quantitative orientation towards high-quality production (Dougherty, Jones, 2003; Pitte, 2004; Tomšík and Prokeš, 2011). The situation in individual non-European states is analyzed, for example, by Pont (2010) in Argentina, Overton, Murray and Silva (2011) in Chile, and Barker, Lewis and Moran (2001) in New Zealand. At the same time as this "quality turn" has occurred, European countries with a long tradition of viti-/viniculture are gradually losing their quasi-monopoly position in wine producing and exporting, relinquishing their market shares to New World countries, which have emerged as significant players in the global wine market since the late 1980s. Another trend is that wine consumption per capita in the traditional wine-consuming countries is decreasing. According to Pitte (2004), the production of ordinary wines collapsed in the second half of the 20th century - there is no future even for French wines without an orientation to quality and particular geographical character.

Another trend was noted by Goodman (2003, cited in Bouzidine – Chameeva and Krzywoszynska, 2011), who connected the general quality turn in food production with the recent growth of the organic wine sector. Over the last few years, organic wines developed a notable presence on

the global wine scene, especially due to many countries of the New World moving rapidly towards organic viticulture (Mueller, Remaud, 2010).

Similar trends to those occurring in the top-ranked wineproducing countries have shaped the wine industry in the Czech Republic. In the 1990s, the Czech agricultural sector experienced important reforms influencing organizational structure and property ownership, when converting collective farms into other corporate or legal structures not based on the collective property. Many former agricultural businesses in the South Moravian region farmed vineyards in tens of hectares as a part of their varied plant production, often without concurrent wine-making. During the process of transformation, new farming businesses emerged. Recently, in correspondence with the global production and consumer trends, they have also started to focus on premium wine production (as a great advantage we can name especially a long tradition of vine growing and wine making in this region). The number of enterprises with vine growing and the related production of wine is increasing. Special wine production such as the production of organic wines, straw wines or ice wines is also flourishing. Currently, it is typical of smaller family wineries rather than large agricultural enterprises.

The issue of changes in viti-/viniculture has also been a subject of much research in the Czech Republic by authors mainly from the disciplines of economics or agriculture (Kraus, 1999; Graffe, 1984 or Jung, 1984, more recently Tomšík and Chládková, 2005; Chládková, Tomšík and Gurská, 2009). For example, topics connected with wine consumption and demand for wines were analyzed by Chládková, Pošvár, Žufan (2004), and Žufan (2004b). A comparison of Czech conditions with some EU countries in the pre-accession period was discussed by Škorpíková (2002), Tomšík, Sedlo (2005), and after the Czech Republic joined the EU by Hicl (2012). Kučerová (2005) points out that the Czech Republic shows a number of particularities in these characteristics when compared to neighbouring Slovakia or Austria, such as the fact that the Czech Republic is a country where beer is strikingly popular. A number of papers have focused on the impact of legislative changes in the area of viticulture in particular related to the Czech Republic's entry into the EU in 2004, which is of major interest to active wine makers. Of recent works, evaluating the situation and development tendencies in Czech viticulture, Koráb (2012) should be cited, as this contribution noticeably aims at the perception of the European Wine Policy by Moravian vinegrowers and winemakers. As is evident from his research, as well as from the other papers mentioned above, the Czech industry of viticulture and viniculture is represented by a colourful range of businesses of various sizes, with varying production experiences and marketing abilities. These businesses differ in their approach to the environment and to the treatment of vineyards, among other factors.

This paper builds on the above-mentioned contributions in many respects, based on available statistical data, summarizing basic development tendencies in Czech viticulture and viniculture. Considerable attention is paid to current trends in environmental factors, which in practice means using alternative ways of farming (integrated production of grapevines, and organic viticulture). Although it is a perspective direction on development according to Hicl (2012), the issue of Czech organic viticulture has not been analyzed to any great extent at this time, except for the work of Hluchý (2011, 2013), the chair of the Ekovín

civic association (association of Czech vine-growers farming organically and integrally) and a prominent world expert for the greening of vine growing.

3. Methodology and data

It is necessary to set basic definitions and terms before analyzing quantitative changes in viticulture and wine making/viniculture (number of growers, area farmed). Pursuant to Wine Act No. 321/2004 Coll., the terms used are defined as follows:

- Vine-grower (in Czech conditions) is a person engaged in viticulture in a vineyard, while a vineyard means farmed land of an area larger than 10 ares¹, continuously planted with grapevine by one grower, who was assigned one or more registration numbers following a written application to the Central Institute for Supervising and Testing in Agriculture (CISTA). A vineyard sized less than 10 ares is a vineyard only if it has a registration number assigned by the institute, based on a written application;
- Viticulture is an industry of vegetable production engaged in growing table varieties of vine (Vitis vinifera), vine grapes meant for direct consumption and must varieties of vine, meant for the production of grape wines;
- Wine making is a sector of the food industry dealing with the processing of vine grapes into grape wines and secondary products;
- A winemaker is a natural or legal person who produces or labels the product to put it into circulation;
- A "small" area vineyard is often referred to in this article
 as an area smaller than 1 ha in the conditions of the
 Czech Republic this is, at the same time, the limit for
 receiving subsidies (unlike Austria, for example, where
 it is 0.5 ha).

The two industries are closely related, many vine-growers also make wines; however, some winemakers do not farm vineyards of their own. This paper deals with the grape-growing activities of those growers who farm vineyards according to the above-mentioned criteria (attention is not paid to small growers with vineyards which are not registered, i.e. those who produce grapes for winemaking only for their own consumption). A set of data published by the Czech Statistical Office (CSO) can be used to describe the trends in the development of Czech viticulture. The specificity of the processes in the Czech vini- and viticulture can also be determined from comparing the situation of these two industries with neighbouring countries.

It is possible to use the summary reports published by individual Ministries of Agriculture (MoAs) to obtain the information on vine growers (Green Report in the Czech Republic, Green Report in Slovakia, Grűner Bericht in Austria, Agrarpolitischer Bericht in Germany), as well as special thematic reports published by the ministries (annually published Special Report on Vine and Wine by MoA of the Czech Republic), and results from statistical surveys of a global character. In the Czech Republic, data can also be used from the nationwide survey of agribusinesses: "Agrocensus" (usually carried out every ten years – exceptionally in 1995, in 2000, and in 2010, when it was already in line with the rules of European Union), and from surveys – the Structure Farm Survey 2007, 2013. Comparing developments in viticulture in the Czech Republic with neighbouring countries (in this

paper, the situation in Slovakia, Austria and Germany), brings in similar surveys from these countries – the globally-oriented Farm Structure Census 2010 is obtained from the statistical offices in Germany, Slovakia and Austria.

From a methodological point of view, there is a problem as different thresholds for individual businesses are used for entities to be included in the survey: 1 ha utilised agricultural area (UAA) in Slovakia and in Austria, or 5 ha UAA in Germany and in the Czech Republic. The threshold for including a business according to a vineyard area differs, too: businesses with a minimum vineyard area of 25 ares (under marketable vines) are included in Austria, 35 ares of vineyards in the Czech Republic, 50 ares in Slovakia and in Germany. Although the above censuses provide for a good mutual comparability (e.g. total production volumes in the individual countries), different limits for the censuses do not make comparisons possible, for example in comparing the number of wineries. For topical information about the number of growers, we also use data from vineyards registers operated by the Central Institute for Supervising and Testing Agriculture (CISTA in the Czech Republic) or the Central Controlling and Testing Institute in Agriculture (CCTIA in Slovakia), which cover all vineyards intended for the commercial production of grapes, grape must, wine, or vegetative propagation material for vines. Smaller self-suppliers can be registered too. The obligation of vine growers to register their vineyards can slightly differ from country to country. In the Czech Republic, all vineyards of a minimum area of 10 ares are subject to registration, in Slovakia those with at least 300 grapevine bushes or 50 ares.

The information about the vineyards area, varieties and age is available from the national statistical surveys on viticulture, such as the "Basic Survey of Areas under Vine", which all individual EU member states are obliged to provide at ten-year intervals ("Survey of Vineyards 2009" in the Czech Republic; "Statistical Survey of Vineyards 2009" in Slovakia; "Weingartengrunderhebung 2009" in Austria). Methodologies of data collection slightly differ even in these large-scale surveys: for example, in Austria the survey was outlined as a full survey covering all subjects registered in the vine registry (subjects with at least 0.5 ha of vineyard and also self-suppliers); in the Czech Republic, the survey of subjects with an area from 0.1 ha of vineyard and larger, who produced at least a part of their production for sale; and in Slovakia, the businesses registered in the Business register and Agricultural register of the Statistical Office of the Slovak Republic, which performed the prescribed activity according to the classification of economic activities (NACE) – growing permanent crops 01.2 and propagating plants 01.3.

Despite the different criteria of classifying businesses in the statistical surveys of the respective countries, it holds true that every country proceeds in their specifications consistently with the knowledge of their structure of farms or vine growers. It is possible to assume that the stated circumstances of a methodological character do not influence the determination of basic processes or directions in development in the vine-growing and winemaking industries across these countries.

Many of the global surveys mentioned above are insufficient to obtain an overview of the alternative ways of farming the vineyards, as they only contain information

 $^{^{1}}$ 1 are = 100 m 2

about the total size of organically farmed land or arable land. The most comprehensive information on the issue of organic farming in the Czech Republic can be obtained from the "Statistical Survey of Organic Farming", published by the Institute of Agricultural Economics and Information (IAEI) for the Czech Ministry of Agriculture. It is possible to use The List of Organic Farmers published on the web pages of the Ministry of Agriculture of the Czech Republic for a more detailed analysis of regional differences in the location of organic farming or organic viticulture. At the time this article was written, the current data were accessible as of 31 December 2011. The data on the area of organicallyfarmed land, including vineyards in various countries, are collected in Switzerland by the Research Institute of Organic Agriculture (FiBL), cooperating with the International Federation of Organic Agriculture Movements (IFOAM). Contrary to organic farming, for which the data have been collected already for several years and which is very well regulated by international legislation, collecting data on the system of integrated production in a central database is not possible (as the principles are not identical in individual countries). In this paper, we used data presented in the Green Reports of the Czech Republic and Austria, data from the German Wine Institute, and data from the CCTIA, Slovakia.

4. Results

4.1 Development of viticulture in the Czech Republic

Basic development trends in global viticulture, many of which also affect the Czech growers, are as follows:

- According to the German Wine Institute (DWI, 2013), there was a decrease in the total area of vineyards in the world between 2009 and 2012, and European Union member countries are classified as regions with the highest reductions of vineyard area. The highest absolute decrease in the size of vineyards was recorded in countries with the largest vineyards, a long tradition of viti-/viniculture, and with a strong tradition of wine consumption by the local population. If we compare the years 2012 and 1990, Spain reduced its area of vineyards by 33.6%, France by 14.8%, Italy by 24.9%, Portugal by 36.9%, Greece by 26.7%, and Hungary by as much as 53.6 %. On the other hand, a striking growth of vineyard area was observed in that period in the USA, China, Chile, Brazil, Australia and Russia;
- A slight decrease in wine consumption is evident in traditional vine-growing countries such as Italy, Spain and France. By contrast, annual consumption of wine in litres per capita is reported by many countries of Central and Western Europe (e.g. Germany, Austria and Great Britain). Chládková, Tomšík, Gurská (2009) state that the popularity and consumption of wine in countries where vine was not that well known have been growing (e.g. Chile, USA);
- The European Union, which used to be the most prominent global exporter of wine for centuries, has been struggling with the growing imports of wine from non-European countries, and wine exports are growing at a slower rate; and
- Wine consumption per capita is also growing slowly in the Czech Republic, but the wine trade is growing (both imports and exports are increasing), and there is growth in the demand for and in sales of quality wine (Chládková, Tomšík, Gurská, 2009).

According to data from the CISTA vineyards register (published by MoA CR, 2013a), the area of vineyards representing the current production potential of the CR is 19,633.45 ha: this consists of areas planted with vine (17,198 ha), and other areas such as grubbed-up vineyards, areas with replanting rights, and those with existing planting rights in reserve. Productive vineyards (older than four years) form an absolute majority of planted areas, and over-mature vineyards (older than 50 years) cover approximately only 2% of the total vineyards area. The situation when the area of productive vineyards is stabilized can be evaluated positively; as compared to the year 2004, when it was 13 thousand hectares, it has been oscillating around 16 thousand hectares for several years now. In particular this is due to new intensive vineyards planted under the influence of subsidies from the EU in 2001-2004. These were planted with respect to a limited possibility of planting new vineyards after joining the European Union (as compared with the situation as of 1 May 2004, an increase of vineyards area is possible only by 2% of the area planted at that time, i.e. by additional ca. 385 ha). At present, new vineyards can be planted only as replanted vines (after previous grubbing up or obtaining replanting rights from somebody else).

The vine growing region of Moravia has an absolutely prominent position in terms of regional differentiation in the location of vineyards in the Czech Republic – the largest vineyards are in the district of Břeclav (9,258 ha), Hodonín (3,940 ha), Znojmo (3,040 ha), Brno-Province and Uherské Hradiště. As is evident from the total size of vineyards in districts with the most significant viticulture in Bohemia (Litoměřice – 254 ha, Mělník – 246 ha), vine growing is just a marginal part of the total agricultural production (vineyards do not represent more than 1% of farmland in any of the vine growing districts in Bohemia). The size of vine regions in Bohemia and Moravia is illustrated in Fig. 1. The representation of vineyards in the farmland of districts in the Czech Republic is evident from Fig. 2.

The vine register data collected by CISTA indicate that the number of registered vine growers in the Czech Republic has been oscillating over the long term around 19 thousand subjects (it was still increasing in the first years of the Czech Republic's EU membership). Most entities farm vineyards in south Moravia and only about 150 of them in Bohemia. Since 2006, a slight decrease in the number of registered entities is visible. As Tab. 1 shows, the number of vine-growers decreased also in neighbouring countries (the decrease in Germany and Austria was recorded over a longer period, and in Germany, the large decrease was slightly influenced by a change in the basis of the survey). When comparing the data from the vineyards register with the results from the survey on vineyards from 2009, it can be concluded that almost one- half of Bohemian and Moravian vine growers accounted for in the register, are solely selfsuppliers farming vineyard areas smaller than 0.1 ha. Farming of such areas has an uncertain future - it is usually a hobby combined with the experience of particular people. It is, however, a matter of tradition in the region of southern Moravia where vineyards and wine cellars are passed on from "a father to his son", and individual families have developed strong emotional ties to them.

In this respect, the situation in the Czech Republic does not differ from other countries, where small vine growers are also represented in considerable numbers. The Czech Republic currently records a similar number of vine-growers

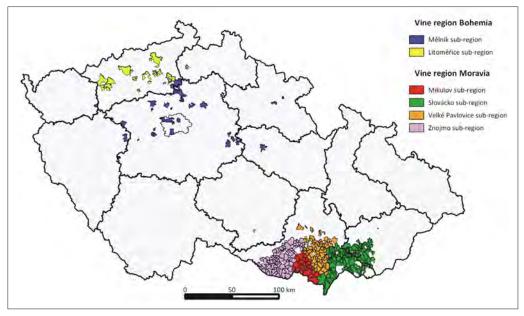


Fig. 1: Vine Regions of the Czech Republic Source: Ministry of Agriculture of the Czech Republic, 2013

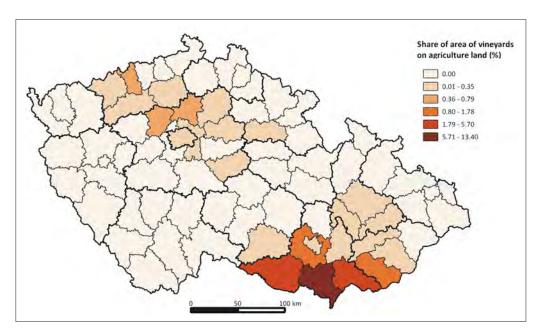


Fig. 2: The area share of vineyards on agricultural land in the Czech Republic in 2012 Source: Czech Office for Surveying, Mapping and Cadastre (COSMC), 2012

	Czech Republic		Czech Republic Slovakia		Aus	tria	Germany	
	2005	2011	2005	2011	2005	2011	2005	2011
Number of vinegrowers ¹⁾	20,394	19,037	n/a	25,000	32,044 ²⁾	20,181 ³⁾	68,603	20,290
Vineyards area ⁴⁾ (ha)	18,554	17,198	n/a	22,452	45,733	43,839	98,875	97,008 ⁵⁾

Tab. 1: Number of vine-growers and vineyard area in the CR and in neighbouring countries in 2005 and 2011 Notes: 1) Figures from vineyards registers which include vine-growers with at least 10 ares of vine in the CR, or 30 ares in Slovakia and several vine-growers voluntarily registered with a very little area under vineyards. In addition, those vine-growers are included who do not have to have plant vineyards but have a right of replanting. In Austria, all vine-growers are included questioned in the Basic survey of areas under vine 2009 (full survey), in Germany, vine-growers with a vineyard area of 30 area and more according to the Agricultural Structure Survey 2010 (Federal Statistical Office, Germany, 2011); 2) Reference years 1999; 3) Reference year 2009; 4) Includes the area of vine growers registered in the Vineyards Registers of CISTA, CCTIA (CZ, SK), productive vineyards (Austria), data from the German Wine Institute; 5) Reference year 2010. n/a – data not available

Sources: CISTA, 2012; Statistics Austria, 2009; German Wine Institute, 2006, 2013

as the neighbouring Austria which, however, has more than twice the area of vineyards (with the productive vineyards prevailing as well). In Slovakia, the situation is different, since according to the information from the CCTIA, about one-half of the registered vineyard area is not being farmed at all (according to the Farm Structure Census 2010, including businesses of both legal entities and natural persons with a minimum of 0.5 ha of vineyard, represented only by 1,208 subjects farming 11,044.1 ha of vineyards, i.e. ca. 5% of the registered entities and less than one-half of the registered vineyards).

Comparing the often hardly comparable data, we can conclude that a greater part of vineyards registered in the Czech Republic is really farmed. Grapes for wine making intended solely for home consumption are grown on a very small proportion of vineyards (roughly 5% of the area), and a large part of vineyards is farmed by a group of vine growers with over 5 ha of vineyards area (MoA, 2012).

Fig. 3 shows that the largest vineyards according to area farmed (over 100 ha) can be found only in Moravia – they play a considerable role especially in the Znojmo and Hodonín districts, where, regardless of a high number of small growers, these several farms cultivate areas corresponding approximately to one-third of the vineyard areas of individual districts. In the vine growing region of Bohemia, large growers can be found (over 60 ha of vineyard area) only in the districts of Most and Litoměřice. In other districts of Bohemia, small growers prevail completely, both in number and in terms of their share in the total vineyard area.

It is evident from the number and structure of vinegrowers and from the total vineyard area, both in the Czech Republic and in its neighbouring countries, there is a visible tendency for the emergence of larger businesses. Smaller entities disappear due to various reasons: important factors include the low profitability of grape growing, influenced as well by the increasing costs of vine management (viticulture often remains a hobby paid by "putting one's hand into one's pocket"), prices of pesticides and fertilizers are increasing, and the average price of table grapes is lower than before joining the EU, as well as the older ages of the grower, etc. One trend that has been recorded concerns increasing the average vineyard area even where the total area of vineyards is decreasing (from 1.52 ha in 1999 to 2.26 ha in 2009 in Austria).

The districts of southern Moravia traditionally are categorized into regions with the highest number of vine-growers in the Czech Republic (CISTA, 2012). Small-scale vine-growing, i.e. up to 1 ha of productive vineyard area, is widespread mainly in the Břeclav district (8,415 growers in 2012) and the Hodonín district (7,069). In the Znojmo district, there are "only" 744 growers. Villages with the highest numbers of registered vine growers are shown in Tab. 2 (in most of these villages, the number of growers has hardly changed at all from 2004 to 2012).

The popularity of vine-growing and wine-making, the activities of wineries and wine associations in these districts, are indirectly documented in Fig. 4, demonstrating the support of the Wine Growers Fund of the Czech Republic in various promotional events with the theme of wine held in 2013 (fairs and exhibitions of wine, wine tasting, wine festivals, promotion in the form of the creation of publications on wine, etc.). Again, the districts of southern Moravia – Břeclav and Hodonín – with a large base of wine traditions among wider groups of the population, predominate in the number of organized events or those supported by the Wine Growers Fund.

As mentioned above, a large proportion of the total vineyard area is held by larger companies (over 5 ha) – very often businesses of legal entities who farm approximately 64% of the Czech vineyard area (Farm Structure Survey 2010: the survey did not include sole self-suppliers with farmed areas less than 0.35 ha). Apart from the assumed varied size of land farmed, they differ slightly in the representation of growing grapes for the production of quality and table wines (91.1% of the area intended for growing quality wines by legal persons' enterprises, compared to the share of 80.5% by natural persons). Compared to legal entities, natural persons generally farm larger areas intended for table grapes production.

The varying degrees of experience with the European Common Agricultural Policy (CAP) can be mentioned as another difference. Large enterprises are almost solely

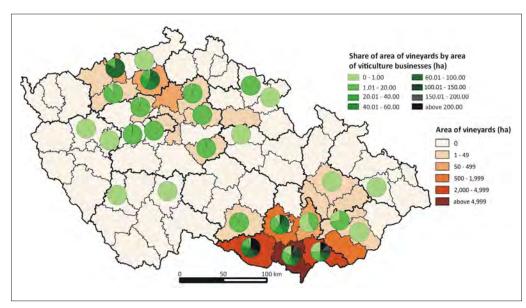


Fig. 3: Structure of viticulture businesses in the Czech Republic in 2013 Sources: CISTA, 2013; COSMC, 2013

Note: Subjects assigned according to their home address or company address

Village	District	Area of vineyards 2012 (ha)	Number of vine growers 2012	Number of vine growers 2004	Index of change (2012/2004) (%)
Velké Bílovice	Břeclav	722.7	1,011	993	101.8
Mutěnice	Hodonín	318.2	989	1,006	98.3
Čejkovice	Hodonín	521.6	710	710	100.0
Velké Pavlovice	Břeclav	362.3	620	579	107.1
Kobylí	Břeclav	273.6	516	596	86.6
Rakvice	Břeclav	207.6	472	496	95.2

Tab. 2: The largest vine growing villages in the Czech Republic according to the number of vine growers in 2012 Comments: The number of vine growers in a particular village is influenced by a number of factors – not only by the vineyard area itself but also by terrain segmentation, presence of bigger businesses in the structure of vine growers, sizes of land ownership (given e.g. by heritage tradition), specific traditions in a respective region etc. Source: MoA CR, 2010, 2013a

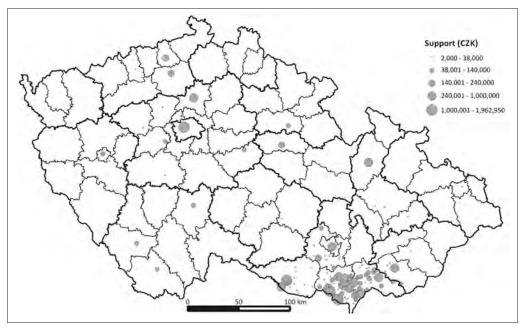


Fig. 4: Support of the Wine Growers Fund of the Czech Republic in 2013 Source: Wine Growers Fund of the Czech Republic, 2013

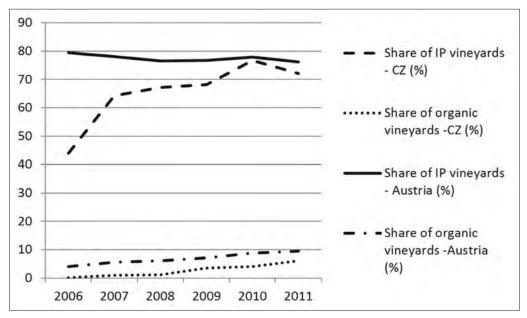


Fig. 5: The share of IP and organic vineyards in productive vineyards in Austria and in the Czech Republic (%) Sources: MoA CR (2007a, 2008, 2009, 2010a, 2011, 2013a, 2013b); Bundesanstalt für Bergbauernfragen (2006, 2007, 2008, 2009, 2010, 2011)

beneficiaries of direct payments, while businesses of natural persons gain subsidies rather exceptionally (they often maintain the position: "I don't want anything from anybody, so nobody can expect anything from me either"). Receiving direct payments for a very small area of farmland does not translate into a substantial income for the small vinegrowers. On the other hand, their approach often excludes them also from active participation in other financial means (e.g. from the European Agricultural Fund for Rural Development - EAFRD). Agri-environment schemes, co-financed by the EAFRD, have been used by numerous large firms for environmentally influenced ways of farming vineyards since 2004. Financial subventions for integrated vine production and for organic farming in vineyards have recently brought into being the most significant qualitative changes in vine growing in the Czech Republic (Fig. 5). The simple emphasis on quality production of grapes is typical for the majority of companies which also produce wine. Compared to the period before 1989, a reduction of grapes from one vine bush is evident for the majority of growers quality is preferred over quantity.

4.2 Integrated production of vine

Integrated production (IP) of vine is based on a relatively strict observation of principles defined by the International Organisation for Biological Control (IOBC). Integrated production is derived from the rules of sustainable development, which maintain the basic life needs for present and future generations, do not reduce biodiversity and, at the same time, preserve the natural functions of agri-ecosystems. According to Ekovín (a civic association, the only organization in the CR bringing together growers certified by IOBC), it is the way of farming which "struggles to achieve optimal yields of a higher quality in an environment-friendly way". The whole system approach to agriculture is typical for IP it is an approach applied to the whole business, and parallel conventional production is not allowed. In a similar fashion to organic farming, it has clearly-defined rules: a grower is obliged to use just a limited spectrum of pesticides; the number of fungicide applications is limited; and maximum doses of fertilizers are prescribed. There is an obligation to plant greenery in at least every second inter-row of a vineyard to reduce water erosion. Products from viticulture in the system of IP are grapes and subsequently wines labelled as "wines from integrated production".

Although the rules and principles of integrated production had been formulated in Switzerland in the 1970s and the technology for the biological protection of vineyards was developed and tested already in the former Czechoslovakia in co-operation with experts and farmers, IP saw a mass practical application in other countries earlier, e.g. in Austria (at the beginning of the 1990s), Germany and northern Italy. In the first half of the 1990s, the Association of Integrated Production of Grapes and Wines was created but the number of members grew only slowly at first (in 1999 it included 35 businesses mainly from the Břeclav and Hodonín districts). In 2004, vineyards in the IP system already covered an area of 5,837.7 ha. The environment-friendly approach of managing vineyards expanded to a greater degree only after 2005, when IP was subsidized for the first time.

In the period from 2007-2013, the integrated production of vine was a part of projects subsidized from the Rural Development Programme - agri-environmental measures (AEM). The subsidies led to a mass expansion of IP, mainly in larger businesses. Currently it is the most widely-used organically-oriented way of farming in vineyards - at the beginning of 2012, IP was applied on 11,535 ha, which means in about three-quarters of the productive vineyards in the Czech Republic. In terms of the proportion of IP implementation in the area of productive vineyards, this country has reached the level of Austria, where IP had been implemented on a large scale since the early 1990s. IP funding in Slovakia was delayed, but since 2007 it has been widely used - 24% of viticulturists from beneficiaries of direct payments at the same time implement IP on an area of 6,686 ha of vineyards - i.e. on approximately 63% of the area of productive vineyards (CCTIA as of 2011). In a similar way to the situation in the Czech Republic, some vine growers apply the methods with no claims of subsidy; it can be assumed, then, that the real area of vineyards managed in line with the ideas of IP is even higher. In Austria, thousands of growers have been using IP for many years (Tab. 3). In practice, integrated production is very often a precursor of a business transition towards organic viticulture, as many businesses have vineyards in IP and at the same time, they have a small area that is organically farmed. In such situations, the area of vineyards in IP has been slightly decreasing for several years "in favour of" the expanding area of vineyards farmed organically.

Moravian vine growers usually evaluate IP very positively, not only considering biodiversity and enhanced soil fertility, etc., but maintaining that villagers can benefit from it too. The countryside seems to be visibly enhanced aesthetically and water erosion is reduced in particular (roads are not covered with mud washed from vineyards after torrential rains as in the past, when the inter-rows were bare). Many vine growers do not consider the difference between IP and organic viticulture as significant. Some of them even prefer

	Czech F	Republic	Slov	akia	Aus	tria	Gerr	nany
	2005	2011	2005	2011	2005	2011	2005	2011
Vine growers in IP	159	6281)	X	116	8,635	5,627	n/a	n/a
Area under vineyards in IP (ha)	6,961	11,452	X	6,686	36,924	33,077	36,924	33,440
Vineyards in IP/ productive vineyards (%)	48.8	72.1	X	65.4	80.7	76.0	37.4	33.5 ²⁾

 $Tab.\ 3:$ Implementation of the integrated vine production system in vineyards of the Czech Republic and neighbouring countries in 2005 and 2011

Notes: 1) Reference year 2010; 2) System of IP support in Germany differs from the CR: according to Hluchý (2012), IP is practised by 80–90% of vine growers in Germany; x – Integrated production payments in Slovakia since 2007; n/a – data not available

Sources: MoA CR, 2007, 2013a; Bundesanstalt für Bergbauernfragen, 2011; CCTIA, 2013; Federal Statistical Office Germany, 2011; authors' calculations.

IP from the ecological point of view because heavy machines causing soil compaction and disturbing the tranquillity of vineyards are used less frequently in comparison to organic farming, in which the machines have to travel to vineyards more often considering the character of applied substances. According to the experience of experts studying the influence of IP on biodiversity in vineyards over a long time period, it has to be admitted that the IP technology is formulated relatively broadly and that the countryside may but, at the same time, does not have to benefit from it (Hluchý, 2013).

4.3 Organic viticulture

Organic viticulture can be described as organic farming (specified in Act No. 242/2000 Coll.) in vineyards. It is a system of farming which tries to minimize damage to the environment (use of synthetic fertilizers and synthetic formulations for vine protection is not allowed). The product is organic grapes, which, if meeting technological conditions for organic food production (limiting the use of cultivated yeasts, enzymes and synthetic refining and stabilizing agents), can be used for organic wine production. Organic wine production has been regulated by European legislation only since 2012; before this date, wine makers could label the bottles with "made of grapes from organic production", but most of their production ended up as conventional wines.

In 2011, organic farming in vineyards was practised in 49 countries on a total area of 258.2 thousand hectares (Fibl-IFOAM Survey). By far most of the vineyards in the organic system are farmed in Europe (231.4 thousand hectares). Countries with the longest tradition of organic viticulture include Spain (79.0 thousand ha), France (61.1 thousand ha) and Italy (52.8 thousand ha). Non-European countries worth mentioning are the USA (11.4 thousand ha), Turkey (8.9 thousand ha) and Iran (5.7 thousand ha). Countries with a high proportion of organically farmed

vineyards of the total area are Austria with its long tradition of organic farming (9.5%), France (8.0%), Spain (7.9%), Italy (7.3%), Jordan (6.0%) and the Czech Republic (5.7%). From a comparison of the development of the share of organic vineyards in the total area of vineyards registered, the Czech Republic can be categorized as one of the countries with the most rapid development, even at a global scale. Organic viticulture is developing rapidly also in Bulgaria, Croatia and Iran.

The first organically farmed vineyards started to appear in the Czech Republic as late as in the first half of the 1990s. There are several factors explaining the growing interest in this kind of farming. The change could have been influenced, for example, by the atypical and extremely rainy weather in 2010, which significantly influenced the quality of grapes as well as the incidence of fungal diseases. Final yields of organic vineyards were not so badly affected as compared to those conventionally farmed.

In 2011, the area of organically farmed vineyards in the Czech Republic was recorded at almost 1,000 ha (i.e. 5.6% of productive vineyards) and subsidies for organic farming in vineyards were received by 100 companies (Tabs. 4 and 5), while there were still large differences among regions in practising organic viticulture (Fig. 6). Most entities with organic vineyards can be found in the Břeclav district, where the first companies were engaged in organic viticulture by the early 1990s (there are more than 50% of all organic vine growers and organic vineyards in the Czech Republic in this district, with 513.1 ha under cultivation). In the Znojmo and Hodonín districts, there are respectively 10 companies farming 221.5 ha and 17 entrepreneurs farming 95.2 ha. In the vine region of Bohemia, more significant areas of vineyards in the system of organic farming can be found only in the district of Kutná Hora (3 subjects, 56.5 ha). Both numerous vine villages such as Velké Bílovice (5), Čejkovice (4) or Rakvice

	Czech Republic		Slov	Slovakia		Austria		Germany	
	2005	2011	2005	2011	2005	2011	2005	2011	
Organic vine growers (number)	$4^{1)}$	100	n/a	7	496	809	1,187	n/a	
Organic vineyards (ha)	20	965	91 ²⁾	69	1,791	4,178	2,600	4,512	
Organic farms (total)	829	3,920	117	364	20,185	21,575	17,557	16,532	
Organic area total (ha)	254,982	482,927	53,091	180,260	479,817	536,877	782,475	980,851	

Tab. 4: Organic viticulture in the Czech Republic and in neighbouring countries in 2005 and 2011 Notes:1) Reference year 2006; 2) Data as of 31 March 2006; n/a – data not available Sources: MoA CR, 2006, 2013b; CCTIA, 2013; Bundesanstalt für Bergbauernfragen, 2006, 2012; Federal Statistical Office, 2006, 2011; German Wine Institute, 2006, 2013

	2008	2009	2010	2011
Area of vineyards in OF (ha) – incl. areas in conversion	450.2	645.1	802.8	965.1
Of these area of vineyards in OF – certified (ha)	18.1	34.4	234.6	447.5
Number of entities with organic vineyards (total)	40	65	83	100
Number of legal entities	16	24	28	35
Number of natural persons	24	41	55	65
Area of vineyards under organic farming operated by businesses of natural persons (ha)	271.4	436.2	553.3	680.2

Tab. 5: Development of organically farmed vineyards in the Czech Republic 2008–2011 Sources: MoA CR, 2013b; authors' calculations

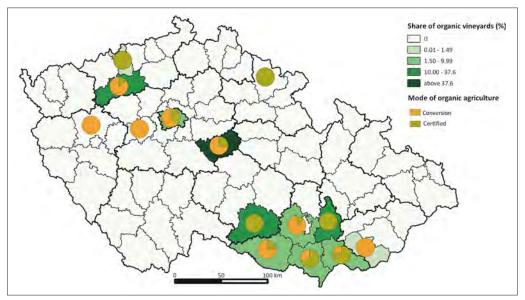


Fig. 6: Organic vineyards in the Czech Republic in 2012 Sources: CISTA, 2012, COSMC, 2012

(4), and the towns of Mikulov (8), Dolní Kounice (5), Bzenec (4) and Hustopeče (4) can be classified as municipalities with a higher number of organically farmed vineyards (according to places of the residence or places of business, with the number of entities in brackets).

Regarding the proportion of vineyards, which have been already farmed organically, the district of Kutná Hora (37.6%) comes first in the Czech Republic. In general, high proportions of organic farming (more than 10% as opposed to the average of 5.6% in 2011) occur only in districts with a very small total area of vineyards, which means that a single entity can drastically influence the average for that district (Vyškov, Třebíč and Louny (CISTA, 2012)).

Smaller entities of up to 2 ha predominate in the structure of organically farming vine growers (almost one-half of all growers). The average area of 9.6 ha of vineyard organically farmed (OF; including the areas in conversion) in 2011 was not reached by even one-quarter of growers. The six largest growers in the districts of Znojmo, Břeclav and Kutná Hora farm one-half of all organic vineyards in the Czech Republic.

Although many large Czech wine producers (many of which belong in the group of the largest grape growers, some of them farming vineyards with more than 400 ha), such as Vinium a.s. Velké Pavlovice, Vinofrukt a.s. Dolní Bojanovice, Patria a.s. Kobylí or Habánské sklepy s.r.o. Velké Bílovice, have been farming under the integrated production system at this time, some large producers already rely on the popularity of organic wines in the coming years and farm a part of their vineyards organically. These are for example Vinné sklepy Valtice a.s., Chateau Bzenec s.r.o. (daughter company of Bohemia Sect a.s. Starý Plzenec), Vinselekt Michlovský a.s., or the wine cooperative Templářské sklepy Čejkovice.

As in the system of integrated production, we can find some smaller vine growers who have been farming organically without claiming subsidies (there are not many such growers, although vine is considered one of the most demanding crops with respect to its protection against diseases and pests). We can mention, for example, viticulturists from the association of Autentists (bringing together small vine growers from various villages in the districts of Břeclav and Hodonín),

who farm their vineyards organically under conditions stricter than the rules for organic wine production. They do not add sugar to wines, and in their own words, they let "the spirit of the place where the vine originated" excel in natural processes, so that the resulting wines would reflect the "terroir" as much as possible.

5. Conclusions

Some processes currently underway in Czech viticulture are similar to those in a number of European countries: there is a slow reduction in the total number of vine growers in the Czech environment, but the area of productive vineyards remains relatively stable. At the same time, some previously small growers have "legalized" their businesses and some former smaller family wineries are setting up new limited companies, creating websites allowing them to sell wine through the Internet, and starting to organize themselves in vine growers associations, participating actively in wine exhibitions, cultural events, etc. Most companies have adopted a strategy of enhancing the quality of produced wines and since quality, in general, is very hard to prove, an indirect proof of quality can be the growing number of international awards for Czech wine makers.

Enterprises that were earlier concentrated only on the import of cheap grapes or grape juice and subsequent wine production, have started to realize that for their own production quality raw materials are a necessity. The orientation to environmentally-beneficial ways of viticulture closely connects with these general trends – quality grapes reflecting the genius loci of a particular place can be produced, according to vine growers' opinion, in healthy vineyards not loaded with chemicals. Growing in the IP system or in the system of organic farming can bring, apart from the expected favourable effects in the field of environment protection, economic benefits in the future as well. Generally, it is supposed that, based on the increasing consumption of organic products in developed Western European countries (Switzerland, Germany, etc.), these changes will benefit the producers in economic terms. On the other hand, it is evident that estimating market development for a period longer than three years (conversion period for perennial crops in organic farming) is very difficult.

Czech viticulture has undergone a great change in the last five years – large, conventionally- farmed vineyards can hardly be seen any more in the Czech Republic. Most vineyards are farmed under the system of integrated production, and especially in Moravia the areas of organic vineyards are rapidly expanding. As to the share of vineyards in IP, the country compares favourably with Austria. The total extent of organic viticulture, however, still differs from Austria, considering both the number of growers and the total area of vineyards. On the other hand, it has not been a marginal issue compared to Slovakia. It can be concluded that general awareness of these alternative ways of farming is increasing among farmers, and that growers are gaining experience and that consumers can taste completely new products and technologically-demanding specialities, such as organic sparkling wines or organic straw wines of local origin. The trends of greening viticulture in the Czech Republic can be seen as still copying the tendencies in developed western European countries, but it can be assumed that some organically farming entities will also focus on biodynamical viticulture in the future.

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 $\textbf{Initial submission} \ 29 \ \textbf{October} \ 2013, \textbf{final acceptance} \ 10 \ \textbf{February} \ 2014$

Please cite this article as:

SVOBODOVÁ, I., VĚŽNÍK, A., KRÁL, M. (2014): Viticulture in the Czech Republic: Some spatio-temporal trends. Moravian Geographical Reports, Vol. 22, No. 1, p. 2–14. DOI: 10.2478/mgr-2014-0001.

GEOGRAPHICAL PERSPECTIVES ON AGRITOURISM IN THE CZECH REPUBLIC

Ondřej KONEČNÝ

Abstract

Besides more traditional tourist enterprises, tourists in Western Europe and North America regularly seek out even more specific forms of tourist opportunities, such as products of rural tourism. Within rural tourism, agritourism has been developed in these countries as a particular subset, and its significant enhancement in post-socialist European countries was widely anticipated (especially after their integration into the European Union). While considerable and focused attention was devoted to the implementation of agritourism strategies and the characterization of agritourist space with respect to particular countries (e.g. Poland and Slovenia), in Czech geographical literature it has remained a noticeably absent topic. In this paper, central attention is paid to selected characteristics of agritourist space in the Czech Republic, analyzed on the basis of a compiled database of farms diversified into tourism at the municipality level.

Shrnutí

Agroturismus v České republice: geografická perspektiva

Turisté v západní Evropě a severní Americe pravidelně vyhledávají mimo tradiční formy turismu specifické produkty jako agroturistiku, přičemž bylo uvažováno, že se tato forma turismu významně rozšíří i v prostředí postsocialistických evropských států. Zatímco některým postsocialistickým státům (např. Polsko či Slovinsko) byla v tomto tématu věnována cílená pozornost, uplatnění agroturistiky a charakteristika agroturistického prostoru v Česku je v geografické literatuře spíše opomíjeným tématem. Článek proto věnuje stěžejní pozornost vybraným charakteristikám agroturistického prostoru v Česku analyzovaným na základě sestavené databáze farem s aktivitami v cestovním ruchu na úrovni obcí.

Keywords: agritourism, agritourism space, rural areas, European Union, Czech Republic

1. Introduction

Socio-economic and political changes taking place in the Czech Republic in the last two decades are significantly reflected in the transformation of the Czech countryside and in the way society claims this space (Chromý et al., 2011; Svobodová et al., 2011). With numbers of farmers continually dwindling, those who remain in business are forced to cope with substantial price and demand instability with respect to agricultural commodities, international competitors and tightening economic conditions designed to protect the environment and to safeguard ethical breeding and the welfare of livestock (Bičík, Jančák, 2005; Věžník, Konečný, 2011). These current risks of farming allegedly can be reduced by diversifying the farm business to include other activities in order to eliminate and compensate for any possible loss incurred due to the predominance of agricultural production, and thus increase farm revenues (the diversification of activities - Vernimmen et al., 2003; Sharpley, Vass, 2006). Regarded as one possible remedy to the above-mentioned problems of current agricultural entrepreneurship, agritourism as an option calls for farm diversification to include recreational and leisure time activities through offerings of accommodation, catering and leisure services (Barbieri, Mahoney, 2009). This process is seen by many authors as one of the manifestations of a conceptualized post-productivist transition of agriculture/ rural areas (Ilbery, Bowler, 1998) or of multifunctional transition (Wilson, 2008).

In Western Europe and North America agritourism is already established among traditional and popular forms of leisure, education and recreation (Nilsson, 2002),

but in the Czech context it is still a rather new concept. Historically, it was not until the transformation of the political system that agritourism could begin to strive for its position, as before 1989 many obstacles hindered any increased development of tourism, including agritourism (Williams, Baláž, 2002) and some of these formed barriers to development even in the following era (Clarke et al., 2001). Despite the positive dynamics of the tourism market and the opening of the country to foreign tourists in the early nineties (Vágner, 2007), no such increase in agritourism has been recorded in the Czech Republic, compared to neighbouring Poland (Duridiwka, 2003) or Slovenia (Verbole, 2000; Svobodová, 2008).

This situation is in contrast to the fact that the promotion of agritourism has long been enshrined in various strategic and conceptual documents targeted at rural development (e.g. in the Rural Development Programme 2007–2013, Ministry of Regional Development of the Czech Republic, 2007), and despite finding that its high attractiveness among other means of diversification, has been confirmed in studies from the South-Bohemian Region (Škodová, Parmová and Dvořák, 2009) or Slovakia (Buday et al., 2009). Furthermore, contrary to this widely expressed support at the strategic and planning level, the current role and dimensions of agritourism in the Czech Republic, whether from a European, regional or local perspective, have not received any considerable attention in Czech geographical research.

Therefore, the aim of this article is to explore Czech agritourist space, as it represents a basic playing field for Czech agritourism entrepreneurs who are naturally forced to

adapt their ventures to its specifics. To identify and examine such characteristics is a necessary first step in any attempt to enter the up-to-date informed international discussion of the agritourist space phenomenon (Durydiwka, 2003; Fleischer, Thetchik, 2005; Sharpley, Vass, 2006; Choo, Jamal, 2009; Sznajder et al., 2009; Lukić, 2013). This study of the location of individual agricultural holdings providing tourists with hospitality services (lodging and accommodation in particular) at a local level, seeks to prove or disprove the assumptions that agritourism is concentrated in areas:

- Of stabilized and peripheral rural municipalities;
- That are less favoured for agriculture;
- That are typical for their natural attractiveness and ecological stability of landscape; and
- Are massively popular with tourists.

2. Key theoretical background

Although there are many terms and labels used to describe the notion of "agritourism", its core definitions obviously build on the linkage of tourism and agriculture, or to put it differently, on the contact of tourist and agricultural activities. According to Sharpley and Sharpley (1997, p. 9), among other authorities, "agritourism represents tourism products which are directly connected with the agrarian environment, agrarian products or agrarian stays". A review of the relevant literature reveals that many authors use other terms with the same meaning, such as farm tourism, tourism on farms, farm-based tourism or even rural tourism (Haugen, Vik, 2008; Phillip et al., 2010; Tew and Barbieri, 2012; Potočnik-Slavič, Schmitz, 2013). On the other hand, some authors reiterate the need to distinguish among these terms to avoid them being used interchangeably. For example, Fleischer and Thetchik (2005) demonstrated the difference between the meaning of the concept of agritourism and rural tourism in a number of characteristics, as for instance in the amount of time devoted by a farmer to the development of tourism, the number of accompanying attractions and the level of programming special events, scale of agritourist services offered, etc. Most commonly, agritourism and rural tourism are understood and treated as distinct concepts, with agritourism denoting a subset of rural tourism as a broader concept (Sznajder et al., 2009). In their research of providers of lodging and accommodations in the Czech countryside, Dömeová and Jindrová (2011) found that less than one third is in any way connected to agricultural production and thereby might be understood as operating as an agritourism venture. Therefore, within the typologies of agritourism (see e.g. Fleischer, Tchetchik, 2005; Phillip et al., 2010), even farms are distinguished which are no longer involved in agricultural production (non-working farms), yet they maintain their agricultural nature and participate in rural tourism activities (such as horse riding, hunting and fishing, etc.).

Moreover, farm diversification is also seen as an important element applied in (or a type of) so-called multifunctional agriculture (Marsden, Sonnino, 2008), or else it is frequently mentioned in connection with current debates on multifunctionality in agriculture. According to Wilson (2009), the degree of multifunctionality (weak to strong) at the regional level is crucial for diversification opportunities available to farmers; in another study, Wilson (2008) seeks to prove that strong multifunctionality of farms located in upland and mountain areas correlates with

the nature of these localities (high nature value) allowing a greater degree of multiplier effects, such as diversification of farms through on-farm tourist enterprises. The influence of the particular location of a farm on its decision to undertake particular multiplying activities, such as nature and landscape conservation and tourism, is highlighted in another study from the Netherlands (Jongeneel et al., 2008). These highland and mountainous areas usually form part of the defined areas less favoured for agriculture (based on the Common Agriculture Policy), with farms largely dependent on agricultural subsidies (Střeleček et al., 2008; Štolbová, Hlavsa, 2010), and this factor increases the need to exploit tourist potential as a means of further development of the given area, as well as of farms located therein (Riberiro and Marques, 2002; Sharpley, Vass, 2006).

Taking these considerations into account, many researchers have tried to evaluate the tourism potential of Czech rural municipalities/areas and to create a typology based on different perspectives (Bína, 2002; Zuzák and Hořejší, 2004; Vystoupil et al., 2006; Mikulec, Antoušková, 2001). For example, Bína's (2002) natural subsystem potential consists of the components of tourism based on active tourism, recreation, and cognition of nature or of the components, which utilize nature, such as the surroundings for specialized sporting activities. Jarábková (2010) tried to identify the development potential of the tourism industry in rural areas of Slovakia, and to single out municipalities with high natural, cultural and historic potential available, together with a stable environment unaffected by industrial activities, a quality and sufficient infrastructure (regarding its capacity) fitting for long-term stays of tourists, and a quality human potential.

The area of a farm providing agritourist services, its natural landscape and the landscape of the expanse that is the result of human activity, constitute "agritourist space" (Sznajder et al., 2009). Lane (1992), quoted in Sznajder et al. (2009, p. 55) as one of the first researchers who called for the need to explore agritourist space as an essential determinant of agritourism development, distinguished six factors that determine the value of this space - among them, the value of landscape beauty and areas of wild nature and wilderness, as being the most applicable. In Sznajder et al. (2009), this idea of the need to determine particular agritourist spaces was further elaborated and, among other elements, the relevance of factors such as configuration of the area, forms of terrain, natural fauna and flora, and type of land use, was emphasized. Appealing semi-natural or natural preserved landscape implies greater dynamics in the development of new landscape functions (in addition to traditional crop and food production - Fig. 1 - see cover p. 2), including rural tourism and agritourism. Such characteristics are widely represented in the Czech border regions adjacent to Austria and the former West Germany previously shut down by the Iron Curtain (Bičík, Kabrda, 2007).

Agritourism or rural tourism is often perceived by Czech experts as a beneficial tool and a possible avenue for developing areas with the defined favourable conditions for tourism in general (but also for the development of the countryside as a whole), among other possibilities (see Jančák, 2001; Ryglová, 2007; Šimková, 2007; Svobodová et al., 2011). Spišiak (2003, p. 414) went beyond this, dealing with a less attractive Slovak territory of the Pridunajsko micro-region, when he claimed "that agritourism and rural tourism represent a new progressive orientation of the local agricultural companies." Many studies reveal that

agritourism is indeed concentrated in areas which are already established as popular tourist destinations, as "in this case, visitors are willing to pay a higher price for a firm located in a region that is rich in tourist attractions" (Fleischer, Tchetchik, 2005), and consequently, in popular tourist areas agritourism can generate greater farm revenues (Sharpley, Vass, 2006). For example, Lukić (2013) reported that most of the households with agricultural production – tourism, accommodation and other leisure activities – are located in the littoral counties of Croatia, reflecting the importance of mass-tourism for the development of farm tourism.

It can be argued that this is why agritourism activities also develop within different kinds of natural protected areas, which accordingly play a dual role when, as well as providing a refuge for wildlife, they also serve as popular tourist destinations (Sznajder et al., 2009; Lukić, 2013). The protected environment is undoubtedly attractive to organic farms involved in tourism, as they are in general forced to operate in worse agricultural conditions: Klapka et al. (2005) illustrate that 70 per cent of organic farms operating in the Krkonoše Mts. (Giant Mountains) have taken on some form of tourist on-farm enterprise. Choo and Jamal (2009, p. 450), studying South Korean organic farming and its blending with tourism, suggested that "while the Korean organic farms are rural, they are neither remote nor "wilderness" areas; a close symbiosis and synergetic relationship with biophysical systems and the land makes them a hybrid mixture of the 'cultivated' and 'natural'."

Despite the undeniable importance of the nature of a locality and of the agritourist space, in which any farm operates and which is, at the same time, co-determined by this farm, this crucial geographical/spatial determinant of the development of agritourism has been explored only to a very limited extent in the relevant literature, and studies focused on these issues remain sporadic (see, for instance, Klapka et al., 2005; Cigale et al., 2013; Lukić, 2013). Marketing and management, motivation for the involvement of farmers in this type of business, and their attitudes monitored at a national level, have received much more attention and consideration at this time (Nilsson, 2002; Sharpley, Vass, 2006; Haugen, Vik, 2008; Dömeova, Jindrova, 2011; Forbord et al., 2012).

3. Data and methodology

Given the absence of data collected at the Czech local (municipality) level, selected characteristics of agritourist space in the Czech Republic were studied on the basis of a set of farm entities identified through a survey of web databases. These Internet databases could be utilized as a helpful tool for obtaining missing information (Choo and Jamal, 2009), since it is through these databases that farms often promote and offer their services for tourists (on-farm accommodation and lodging in particular). The results and findings of the research team from the Czech University of Life Sciences (Dömeová, Jindrová, 2011) and the conclusions of expert discussions (Ryglová, 2007), indicate that this method of promotion is the principal form of product communication for most providers of agritourist services and offerings of rural tourism in the Czech Republic. It can therefore be assumed that the entities participating in the agritourism industry are actively using this form of advertising.

In the first place, the databases were scrutinized in order to select those focusing on farms offering services in agritourism and rural tourism, and subsequently, the scope and employability of the selected databases had to be assessed in detail. Eventually, the following databases were singled out (as of the summer of 2012):

- ubytovaninafarme.cz (administrator: Farmy.cz, s.r.o.);
- tourist portal of the Czech Republic (czecot.cz);
- portal of Association of Private Farming (ubytovani-nafarme.cz); and
- portals of Rural Tourism Union (prazdninynavenkove. cz. is.svazyt.cz).

Farm entities identified via these databases were subsequently complemented and compared with records on agritourism providers managed by individual regions. Examination of other databases proved ineffective as no entities could be recognized other than those included in some of the previously-explored databases, and simultaneously meeting the criteria set for a so-called agritourism working farm (a farm where agricultural activities are practised, though not necessarily full-time, providing on-farm services like lodging and accommodations, food and beverages, and leisure activities, according to Phillips et al., 2010). More than one hundred subjects were thus excluded as they specialized exclusively in horse riding; Internet databases normally comprise more than a thousand of such enterprises and the prominent position of horse riding within rural tourism can be inferred therefrom. Given the specificity of tourist ventures oriented this way, they were not included in this study. Due to the operation of such entities, only one third of farms diversified into tourism as captured by Agrocensus 2010 (CSO, 2011) were found to be suitable for the purposes of this study. In fact, the sum of farms quoted by Agrocensus 2010 comprised even those agricultural entrepreneurs for whom tourism represents only a marginal activity with minimum impact (therefore no promotion is needed and advertising costs are avoided), and the very farms specialized in horse breeding and horse riding, i.e. nonworking farms (Phillip et al., 2010, as well as Lukić, 2013 in the study on farm tourism in Croatia) were included.

After removing those farm entities not meeting the working farm criteria, 209 farms actively supplying agritourism as a product were included in a final database (with only 6 per cent of these not providing accommodations). Since organic agriculture "provides a significant opportunity for a working farm, owing to the labour-intensive nature of the production techniques employed" (Phillip et al., 2010, p. 757), it is not surprising that one third of the farms included in this study as agritourism working farms qualify as organic farms as well.

Having established the final study sample, the farms were subsequently localized at the muncipality level, which enabled an analysis of selected characteristics of agritourist space in the Czech Republic. Eventually, the location determined for each farm had to be related to the following municipality indicators (as of 31/12/2011: CSO, 2012):

- countryside/city (based on the status of the municipality or population size and population density);
- development features of municipalities (based on the typology of municipalities established by the Ministry of Regional Development of the Czech Republic (2013), identifying peripheral, stabilized and developing urbanized areas, taking into account selected features of socio-economic status, spatial potential, and the dynamics of development);
- the size of the area potentially utilized for recreation/ recreational area potential (according to Vystoupil et al., 2007);

- presence and proportion of the protected landscape areas (PLAs) or national parks;
- the ecological stability of the landscape (according to the coefficient of ecological stability calculated as a share of ecologically important areas (hop fields, vineyards, gardens, orchards, grasslands, forest land and water areas) to areas of low environmental stability (arable land, built-up areas and other areas) by CSO (2012);
- presence of Less Favoured Areas (LFAs) for agriculture (definition of mountain [according to altitude and slope], other and specific indicators (according to land productivity, population density and the share of workers in agriculture] according to the Ministry of Agriculture of the Czech Republic, 2011); and
- current touristic utilization of the locality (on the basis of the number of accommodation facilities).

Farm location was also related to the territorial administrative units of municipalities with extended powers, with selected indicators (see below) reaching the levels from 1–5 (5 indicating very large potential or very high level of an activity). Specifically, based on the calculations of the Institute for Spatial Development (2010), characteristics or indicators employed were as follows:

- the overall potential for the tourism industry (on the basis of aggregate scoring of selected area and point features which are considered attractive in terms of tourism); and
- current utilization of the locality for tourism (based on the degree of utilization of accommodations and lodging).

4. Czech agritourist space

The spectrum of factors affecting this branch of tourism in some way or another is very broad: in individual countries, agritourist space is shaped to varying extent by natural conditions and elements of a socio-cultural nature (Sznajder et al., 2009; Dubois, Schmitz, 2013). While, for instance, in the Netherlands, agritourism is generally associated with a certain tradition of leisure time spending and active participation of visitors in some forms of activities organized by farms specialized on tourists (Canoves et al., 2009), in Austria, it is strongly attached to the natural attractiveness occasioned by the alpine character, therefore allowing a different (in contrast to the Netherlands) holiday experience (downhill or cross-country skiing, hiking) (Nilsson, 2002; Forbord et al., 2012). With respect to the diversity of landscape and rural space in the Czech Republic, questions should be raised about the nature of agritourist space in this country.

Notwithstanding the fact that two-thirds of the monitored farm holdings are located in rural municipalities (according to municipality status), one-quarter of them operate in cities, with some of them running their business even in the regional cities (Hradec Králové, Jihlava, Karlovy Vary and Zlín). This corresponds to the fact that more than one quarter of farms operate in the developing urbanized area of the Czech Republic, consisting of metropolitan and agglomeration areas and regional centres (Ministry of Regional Development, 2013). Lukić (2013) documented in a case study from Croatia that the greatest number of settlements with households with agricultural production – tourism, accommodation and other leisure activities - are located in economically diversified, mainly tourist rural and urbanized settlements. Actually, it is these urbanized areas with high concentrations of people living in flats and lacking

any contact with nature and livestock, which represent the main centres of interest in rural tourism or agritourism (Sznajder et al., 2009). Dubois and Schmitz (2013, p. 299) even identify a "suburban agritourism" that is developed in Wallonia (Belgium) and state that "at the edge of urban agglomerations (less than 15 km), agritourist accommodations in Wallonia can be found everywhere". Using the two-thousand inhabitants' limit and a population density of less than 150 inhabitants per km², it was found that somewhat less than 70 per cent of the monitored farms fell within this category. Nearly one-quarter of farms then operates in the peripheral rural areas, characterized as a territory with accumulated negative features such as the lack of facilities, poor accessibility and high unemployment (Ministry of Regional Development, 2013).

It can, however, be argued that a particular municipality in itself is not decisive with respect to the location of agritourism farms, since it is outweighed by the actual accessibility of any farm and its produce (Getz and Carlsen, 2005). From this perspective, only one third of farms was situated within the 20 km distance from the largest Czech cities (municipalities of more than 50,000 inhabitants). Nevertheless, the evergrowing mobility of the Czech population has a significant impact on the availability of agritourist enterprises. The degree of employability and popularity of agritourism in the hinterland of the largest Czech cities is nonetheless reduced due to the characteristic concentration of second-homes and cottages in the area (Kubeš, 2011; Vágner et al., 2011).

Yet another question arises as to whether farms aimed at providing tourist services operate in areas of considerable tourist attractiveness and great potential for the development of the tourism industry. On the other hand, do they rather tend to supply their agritourist products in regions with little or no natural potential for tourism, and factors such as vicinity to the source of demand, uniqueness of their on-farm additional programmes or cultural-historical prerequisites for the development of tourism in the area, are perceived as more critical by these operators. Cigale et al. (2013, p. 344) show that the "occurrence of tourist farms is primarily the result of farmers' needs and opportunities, and only on the second place of expressed demand of tourism market" in Slovenia. Nearly two-thirds of municipalities where the monitored farms are located exceed the value of recreational area potential of the Czech Republic (51%), with one fifth of them even reaching the status of areas with high potential (over 75%) (namely the mountain areas; see Fig. 2). A mere 5% of farms are based in municipalities of low recreational area potential (i.e. below 20%), defined by Vystoupil et al. (2006) as an intensively exploited agricultural landscape with very little suitable natural conditions for tourism and recreation.

This may also be demonstrated by the fact that only one-quarter of farms is concentrated in municipalities located outside the Less Favoured Areas for agriculture. Agritourism is indeed developed particularly in areas lacking suitable conditions for agricultural activities (as for organic farming, as much as 85% of the identified subjects are located within LFAs), where farms are forced to expand their revenue opportunities outside the sector of agriculture, which is considered one of the important elements of multifunctional agriculture (Marsden, Sonnino, 2008) or multifunctionality in agriculture (Wilson, 2008). Nearly one-third of farms are located in mountainous LFAs, despite the fact that merely 13% of municipalities and 15% of agricultural land fall into this category in the Czech Republic (Štolbová, Hlavsa, 2010).

Therefore, farms focused on agritourism are predominantly located in piedmont and highland landscapes with favourable natural conditions for tourism or in the above-mentioned mountain landscapes with very favourable conditions – more than half the farms in the Czech Republic are situated in the first or the latter zone while simultaneously less than one-quarter of municipalities fall within these localities (Vystoupil et al., 2006). To perceive the location on a larger scale, more than four-fifths of farms are located within 10 km distance to areas with a very significant potential (distance of the farm to the boundary of such an area).

With regard to these characteristics of farm location, the research sample of corresponding farms comprises only a minimum of subjects that offer tourist services in areas of above-average utilization, with a clear disruption of natural structures (i.e. municipalities with a coefficient of ecological stability less than 0.3: Míchal, 1994). In contrast, the majority of farms operate in areas where technical objects occur in relative harmony with the preserved landscape (coefficient of ecological stability > 1). In the case of organic farms, this factor is even more essential: 79% of all identified organic farms were located in areas with a coefficient greater than one (Fig. 3).

As a key factor for the location of farms, the attractiveness of nature and landscape is further underlined by the fact that one-third of farms was directly located in a protected landscape area or in a national park (constituting 16% of the Czech Republic's area). Exceptions were only the PLAs of

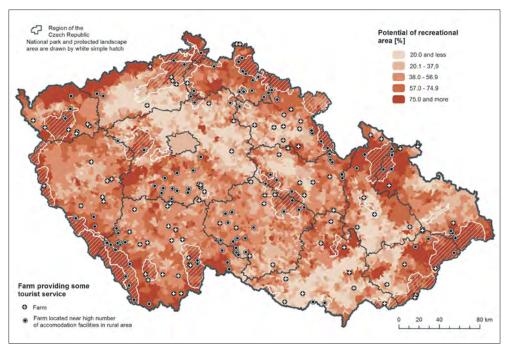


Fig. 2: Agritourism according to the recreational area potential in the Czech Republic in 2012 Source: Author; Potential of recreational area based on CSO (2012)

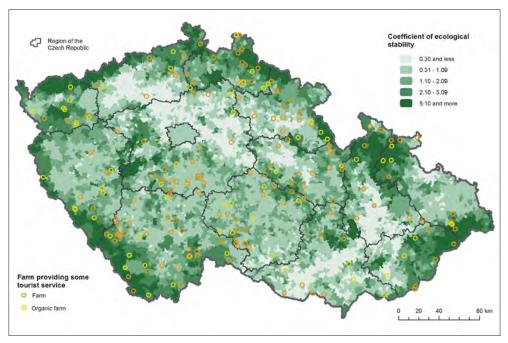


Fig. 3: Agritourism on organic farms with respect to landscape ecological stability in the Czech Republic in 2012 Source: Author; Coefficient of ecological stability based on CSO (2012)

Broumovsko, Český Kras, Moravský Kras and Poodří, and the České Švýcarsko and Podyjí national parks, where none of the monitored farms operates. Nevertheless, more than three-quarters of farms are located within 20 km distance from one of the PLAs or national parks, or to its borders (Fig 4 – see cover p. 2).

The intertwining of agritourism with the areas of moderate to high tourism potential is manifested in the fact that more than four of five of the analyzed farms are located in municipalities with extended powers of such nature, in spite of the fact that, according to ISD (2010), half of all the municipalities with extended powers in the Czech Republic have only limited to very limited tourism potential (Fig. 5).

In order to characterize the Czech agritourist space, it is subsequently vital to explore whether Czech agritourism farms tend to localize in "traditional" and already-frequented tourist areas, thereby complementing the existing range of services available in a given locality, or whether they are more likely to operate in areas not so burdened with tourism. Almost twothirds of the farms have launched agritourism businesses in municipalities where at least one competitor already operated (usually a collective accommodation facility); in one quarter of the cases, these farms operated in an intensively-used area with respect to tourism (more than six collective accommodation facilities at the site). As the map (Fig. 2) reveals, taking into account the hinterlands of farms (municipalities within 10 km distance), as many as 9 of 10 of the studied farms were located in the vicinity of a higher concentration of accommodation facilities in a municipality (more than six collective accommodation facilities). Even in the case that only the rural areas are accounted for, it is still evident that farms are located within the reach of areas with a considerable supply of tourist services (more than one half of the surveyed farms).

In accord with the conclusions of this paper and the results of Vystoupil et al. (2006), the identified areas where agritourism is concentrated, rank among regions functioning as significant or very significant tourist and recreational localities (regarding the number of beds in collective accommodation facilities per thousand inhabitants), whose landscapes are exposed to a comparatively higher tourist-recreational burden (number of beds per km²) – namely the Jeseníky Mts. and the Železné Mts. (Vystoupil et al., 2007, p. 50). Despite this, however, it is obvious with regard to the number of farms offering services in tourism in these regions (mostly the stabilized and peripheral rural areas), that their impact is only marginal, as various studies have confirmed (for the region of Jesenicko, see e.g. Havrlant, 2010).

5. Conclusions

With respect to the low number of the identified farms diversifying their activities into tourism, it is first appropriate to highlight the two following general findings. First, it might be considered that in the Czech Republic this form of tourism has not yet won recognition, although in some of the "new Member States" (i.e. countries outside the EU-15) or the "post-totalitarian states" (e.g. Poland, Slovenia), this form of tourism has been developed successfully (Verbole, 2000; Durydiwka, 2003; Svobodová, 2008; Potočnik-Slavič, Schmitz, 2013). Therefore, agritourism in the Czech context still does not count as a business venture that would contribute fundamentally to the revitalization of rural space, and therefore it may still be labelled as an overestimated form of leisure, in accord with Perlín (1999).

Second, despite the fact that it could be presumed on the basis of the application of statistical measures (e.g. the Gini coefficient) that agritourism in the Czech Republic is distributed unequally (the value of Gini coefficient increases correspondingly with the decreasing territorial unit and reaches its highest value at the municipality level where it approximates to 1), the small number of the identified farms diversified into tourism renders any such interpretation difficult. While more than a half of the monitored farms were concentrated in 29% of regions (NUTS 3), in the case of districts (NUTS 4) it was only 21% of the units and in the case of municipalities with extended powers more than half of the farms are concentrated in only 15% of these units (in nearly a half of them, no agritourism farm was located).

The present article has not only revealed the low significance of agritourism as a whole, but it has also uncovered to some extent the following facts related to agritourist space in the Czech Republic:

- The peripheral rural areas, which are characterized by non-development features, such as remoteness, lack of facilities and a high level of unemployment, are less attractive for farms operating in the field of tourism than the developing urbanized area with the greatest development potential and dynamics in the Czech Republic (a finding similar to Lukić (2013) in the study of farm tourism in Croatia);
- Despite the generally observed weakening of the interrelationship of the countryside and the agriculture (Murdoch et al., 2003; Woods, 2005), the link between agritourism and the rural space/municipalities in the Czech Republic is still very important. On the other hand,

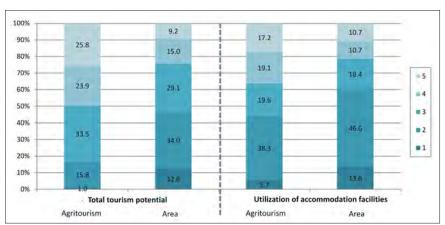


Fig. 5: Comparison of the proportion of agritourism and areas of municipalities with extended powers in the Czech Republic according to the level of coefficients of total tourism potential and utilization of accommodation facilities (5 indicating very large potential or very high level of an utilization). Source: Author; based on ISD, 2010

it is the proximity to the cities that confers an advantage on farms as being easily accessible to the key subjects of demand for agritourism products (Sznajder et al., 2009; Lukić, 2013), and an increasing trend of the location of farms in the urbanized areas of the Czech Republic and in their vicinity may be anticipated;

- The location of more than three quarters of farms in less favoured areas for agriculture should be explained not only via the likely positive potential of any particular territory for tourism development (see below), but also with regard to the necessity to expand farm income opportunities outside of agricultural activities;
- As regards agritourist space (and similarly, rural tourism and tourism in general; Bína, 2002; Ryglová, 2007), the natural landscape component is apparently the predominant one because agritourism in the Czech Republic is interconnected with valuable natural environments (Fig. 6 see cover p. 4). The majority of farms included in the survey operate in one of the two categories of the most attractive tourism areas, i.e. either in mountain landscapes with very favourable conditions, or in piedmont and highland landscapes with favourable natural conditions for tourism development (according to the regionalization applied by Vystoupil et al., 2006). It is the opportunities for diversification into tourism available to local farms that co-determines the strong multifunctionality of these areas (Wilson, 2008); and
- Protected landscape areas and national parks, which are traditionally perceived as important elements of the tourism potential in any area (Vystoupil et al., 2007; Sznajder et al., 2009; Havrlant, 2010; Lukić, 2013), similarly play a significant role in agritourism of the Czech Republic (more than 50% were located in the vicinity of PLAs).

It is, therefore, not surprising that ecotourism principles aimed at minimizing the impacts of tourism on the natural environment and increasing the interconnection with the locality and the local community (Roberts, Hall, 2001), are gradually being enhanced, which in turn places even greater demands on the farms involved in tourism with respect to their organization and management. This is even amplified where agritourism farms operate in a preserved nature and in a landscape of high value and ecological stability – almost two thirds of the sample farms functioned in such an environment in the Czech Republic (Fig. 7 – see cover p. 4). As for organic farms offering services in tourism, even more than threequarters of them are concentrated in these valuable areas. As pointed out by Choo and Jamal (2009), however, the presence of organic farms does not necessarily stand for the promotion and fulfilment of the principles of ecotourism.

International studies reveal the tendency of agritourism to concentrate in areas already intensively utilized by tourists and established for tourism purposes (Durydiwka, 2003; Fleischer and Thetchik, 2005; Sharpley and Vass, 2006; Lukić, 2013), as greater profit generation is anticipated in such localities by agritourism farms. This research has indicated that even in the Czech Republic, agritourism farms are more likely to operate in popular tourist areas (whether in terms of the tourist-recreational function or the tourist burden on landscape: see Vystoupil et al., 2007, p. 50). This is because almost two-thirds of the farms complemented another collective accommodation facility at the place of their operation and were situated in the immediate hinterland (within 10 km) of municipalities with a high supply of necessary accommodations. In such locations, agritourism supplements and enriches local tourism services,

but it also contributes to an even greater pressure exerted on local natural or cultural attractions. Research on sustainable agritourism in these types of localities would certainly enrich not only the study of tourism geography and rural geography, but it would also include research approaches to the issues of sustainability, thus connecting them to the framework of sustainable tourism.

Acknowledgement

This research project: "The Czech economy within the integration and globalization processes and the development of agriculture and service sectors in the conditions of the integrated European market", was supported by the Ministry of Education, Youth and Sports of the Czech Republic (project No. MSM6215648904).

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Initial submission 30 May 2013, final acceptance 16 February 2014

Please cite this article as:

KONEČNÝ, O. (2014): Geographical perspectives on agritourism in the Czech Republic. Moravian Geographical Reports, Vol. 22, No. 1, p. 15–23. DOI: 10.2478/mgr-2014-0002.

THE DELIMITATION OF URBAN HINTERLANDS BASED ON TRANSPORT FLOWS: A CASE STUDY OF REGIONAL CAPITALS IN THE CZECH REPUBLIC

Stanislav KRAFT, Marián HALÁS, Michal VANČURA

Abstract

The delimitation of the urban hinterlands of the most important settlement centres in the Czech Republic, based on transportation flows, is presented in this paper. Transport flows are a very good indicator of complex spatial relations. Therefore, one can hypothesize that the delimited transport hinterlands are strongly associated with other types of urban hinterlands (e.g. commuting hinterlands). Transport regions of the Czech regional capitals are defined in the empirical section of this paper. These transport regions, supra-nodal territorial units of the Czech transport system, identify the main transport relations within the Czech road network and define the hinterlands of the main settlement centres. The metropolitan regions defined by transport relations are compared with regions of the Czech Republic based on commuting flows. There is a high concordance between the two regional delimitations.

Shrnutí

Vymezení zázemí měst na základě dopravních toků: Případová studie regionálních center České republiky

Hlavním cílem příspěvku je vymezení zázemí nejvýznamnějších středisek osídlení České republiky založené na dopravních tocích. Dopravní vazby v tomto kontextu představují významný indikátor komplexních prostorových vazeb. Lze proto předpokládat, že dopravní zázemí hlavních středisek osídlení jsou ve velké asociaci s ostatními ukazateli používanými pro vymezování zázemí měst. V analytické části jsou proto vymezena dopravní zázemí krajských měst České republiky. Ty jsou definovány jako nadnodální teritoriální jednotky českého dopravního systému, které identifikují hlavní dopravní vazby v silniční síti České republiky. V další části jsou proto vymezené dopravní regiony srovnávány s metropolitními regiony vymezenými na základě dojížďkových vazeb.

Key words: transport system, spatial organization, transport regions, transport flows, commuting to work, Czech Republic

1. Introduction

Transport is an important sector of human activity, connected with the daily rhythms of a society. Especially in developed countries, society today can be termed highly mobile and, to a certain degree, dependent on transport. Because transport processes take place within specific geographical conditions, they undoubtedly have many spatial causes and impacts. Moreover, transport has affected the spatial deployment of many socioeconomic activities, and it was therefore often considered by geographers as a key concept of spatial organization in the 1960s and 1970s (Wheeler, Muller, 1986). The study of spatial interactions defined by Ullman (1980) can be provided as an example. The meaning of this concept is the fact that the intensity of spatial interactions indicates the mutual inter-dependence of geographical locations, thus serving as a measure of complementary nature of interactions between society and nature. Inter alia, this is why transport became one of the key concepts of human geographical research in the second half of the 20th century (Keeling, 2007).

Transport flows, which represent a indicator of basic spatial interactions, reflect crucial features of spatial organization (for more details, see, e.g. Morrill, 1974, or Haggett, 2001). With respect to the character of transport production and based on the identification of major transport flows in space, one can also identify nodal/functional regions based on the transport intensity connecting individual areas

in relation to major centres. This approach is often used as an alternative to the traditionally-defined catchment regions based on commuting to work or for services (for a more detailed discussion, see, e.g. Hůrský, 1978, or Jordan, 1995). In this context, Šlampa (1972) argues that functional regions defined on the basis of transport flows are in fact functional socio-economic regions, as the transport flows in this case serve as a key indicator of nodality and the regional influence of centres. At the same time, a characteristic feature of transport is the fact that it sensitively reacts to changes in socioeconomic conditions, and thereby it is a very good indicator of more general processes describing changes in spatial organization (see e.g. Řehák, 1988).

This paper aims at demonstrating the mutual reciprocity between the spatial organization of the society and transport flows. Transport and commuting flows are used to delimit the urban hinterlands of regional capitals in the Czech Republic, by analyzing the most important of such flows. A strong mutual correlation can be assumed, because commuting flows form a substantial part of the transport flows. Some differences between the delimitation of transport and commuting hinterlands can be expected, however, as different data and methods are used. The wellestablished term "metropolitan region" is used to describe settlements at the level of regional capitals and their wider hinterlands in the Czech Republic (e.g. Hampl, 2005 or Musil, Müller, 2008). Thus, the delimited transport regions

can be viewed as metropolitan regions based on transport flows among regional capitals and their wider hinterlands.

The tradition of defining the metropolitan systems in the Czech Republic, as for example by Korčák, 1966 or Hampl, 2005, is followed, but different and alternative approaches for delimitation and their mutual comparison are used. As pointed out by Dostál and Hampl (2002), one of the significant features of metropolitan regions as leading units of the settlement system, is their distinctive concentration of population and economic activities and, at the same time, their intensive mutual internal interconnection. Both basic features impose increased demands on transport services in these areas (see the discussion in Horňák, 2006 or Marada, 2008). Therefore, we can presume that the strong integration between metropolitan regions in the Czech Republic relies especially on automobile transport at the present time (the existence of this mutual reciprocity in other countries is pointed out, for example, by Giuliano, 1998; Muller, 2004 or Nuhn, Hesse, 2006).

The empirical sections of this article specify and evaluate the transport hinterlands of the main settlement centres in the Czech Republic, based on prevailing automobile transport flows. Subsequently, these regions are compared with the metropolitan regions defined by using the intensity of commuting flows, which are most often used for defining the metropolitan hinterlands of the settlement centres (e.g. Hampl, 2005).

2. Theoretical basis: transport, mobility and spatial organization

The relatively unique nature of transport relations results in their common use in the delimitation of functional regions. Transport relations serve as key indicators for delimiting the regional sphere of influence of settlement centres. Therefore, a decisive factor is the intensity of transport interactions. In approaches commonly used to date, two types of studies can be observed. Firstly, there are studies of a predominantly methodological character, which address the question of the delimitation of functional transport regions. They deal in particular with questions of the nature and spatial patterns of transport relations as a key element of spatial organization (Godlund, 1956; Green, 1958; for information on the Czech and Slovak environment, see the studies by Hůrský, 1978; Branický, 1988). As examples, the studies applying graph theory to the delimitation of centres and their hinterland (such as Nystuen, Dacey, 1961 or Grubesic et al., 2009) are of interest. To delimit functional regions, these researchers use origin-destination matrices built on the frequency of public transport connections. A second group of studies may be referred to as applications of methods. These studies are primarily focused on the use of transport regionalisation as a basis for the review and formation of territorial and administrative subdivisions or, where appropriate, on the comparison of transport regions and other types of territory regionalisation (Jordan, 1995; Kraft, 2007). Other interesting application studies include those based on the evaluation of associations between the commuting regions and regions of transport (time) accessibility (Hudeček, 2008). It is clear that these two thematic areas of transport region study do not negate each other but complement each other.

The current period of transport system development is characterized by the continuous intensification and spatial reorganization of transport flows, which significantly modify their initial organization. Moreover, this modification strongly corresponds with the transition from the industrial stage of transport / societal systems development into the post-industrial stage (for more details see the studies by Rodrigue et al., 2006 or Hampl, 2005). The post-industrial stage can be characterized by the development of more intensive, organic and integral relations. Some typical significant features include the growing polycentric character and de-concentration of economic activities in urbanized areas (Seidenglanz, 2010; Kunc et al., 2012).

Transport has always represented a significant factor influencing the dynamics of processes related to changes in the spatial organization of society. MacKinnon et al. (2008) state that the above-mentioned relationship of mutual reciprocity between transport and the spatial organization of society is evident in many generally accepted geographical theories, which could be divided into three groups. Location theories are the oldest ones (e.g. Christaller's Central Place Theory), which emphasize the importance of transport costs in the spatial organization of socioeconomic activities. The second group is represented by modernization theories, in which a close relation between the transport system and its impact on changes in the spatial organization of economic activities is declared (e.g. the Vance, Rimmer and Taaffe model - as characterized by Hoyle, Smith, 1998), or models concerned with the issue of the development of towns and metropolitan regions under the impact of the transport network development (as in the famous study: "Transport stages in spatial evolution of the American metropolis" by Muller, 2004). The last group comprises critical theories based on post-positivistic trends in geographical research. One of the most important critical theories related to the role of transport in the spatial organization of society can be considered the concept of temporal-spatial compression and the annihilation of space as discussed in Harvey (1989), or the current trend in geographical, sociological, migration and cultural studies, which is referred to as a "new mobility paradigm" (Sheller, Urry, 2004).

Probably, the results of increased integral transport flows and individual mobility are most evident at a local level, especially in urban regions. Before the development of modern transport systems in the 19th century, most of the pre-industrial cities were characterized by compact built-up areas within walking distance to the city centre (this stage of city development is sometimes referred to as foot cities). In connection with the development of rail transport in the 19th and 20th centuries, work locations were first separated from residence location within the urban environment in the form of a radial spreading of cities along the lines of urban rail transport (tracked cities). With the rapid development of motorization during the second half of the 20th century, a further expansion of city systems took place along with the spatial "spilling" of many urban functions into the surrounding space, i.e. beyond the administrative borders of the city (e.g. Giuliano, 1998).

The spatial expansion of city systems supported by transport is additionally associated with the phenomenon of residential and non-residential suburbanization (for more details, see e.g. Urbánková, Ouředníček, 2006). At a theoretical level, Leinbach (2004) indicates that the above-mentioned processes of spatial de-concentration, suburbanization and increasing motorization in the urban environment transform once typical centripetal and centrifugal movements of inhabitants, goods and information (simple orientation of connections from the hinterland to the city) to a more complicated structure of

movements within metropolitan regions, which is associated with a growing polycentricity (more complicated lateral and tangential movements: hinterland–city, city–hinterland and hinterland–hinterland). These de-concentration processes in metropolitan regions have been studied especially in developed countries (e.g. Gutiérrez, Palomares, 2007). In this context, Nuhn and Hesse (2006) confirm already-established discussions regarding changes in the spatial structure of transport connections – from a starfish-shaped structure to the more complicated form of a spider-web model.

From this discussion of the relation between the spatial organization of society and transport, we can conclude that transport processes are, with respect to their character, one of the most important determinants and integral processes relating to changes in the spatial organization of society. This also shows that, in assessing the development processes, both of these components must be evaluated in terms of their mutual interactions.

3. Methods

This study used data from the latest available Road Transport Census (RTC) of 2010. The RTC database provides detailed current results on the intensities of road transport on almost all roads in the Czech Republic. These results, however, show a number of defects - in particular, they cannot be used to identify the starting and destination points of particular trips, frequency of trips or occupancy of cars. Hence, a method was developed to eliminate these defects – as the intensity on a particular road type is monitored instead of the transport intensity, and the minimum share of the length of relevant roads from the total length of all roads in administrative regions (municipal districts with a delegated municipal office¹), was chosen as an additional criterion, which eliminates especially the administrative regions exposed to transit flows (similar to Kraft and Vančura, 2010).

The research method consists of three steps (Fig. 1). In the first step of the research, the road network sections with the most important transport intensities were defined within the Czech road and motorway networks. For defining the key transport interactions within the Czech road and motorway networks, the upper quartiles (Q_{75} : important transport flows) and the upper deciles of values (Q_{90} : the

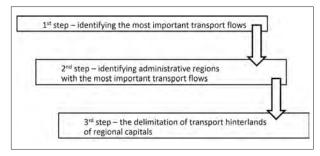


Fig. 1: The methodological procedure used in this study

most important transport flows) of average daily intensity of car transport on particular types of roads were used. This gave rise to the two-level system of key transport relations. Criteria for allocating particular sections of the road network among the most important and important transport flows are shown in Tab. 1. Centres surveyed in this study are assumed according to Hampl's socio-geographical regionalisation of the Czech Republic published in 2001. Hampl (2005) specified 426 centres of at least microregional importance according to their complex size index. The complex size index is an aggregate indicator based on the residential and labour functions of these centres.

Since many disconnected and isolated road sections were created using this methodology, the generated data were generalized at the second step by converting the resulting values (lengths of sections) to the total length of the road network within the administrative regions (ARs). Several variants were tested. An optimum critical value of such a concentration level was taken to be the limit of at least 10% of the length of relevant sections of the total length of the AR road network. Continuous regions were created, which also appropriately illustrate the main transport flows in the regional capitals' hinterlands. Regions with an active role in generating the most important transport intensity were thus considered those regions whose total length of road network was formed by at least 10% of sections falling within the important or most important transport intensity. The third step consisted in the final delimitation of transport hinterlands of Czech regional capitals. All regions that play an active role in the process of generating important transport relations and are interconnected with the regional capitals via these connections, were deemed the transport

Road class category		Annual average daily intensity of car transport
Materia	Important transport flows	27,325 - 36,859
Motorways	Most important transport flows	36,860 and more
G 1	Important transport flows	23,036 – 28,560
Speedways	Most important transport flows	28,561 and more
4ct 1	Important transport flows	9,589 – 13,271
1 st class roads	Most important transport flows	13,272 and more
and 1 1	Important transport flows	3,488 – 6,546
2 nd class roads	Most important transport flows	6,547 and more

Tab. 1: Criteria for allocating particular sections of the road network to important and most important transport flows. Source: Authors' calculations

¹ Obce s pověřeným obecním úřadem (in Czech) [Municipalities with the accredited municipal authority]. These administrative regions are sometimes referred to as municipalities of the second degree. These regions are the smallest regions executing the fundamental administrative functions (Registry office and construction administration). There are 396 regions in total.

hinterlands. The condition of transport integration of at least two subordinate ARs was used as an additional criterion for the integrity of transport hinterlands.

Similarly, the metropolitan hinterlands of the Czech regional capitals were defined on the basis of daily commutingto-work flows from the 2011 census. Only the commuting interactions, which are usually used for delineating the metropolitan hinterlands in the Czech Republic, based on the one-way or two-way commuting to work flows between the settlement centres (integrated systems of centres - see discussion in Hampl, 2005) are considered. Metropolitan regions of the monitored settlement centres were defined using the AR districts as a share of total commuters to the relevant regional capitals from the total number of employed people (economically active people without the sum of unemployed people) living in the AR. This method, however, brings certain methodological problems. First, it is important to note that the commuting intensity between districts in some regions is very low because of strong agglomerative relations (especially in denser populated regions with the concentration of larger centres). In line with general regionalization procedures (for more details see e.g. Halás et al., 2010), some centres were agglomerated within some metropolitan systems, namely Zlín with Otrokovice, Ostrava with Havířov, Frýdek-Místek with Karviná, Liberec with Jablonec, Ustí nad Labem with Most, Chomutov and Teplice. There are intensive commuting contacts within these agglomerated centres and the results would not be significant enough without their connections.

Another methodological problem is determining the critical level of the share of outbound people from the municipal districts with a delegated municipal office, which may be regarded as significant in creating the commuting relations within the hinterland of regional capitals in the Czech Republic (e.g. Bezák, 2000). According to Toušek et al. (2005), at least 10% of people commuting to a regional metropolis of all economically active people may be deemed such a critical value. There were also several variants

tested. The metropolitan regions based on commuting flows were identified by this criterion. The critical value for the delimitation was ultimately set at 8% of people commuting to a regional capital out of all employed people in the particular administrative regions. Although this value may be seen as too low, it creates a sufficiently representative and particularly compact area. The number of commuting integrated regions is also very similar to regions integrated by important transport flows (140 regions integrated by commuting flows vs. 137 regions integrated by transport flows).

4. Results

4.1 Transport hinterlands of regional capitals in the Czech Republic

Based on the above methodological procedures, 137 administrative regions integrated by strong transport relations to metropolitan hinterlands were specified (Fig. 2). These regions are integrated into 12 metropolitan systems (the metropolitan regions of Hradec Králové and Pardubice were consolidated into one unit due to their closeness and intensive transport relations). Unlike previous years, a new transport hinterland for the city of Jihlava was created and in 2010, for the first time, it met the criterion of subsidiarity of at least two AR districts (Třešť and Polná). An essential feature of these regions is especially the occurrence of the groups of centres, which are integrated by the most important transport interactions (Q_{90}) . The very strong transport integration is thus characteristic of the following centre groups: Benešov-Praha (Prague); Zdice-Beroun-Praha; Jílové-Jesenice-Praha; Hluboká nad Vltavou-České Budějovice; Most-Teplice-Ústí n. Labem; Chrudim-Pardubice-Hradec Králové; Tišnov-Kuřim-Brno; Rosice-Brno; Velká Bystřice-Olomouc; Fryšták-Zlín-Uherské Hradiště; Ostrava-Frýdek-Místek; Třinec-Bystřice. Other apparent features of the transport hinterlands of regional capitals include an important concentration of transport relations, significant concentration of population

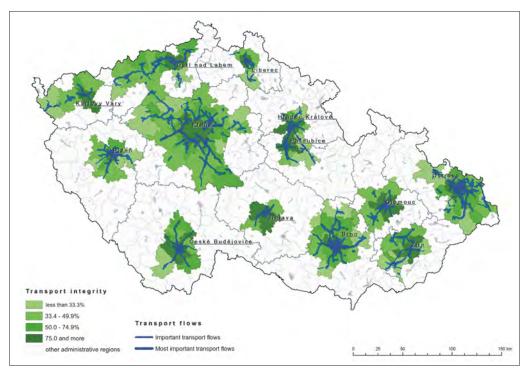


Fig. 2: Transport hinterlands of Czech regional capitals (2010) Source: CSD 2010, Author's calculations

and above-average transport infrastructure density in the given territories. Moreover, these regions exhibited the fastest growing motorization in the monitored period (Marada, 2008). Important transport flows were also created outside the metropolitan hinterlands, but they are concentrated mainly in smaller centres only and not integrated into metropolitan systems.

The largest transport hinterland is typical of Prague, which has a singular position within the transport system of the Czech Republic. The position of Prague in the transport and settlement hierarchy is multiplied by creating the largest transport hinterland integrating 44 micro-regional centres and 37 ARs. The central position of Prague is further supported by the radial network of roads and motorways. Other cities with the mono-centric position in their transport hinterlands are České Budějovice, Plzeň, Jihlava, Brno and Olomouc. On the other hand, a considerable polycentric arrangement of transport hinterlands is typical of the regions of Karlovy Vary, Ústí nad Labem, Liberec, Hradec Králové/Pardubice, Zlín and Ostrava. This division strongly corresponds to the nature of the settlement systems of the respective regional settlement centres (for more details see Mulíček, Sýkora, 2011) and is, in some cases, influenced by the character and function of some centres in the transport system. Other important integrated transport systems of settlement centres include the metropolitan hinterland of Ostrava (22 centres integrated by important transport relations), Brno (16 centres) and Ustí nad Labem (15 centres). As to the number of centres, the smallest transport hinterlands systems include Jihlava (2 centres), Liberec (3 centres) and Olomouc (6 centres). Given the different nature, size, function and especially internal differentiation of transport regions, the basic structural properties of such regions were also observed (Tab. 2).

Figure 2 shows transport integrity as an additional feature of transport hinterlands. Transport integrity is characterized as a share of transport intensities crossing the border of an administrative region directed to their regional capital, from the sum of all intensities crossing the border of the appropriate administrative region. It is a relative characteristic of connectivity and a 'self-containment' of

transport relations among the regions and their regional capitals. The results of the AR district transport integrity evaluation within transport hinterlands show their mutual internal structuring, in which their spatial proximity is very clearly applied as a key determinant of the intensity of transport interactions with their regional metropolises. Generally, we can apply a hypothetical rule that the regions situated closer to regional metropolises are integrated with stronger transport relations than more distant regions. The apparent development of this relationship and gradation of transport integrity is clear, especially with the larger transport hinterlands (Prague, Brno and Ostrava regions), which integrate more AR districts. Certain disturbances of the distance-decay function in the transport integrity of some regions are usually caused by the above-mentioned problematic nature of the position exposure and inclusion of the transit transport. The shape and deployment of transport networks, which often give rise to certain artificial transport autonomy of some districts, may play a role as well. Despite the foregoing, one can assume that the majority of these districts show a certain degree of relative autonomy of transport connections as well as the organization of relations within the metropolitan systems.

4.2 The transport and commuting hinterlands of regional capitals in the Czech Republic

Based on the above theoretical discussions, we can be justified in presuming that the transport hinterlands will be strongly associated with those of metropolitan regions defined according to different relational indicators. The 'unique' position in defining "complex" metropolitan regions is rightly attributed to commuting to work, which represents the most important regional process. On the basis of data on commuting interactions between the centres, the metropolitan regions were defined in the study by Hampl (2005) for example. This author defined a total of 11 metropolitan systems in the Czech Republic, using the districts of municipalities with extended powers (of Czech regional towns, only Jihlava failed to reach the required level of metropolis in 2001). The fact that Hampl applied an additional criterion of distance, by which he divided the

Rank	Centre	Number of all integrated regions	Area (km²)	Transport infrastructure density (length per 100 km²)
1.	Prague	37	7,583	41.1
2.	Ostrava	17	2,925	48.5
3.	Ústí nad Labem	14	2,529	46.8
4.	Brno	13	2,426	45.3
5.	Zlín	10	1,674	40.8
6.	Plzeň	10	1,962	49.8
7.	H. Králové/Pardubice	9	1,859	42.0
8.	Karlovy Vary	8	1,651	39.9
9.	České Budějovice	7	1,901	31.1
10.	Liberec	5	671	47.8
11.	Olomouc	4	1,496	48.6
12.	Jihlava	3	922	43.5

Tab. 2: Structural and hierarchical differentiation of transport hinterlands (2010) Source: CSD 2010, Hampl 2005, Author's calculations

intensity of two-way commuting flows between the centres to the level of relation interactions of settlement centres, is methodologically questionable. This resulted in certain distortions, such as the Prague metropolitan region as strongly restricted and, on the other hand, the metropolitan territories of Ústí nad Labem and other regions with the occurrence of larger centres located near each other, being inadequately enlarged. A comparison of transport metropolitan regions and metropolitan systems in 2010, according to Hampl's criteria, is presented in Fig. 3.

What is particularly apparent from the comparison of the two types of metropolitan region definition is their considerable association. A strong concordance manifests itself especially in the regions of Plzeň/Pilsen, Ústí nad Labem and Ostrava. In these cases, it is possible to say that not only commuting but also transport relations are strongly closed within these regions. The above-mentioned issue of the reduced size of the Prague metropolitan hinterland due to the application of the criterion of centre distance, shows principally in the Benešov region, which is in terms of transport a very strongly integrated part of the Prague transport hinterland and also includes strong commuting relations - commuting to work and school (for instance Sýkora, Mulíček, 2009). The strong transport integration with Prague can be similarly seen in the Rakovník, Poděbrady and Dobříš areas, which make up an undeniable transport hinterland of Prague, promoted by good connection to a quality road network providing its advantageous transport accessibility. The most important difference is the alreadynoted creation of the Jihlava metropolitan transport region, which increased its transport competence to the metropolitan level in 2010.

Notwithstanding certain differences, in a number of cases caused by comparing different AR levels, we can note that the transport metropolitan hinterlands are significantly associated with the metropolitan systems defined on the basis of commuting interactions. This, again, provides significant proof for Šlampa's thesis (1972) on the high complexity of

transport relations and their importance in socio-geographical regionalization, as well as Hůrský's thesis (1978) that transport interactions represent a singular indicator of spatial relations between cities and their hinterlands.

Given the difficult evaluation of connections between the transport metropolitan hinterlands and the metropolitan regions defined by Hampl (2005), this study also defined metropolitan regions from the mere intensity of commuting to work. The intensity of commuting to work was expressed as a percentage share of daily commuters working in the regional capitals of the Czech Republic with respect to the number of employed people living in the particular ARs. This procedure shows the connection between the AR districts and the regional metropolises based on the most important regional process, which currently creates functional relations in the regional space. In addition, 11 metropolitan systems were defined in the territory of the Czech Republic, in which 140 ARs (Fig. 4) are integrated.

The definition of metropolitan regions by transport and commuting flows shows a high association, once again. This is somewhat logical because commuting flows constitute a substantial part of transport flows. There is a relatively important similarity in spatial localization. Both types of metropolitan regions are nearly identical as to their area, population and population density. The main structural characteristics of transport and commuting metropolitan regions are summarized in Table 3. The spatial definition includes moderate disproportions in some marginal parts of metropolitan regions. The transport metropolitan hinterlands also include ARs with relatively strong centres at their edges (e.g. Cheb in the case of Karlovy Vary, Chomutov in the case of Ústí nad Labem, Prostějov in the case of Olomouc, Kroměříž and Uherské Hradiště in the case of Zlín or Opava, and Třinec in the case of Ostrava). The size of these centres predetermines their strong transport relations with their regional capitals, but these centres are able to create jobs by themselves, and this is why the commuting flows from these ARs to the metropolitan centres are lower.

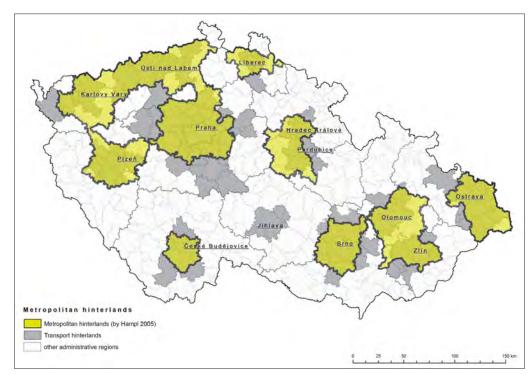


Fig. 3: Comparison of transport hinterlands in the Czech Republic (2010) and metropolitan regions defined by Hampl (2005). Source: CSD 2010, Hampl 2005, Authors' calculations

The opposite can be seen in the ARs on the outskirts of metropolitan regions with smaller centres (e.g. Frýdlant region, but also the territory between Nechanice and Heřmanův Městec, Všeruby, Hustopeče and Bučovice, etc.). Despite being located within the reach of regional capitals, these regions show a certain degree of peripherality and, with respect to a lower number of their own jobs, they rely on a higher level of commuting to work. Absolute commuting flows from these regions to their regional capitals are quite weaker (predominantly lower than 500 outbound people).

Some differences between the two types of metropolitan region definitions also stem from the course and quality of transport infrastructure (e.g. an AR with an exposed position vs. ARs with a peripheral transport position). In the case of the Prague hinterland, which continuously increases its range of effectiveness, the differences may be partially caused by the different times of the used commuting data and the data from the transport census (e.g. according to Hampl's delimitation). The above facts also imply that the definition of transport metropolitan hinterlands is justified. One of reasons is that the territory is, in defining the transport connections, extended by the ARs with larger centres where it is expected that the connections and interactions of secondary centres with the metropolis may not have to be

one-way. The importance of two-way connections of centres within the metropolitan areas is also noted by Hampl (2005). In the case of the definition using commuting, there is a risk that the one-way nodal flows will prevail, as exemplified by a considerable difference in the share of outbound people.

5. Conclusions

Based on transport intensity data, we have tried to delimit the transport hinterlands of regional capitals, which can be labelled as transport metropolitan regions. The empirical analyses demonstrated a number of serious factors concerning their objective existence. Some relevant conclusions and facts arise out of the given results focused on both the definition and comparison of metropolitan regions on the basis of the commuting and transport flows. Metropolitan regions are predominantly noted (no matter how they are defined) in the settlement centre hinterland, approximately at the level of regional towns or conurbations. The spatial differentiation of metropolitan regions properly describes the regular coexistence of the dominant situation of Prague, with centres such as Pilsen, České Budějovice, Liberec and other towns at the outer edge of Bohemia, and rather equivalent and more linked relations that are typical for adequate centres in the heart of the Moravian-Silesian

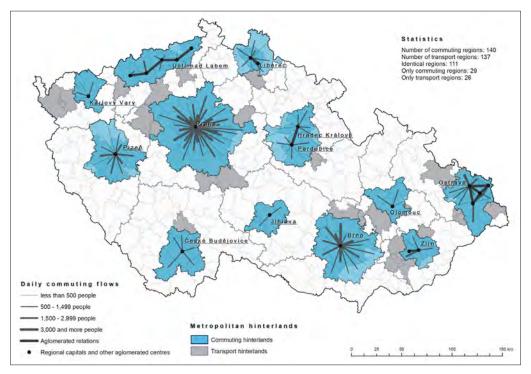


Fig. 4: Comparison of transport hinterlands in the Czech Republic (2010) and commuting metropolitan regions (2011) Source: CSD 2010, Czech Statistical Office 2013, Author's calculations

	Commuting metropolitan regions	Transport metropolitan regions
Number of regions	140	137
Total area (km²)	24,812	27,599
Share in the population (%)	58.3	61.5
Average population density	237.3	219.1
Average motorization	5.1	5.8
Average share of outbound people (%)	30.8	21.7

Tab. 3: Comparison of definitions of transport and commuting metropolitan regions Source: CSD 2010, Czech Statistical Office 2013, Author's calculations

Region. A product and, at the same time, a generator of this fact is the strongly concentric transport network in Bohemia and the less regular transport network of Moravia, which is more determined by its relief.

The two examined methods demonstrate a relatively high concordance in defining the metropolitan hinterland of the monitored centres. The transport metropolitan regions can be thus regarded as real and relatively closed socio-economic units created on the basis of automobile transport intensity between the regional metropolises of the Czech Republic and their transport hinterlands. Also, a relatively low influence of the transport exposure of certain AR districts that would affect their allocation to the transport metropolitan regions, as a result of increased share of transit transport was proven, once again.

In some regions, the definition of transport metropolitan regions is affected by the relatively low degree of individual motorization and, on the other hand, by the fairly wellfunctioning system of public transport (see e.g. Chvátal et al., 2011 or Květoň et al., 2012). By analogy, this holds true especially in the regions with well-functioning integrated transport systems, which are able to compete to a certain degree with the fast development of automobile transport. An important role may also be played by the proportion of population using railway and road transport in the metropolitan hinterland for daily commuting to work. The regions located farther from the main metropolises of the Czech Republic usually show lower values of transport/commuting integrity than the regions situated in the hinterlands of these metropolises. Theoretically, the distance-decay effect (i.e. reduction in the intensity of interactions between two locations depending on their mutually increasing distance) can be acknowledged, as well as in the case of transport metropolitan regions. This partially confirms the thesis about peripheral regions located in areas with reduced accessibility to regional centres (most often at the crossing point of regional boundaries), and sometimes even in cases of relatively good accessibility by the main roads.

The delimited transport hinterlands have several applications. They can be used for example as an alternative or additional approach to delimitate urban hinterlands, especially in cases where the commuting flows are complicated or unclear. They can be also used for regional policy and regional planning. One of the most important practical applications is directing the development of transport infrastructure in certain regions or in public transport planning. At present, transport hinterlands reflect the demand for transport in metropolitan regions. The planning of public transport may reflect their existence and adjust the supply of public transport.

Acknowledgement:

The article was elaborated within the framework of the research grant project "Spatial Dynamics of Transport Relationships in the Settlement System of the Czech Republic", reg. No. 404/12/1035 sponsored by the Czech Science Foundation.

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Initial submission 10 June 2013, final acceptance 16 February 2014

Please cite this article as:

KRAFT, S., HALÁS, M., VANČURA, M. (2014): The delimitation of urban hinterlands based on transport flows: A case study of regional capitals in the Czech Republic. Moravian Geographical Reports, Vol. 22, No. 1, p. 24–32. DOI: 10.2478/mgr-2014-0003.

THE INFLUENCE OF THE "KOMISARZ ALEX" TV SERIES ON THE DEVELOPMENT OF ŁÓDŹ (POLAND) IN THE EYES OF CITY INHABITANTS

Waldemar CUDNY

Abstract

The issues of creative and cultural industries and their role in city branding and development are explored in this paper. Activities enhancing city placement and city branding via a TV series are subject to enquiry. As a result, the city becomes a film-friendly destination, attracting people and firms from the film industry. Besides, the city is perceived more favourably, standing out from the competition and possibly attracting tourists and potential investors and immigrants. Such a policy has been introduced in Łódź, a large Polish post-socialist and post-industrial city. With the city authority's support, the town has become the location of a popular TV crime series, entitled "Komisarz Alex" ("Inspector Alex"). The main aim of the research was to investigate how Łódź inhabitants perceive the series and what influence they think the film-making would have on the city. The evaluation of the perception of the series is based on structured interviews, and is generally very positive.

Shrnutí

Vliv televizního seriálu "Komisař Alex" na rozvoj Lodže (Polsko) očima jeho obyvatel

Článek prezentuje problematiku kreativního a kulturního průmyslu a jejich roli pro marketingovou značku a rozvoj města. Autor uvádí aktivity, zvyšující městské renomé a povědomí o městě díky televiznímu seriálu. Město se díky filmu stává atraktivní destinací a přitahuje lidi a firmy z filmového průmyslu. Mimo to je město vnímáno v konkurenčním prostředí příznivěji a může být atraktivní pro turisty, potenciální investory i imigranty. Taková strategie byla přijata v Lodži, velkém polském post-socialistickém a post-industriálním městě. S podporou městských úřadů se město stalo místem populárních kriminálních seriálů nazvaných "Komisař Alex" ("Inspector Alex"). Hlavním cílem autora bylo zjistit, jak obyvatelé Lodže vnímají seriál a jeho možný vliv na rozvoj města. Hodnocení vycházelo ze strukturovaných rozhovorů.

Key words: TV series, culture industries, city placement, Łódź, Poland

1. Introduction

This paper presents the development opportunities and creation of a positive image for the post-socialist and post-industrial city of Łódź, by locating it in a popular TV crime series entitled Komisarz Alex (Inspector Alex). The research used a questionnaire survey conducted among the inhabitants of Łódź, regarding the perception of the series and its impact on the promotion and further development of the city. The main aim of this article is to answer the following questions: What do Łódź inhabitants think of the series? What is the way in which Łódź is presented? How can the fact that the series is made in the city influence its socioeconomic development? Do the inhabitants think that the support, which the series received from the city authorities, was justified?

In recent years, Łódź has been shrinking due to the decline of its industrial economic base. Poor development prospects made many inhabitants move abroad or to other cities in Poland. As a result, negative stereotypes of the city, perceived as impoverished, neglected, uninteresting and dangerous, became deeply rooted in people's minds (see Cudny, 2012; Young, Kaczmarek, 1999, 2008). The negative image of Łódź could even be found in the British media, where in 2013 it was criticized in The Sun magazine. In a report concerning the development of Polish cities, prepared by the PWC Polska consulting company (formerly PriceWaterhouseCoopers – http://www.pwc.pl/pl/wielkiemiasta-lski/lodz.jhtml), improving the city's image was

considered to be one of the main challenges. The problem was also voiced in public debates. Therefore, in recent years, a lot has been done not only with the restructuring of Łódź in mind, but also to change the unfavourable image of the city.

Given these recent trends, this research examines how the role of the Inspector Alex TV series in the development of the city is perceived by Łódź inhabitants. The scarceness of studies presenting inhabitants' opinions regarding prodevelopment activities carried out in their cities was pointed out by Olsson and Berglund (2009, p. 127). However, such analyses of the perception of the cultural economy and creative industries have been conducted before, as in studies of the role of events in the development of regions, as perceived by their inhabitants. A similar approach was taken here – to evaluate the influence of television productions on the development of Łódź – in the eyes of its inhabitants.

2. Research themes in the literature

The socio-economic development of regions (including urban areas), as well as the transformation of post-communist countries, are key issues in modern sciences such as geography (Jančák et al., 2010; Hampl, 2007; Rusnák, Korec, 2013). Recently, some urban centres have climbed the hierarchy of cities (see Lentz 1997; Connell, 2000), while others have lost their economic status and a large number of their inhabitants (depopulation, the phenomenon of 'shrinking cities') (see Vaishar, 2002; Liszewski, 2009;

Cudny, 2012; Rumpel, Slach, 2012; Buček, Bleha, 2013). Such changes have been analysed in Western Europe or the United States for several decades, due to the decline of traditional economies based on mass industrial production, the emergence of post-Fordism and, consequently, the formation of a new type of city. Economically, it is based on modern industries, services, and also culture-related ones, as well as on a social group - the creative class (Amin, 1994).

According to Florida (2002b), the creative class is a social group which is to become a city's driving force in the post-Fordist era. The question is why creative people tend to be attracted to particular cities. Florida (2003) believes that this is caused by three 'T's: technology (innovation and high technology concentration), talent (concentration of people with university degrees), and tolerance (inclusiveness and diversity of all ethnicities, races and walks of life). Florida also noticed the correlation between the level of urban modernity and the presence of artists and artistic activity. A "bohemian" atmosphere attracts other representatives of the creative class, who in turn contribute to the economic development of cities and regions (Florida, 2002a).

The creative class theory has permeated local and regional planning strategies in most parts of the western world, but it has been often criticised (Rausch, Negrey, 2006; Asheim, Hansen, 2009; Storper, Scott, 2009) for adopting research schemes created in the Anglo-American world in other regions, where they sometimes are not applicable (Gibson, Klocker, 2004; see also Martin-Brelot et al., 2010; Hansen, Niedomysl, 2009). The significance of the creative class for the economic development of cities is also questioned (Krätke, 2010), as well as the methodological assumptions of the theory and insufficient empirical studies (Peck, 2005; Hansen, Niedomysl, 2009). Despite these reservations, many cities that are currently in crisis and searching for new opportunities, are trying to introduce development strategies based on attracting the creative class to their region.

Moreover, such cities often choose the development of culture and related services as a strategic branch of economy (Pratt, 2008). That is why it is possible to create the "bohemian" atmosphere mentioned above, which is crucial for attracting the creative class, but also for generating additional jobs and income.

Activities related to culture, entertainment and media belong to the category of creative or cultural industries. Both of these terms have very similar meanings (Pratt, 2008). Cultural industries deal primarily with symbolic goods, whose primary economic value derives from their cultural value. There are the 'typical' cultural industries (broadcast media, film, publishing, recorded music, design, architecture, new media), and the 'traditional arts' (visual art, crafts, theatre, musical theatre, concerts and performance, literature, museums and galleries). Cultural industries generate certain values, like income, taxes and jobs, and form the cultural economy (O'Connor, 1999; Scott, 2010). Activities related to cultural industries are often seen as a possible way to restructure post-industrial cities and often become pillars of a new economic base¹. Such processes are called culture-led regeneration strategies (Binns, 2005). Film production is a part of cultural economy, as it may well be included in the group of creative and cultural industries (Scott, 2002; Gibson, Kong, 2005). TV series production

may be approached in a similar way (Evans, 2009), and film and television artists should also be treated as members of the creative class.

In the last decades of the 20th century, the media started to be treated as a means of promoting the geographical spaces of regions, including cities. The important role of the media in shaping images of space was noted by geographers, who changed the geographical research paradigm concerning cultural geography. It evolved from a descriptive approach to the new cultural geography (see Cosgrove and Jackson, 1987; Hermanova et al., 2009). Researchers representing the latter trend are presently dealing with media issues, including the role of films and TV series in creating the image of regions and their development (Beaton, 1983; Scott, 2002; Arreola, 2005; Lukinbeal and Zimmermann, 2006; Reijnders, 2009, 2010).

This was reflected as well in the development of media geography - a cultural geography sub-discipline (Zimmermann, 2007; Döring and Thielmann, 2009). The media take part in the geographical study of the human environment. Therefore, they are an object of geographers' interest (Burgess, 1990). The influence of media on the awareness and perception of geographical space is not a new fact (Zimmerman, 2007): along with the development of electronic media, including film and television, their role in shaping the perception of space was growing. Modern media are extremely important from a geographical point of view, because they have a strong effect on people's psyche and their perceptions of geographical space (see Escher, Zimmermann, 2001; Aitken, Craine, 2006; Lukinbeal, Zimmermann, 2006). Modern media, such as the Internet, video animations, Google Maps, Facebook, Flickr (see Döring, Thielmann, 2009), have become increasingly influential as well.

Many regions and cities exert a lot of effort in creating a unique and positive brand in order to achieve economic and tourist growth through 'place branding'. This is a process of creating an image of a given space, e.g. of a city, taking advantage of human perceptual processes. People usually evaluate places on the basis of simple clichés, which they associate with a given site. Therefore, city authorities prepare promotional campaigns, which evoke positive associations. They choose a typical element and try to popularize it so that it becomes the city's cliché, with which it will be associated (Anholt, 2007).

Examples of complex promotional campaigns, which aim to create a positive brand, can be found in many European cities. Amsterdam authorities, for example, noticed the problem of the city being commonly associated with drugs and sex, so they embarked on a mission to change this image and create a new brand. Their strategy included developing cultural events and hospitality, a new press policy, key projects, and inventing new city slogans and logos (Kavaratzis, 2008).

After the fall of communism in Hungary, Budapest authorities launched an innovative marketing campaign. The promotion of the city, presented as a centre of business, creativity, culture and entertainment, was to attract western tourists. Together with other European cities, Budapest was promoted outside Europe. Private investors and EU funds helped to develop the infrastructure (Kavaratzis, 2008).

¹ Cultural economy is used in restructuring large cities, but recently it has become a frequent element of restructuring and development plans for small towns (Lorentzen, Van Heur, 2012), regions (Gibson Connell, 2012; Lindeborg, Lindkvist, 2013), as well as rural areas (Drda-Kühn, Wiegand, 2010; Gibson, Connell, 2011).

Films and TV productions often become a part of such procedures, known as product placement. Certain products are shown in films and TV series to increase their sales. Using film and TV productions for such purposes is also possible due to the strong impact, which they have on human perception² (Lukinbeal, Zimmermann, 2006). A positive brand of a city can also be created by showing it in films and TV productions (Morgan et al., 2004, p. 208). If a city is presented in a popular film or TV production in a positive way (as clean, safe, fascinating, connected with culture, entertainment, modern industry), it is extremely significant for its branding.

Tourists often choose the destination of their trip on the basis of what they have seen in the movies (Bolan, Williams, 2008; Mathews, 2010). For instance, in the Italian region of Apulia it was calculated that 1 Euro invested in film production brings 6 Euros of profit, mainly from tourism. In Poland, such calculations were made for Krakow, where 1 zloty (PLN) invested in film production brings on average 1.5 zlotys of profit from tourism (Gorczyca, 2013). Note that over the year 2013, 1 PLN = ca. 0.24 EUR. Film tourism involves travelling in order to visit places and buildings where films were made, attend film festivals, visit film-related institutions (e.g. museums, film studios), or take part in a film production (e.g. as an extra) (Zmyślony, 2001; Hudson, 2011). Apart from cinema movies, film tourism also refers to TV productions, such as crime drama series (Reijnders, 2009, 2010). There are numerous places all over the world, where famous films and TV series were made (Fig. 1). Many of them attract tourists, who travel there individually or take part in organized trips (see: http://www. movie-locations.com).

Apart from tourists, inhabitants, immigrants and investors are also intended recipients of urban marketing campaigns (Philo, Kearns, 1993; Short et al., 1993, Gómez, 1998). The inhabitants wish to live in an appropriate place, work and relax, companies look for suitable places to do business and recruit employees. Therefore, media-based marketing strategies create the image of a geographically-defined place also with the inhabitants and investors in mind. Activities aimed at improving the inhabitants' perception of the city, integrating them and preventing them from leaving the city, are called 'internal marketing' (Hospers, 2004).

The 1990s were marked by substantial transformations of cities in countries where communism had been abolished. "The post-socialist cities are at the transition stage. They are characterized by dynamic processes of change rather than by static patterns. The urban environment formed under the previous system is being adjusted and remodelled to match the new conditions of the political, economic and cultural transition towards the capitalist society. Many features of a socialist city suddenly stood in opposition to the capitalist principles, which led to the restructuring of the existing urban areas. With time, new capitalist urban developments are having more and more influence on the general urban organization. Some pre-socialist patterns are re-emerging, some areas from the socialist times are being transformed, and new post-socialist urban landscapes are being created" (Sýkora, 2009 cited in Cudny, 2012, p. 7; see also Matlovič et al., 2001; Sýkora, Bouzarovski, 2011).

Transformations in the post-socialist cities are similar to those observed earlier in the West, moving from Fordism to post-Fordism. Thus, strategies which proved effective in

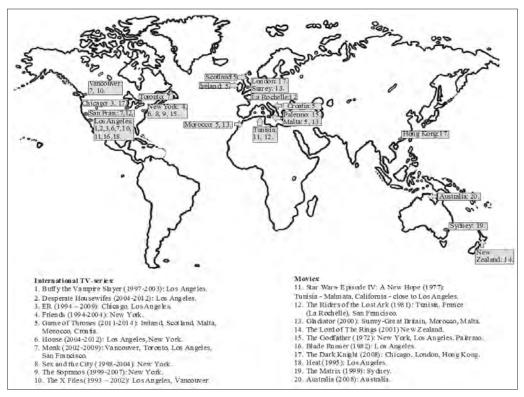


Fig. 1: Location of international TV series and well-known movies

Source: Author's compilation based on http://www.imdb.com/; http://www.wikipedia.org/; http://www.movie-locations.com/

² Perception is very important for the understanding, interpretation and assessment of geographical space. Perception means 'seeing' phenomena, but this seeing is not completely objective. The process of perception is influenced by a number of factors, such as experience, culture, current attitude or external stimuli (Siwek, 2011). All these elements can be modified by the media, including film and TV productions.

western cities can be used in the restructuring of post-socialist cities (Ondoš, Korec, 2006, p. 52). Some of these strategies are to attract the creative class and creative industries to the city. Culture is being promoted by developing festivals and building cultural facilities. In some marketing campaigns, film, television productions and the Internet are used.

3. Description of the study area, the "Komisarz Alex" series, research methodology and socio-demographic characteristics of survey respondents

Łódź is an example of a Polish post-socialist city which experienced rapid socio-economic transformation after 1989. The city developed in the 19th century as a large textile industry centre exporting its goods to the Russian market. In the socialist era in Poland (1945–1989), this traditional economic structure based on the textile industry was preserved and strengthened, but other industries and services were underdeveloped. After introducing a free market in 1989, the out-dated structure of Łódź industry became a burden to the city. Most state textile factories went bankrupt and mass structural unemployment appeared (Liszewski, 2009).

improved slightly situation when private entrepreneurship started to develop, foreign investors entered the market and the city authorities supported restructuring. At present, Łódź is a large city, showing typical post-Fordist features. Most inhabitants are employed in services, while industry has been partly restructured by introducing modern branches. Powerful investors in the computer and home appliances industries have been attracted to the city. It can boast numerous universities, design and fashion centres, and a rapidly developing cultural and entertainment function, including festivals. It is still difficult to find wellpaid jobs, however, and young people are moving abroad or to other Polish cities. The most serious social problems are depopulation and population aging, which in the long run may cause economic breakdown (Cudny, 2012).

Even in communist times there were cultural institutions based in Łódź which performed important roles. It was also a good time for festivals and avant-garde art events to develop.

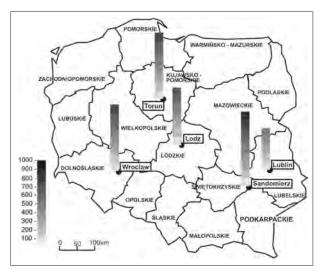


Fig. 2: Cities in which well-known Polish TV series are set: the number of media appearances

 $Source: Author's \ compilation \ based \ on \ http://www.press-service.com.pl/$

Moreover, after World War II, the city was the largest centre of film and television production. After 1989, the cultural function collapsed, but later it started to revive (see Cudny, Rouba, 2012).

In recent years, the city authorities have been searching for new investors, promoting cultural development, as well as supporting the making of films and TV series in Łódź. In the "Łódź Brand" strategy for 2010–2016, the development of the creative sector has become the city authorities' priority. The strategy is based on four pillars: culture, economy, education and tourism, and sport. The new promotion slogan adopted for the city is "Creative Łódź". The authorities started to sponsor activities such as design or fairs and organization of festivals. Events receiving a lot of support include the Design Festival (presenting world achievements in industrial design) and the Łódź Fashion Week (the only Fashion Week in Poland). The city collaborates with Łódź high technology industry companies (e.g. Dell) and universities to create a cluster of new technologies. Film production, based on the already-existing institutions and on the activities attracting new specialists and investors, is also strongly supported (http://www.kreatywna.lodz.pl/).

As mentioned above, Łódź is a city which in socialist times already had a well-developed film and TV production sector, despite its predominantly industrial character (see Cudny, Stanik, 2013). It is now one of the most popular Polish tourist destinations as regards film tourism (Stefanik, Kamel, 2011). After World War II, Łódź became the largest centre of film and TV production, with a famous film school established there. Famous Polish TV series and films were made there in those times. Recent years have brought the renaissance of TV series in Poland and Łódź has become the location of two new crime drama series (Paradoks (The Paradox) and Komisarz Alex).

Research on the influence of these TV series on the cities' presence in the media was conducted in 2013 by the Press Service Agency. The city which benefitted most from being promoted in a TV series was Sandomierz, featured in Ojciec Mateusz (Father Matthew) - it was mentioned in the media about 900 times. The series entitled Lekarze (Doctors), shot in Toruń, and Pierwsza Miłość (First Love), made in Wrocław, were both mentioned over 800 times. Łódź was mentioned 650 times in connection with Komisarz Alex. Lublin, famous for another TV series shown on the national TV channel - Wszystko Przed Nami (The Bright Future Ahead) appeared in the media 487 times (Gajda Zadworna, 2013; see Fig. 2). As for the Advertising Value Equivalent (i.e. the sum which the city would spend on advertising in order to achieve a comparable number of media appearances), it was 12.9 million zlotys in Wrocław, 10.8 million in Sandomierz, 9.2 million in Toruń, and over 6 million in Łódź (http://www.press-service. com.pl/pl/firma/pressroom/informacje-prasowe/art312,w-roliglownej-miasto.html).

Komisarz Alex is a crime drama series, in which the main characters are a Polish police officer and his dog, Alex (Fig. 3). The series is a Polish version of Komisarz Rex (Rex, Cop's Best Friend), an Austrian-Italian detective series. By August 2013, three Polish seasons of Komisarz Alex had been shown, and the fourth season followed at the end of August / beginning September.

All the seasons have been shot in Łódź (http://komisarzalex. tvp.pl/o-serialu/) (Fig. 4). The main male part is played by two young actors – Jakub Wesołowski (1st and 2nd season) and Antoni Pawlicki (3rd and 4th season). According to the



Fig. 3: The main characters of Komisarz Alex (1st series): Inspector Marek Bromski (Jakub Wesołowski), Inspector Lucyna Szmidt (Magdalena Walach) and Alex the dog. Source: Łódź Film Commission materials



Fig. 4: The making of Komisarz Alex, 4th season. Source: Author

Newsweek magazine (Polish edition), the first episode of Komisarz Alex was watched by over five million viewers. In this way, the story about the adventures of a Łódź policeman helped by a dog beats popular shows presented on other TV channels at the same time: X factor and Battle of the Voices (Szadkowska, 2012).

The idea to set the series in Łódź was supported by the city authorities from the very beginning. They allocated one million zlotys to the first two seasons and offered organizational assistance through the Łódź Film Commission, which helped with logistics, mediated with the Police and Municipal Police, as well as with property owners. It also suggested locations³, such as the revitalized areas of Piotrkowska Street, Manufaktura, or Wilhelm Scheibler's factory⁴. The city benefits economically from being the location of the series. The producers pay fees for the use of public spaces. The film crew spends money on taxis, accommodation and restaurants.

Making a popular series in Łódź benefits film institutions as well, as film production offers work opportunities to actors

³ Nowadays, in many countries, regions and cities, special institutions are being established, which cooperate with the film industry. They are generally called film commissions, whose task is to attract film producers to given locations (e.g. California Film Commission, The Office of Film, Theatre and Broadcasting in New York, Łódź Film Commission). They have financial means obtained from public funds and private donors, which they may use to subsidize film productions. Moreover, they assist in organizing the very procedures of film and TV series making.

⁴ Piotrkowska Street is the main shopping street and promenade in the centre of Łódź. It is the major tourist asset of the city, boasting lavish 19th century architecture in eclectic, secession (art deco) and some historical styles. The Manufaktura Centre is the largest shopping and service centre in Łódź, situated in the former 19th c. revitalized factory built by Israel Poznański. Wilhelm Scheibler's factory complex (Księży Młyn) is the largest post-industrial area in the centre of Łódź. Its valuable, 19th c. factory and residential architecture is currently being revitalized.

and other film-makers associated with the Łódź film school. The film crew cooperates with the already-existing Łódź film production firms (e.g. Opus Film). The Komisarz Alex crew perceive Łódź as a film-friendly destination, thanks to the considerable help and flexibility of the city authorities (Łódź Film Commission's materials).

The promotional role of Komisarz Alex is also very important. The series presents Łódź in a positive way and fights the stereotype of a dirty and neglected post-industrial city by showing mostly its revitalized areas. The main characters are young, creative police officers. They are intelligent, funny, well-dressed and fit. Alex – the dog – is also a very likeable character.

This research project investigated the perception of the series by Łódź inhabitants. This sort of study is used for example in analyzing the influence of events, which generate tourism and additional income, and also used for creating a destination's image (Cudny et al., 2012). Thus, they perform a number of functions similar to those performed by film and TV productions. The research approach used here is similar to the one taken to evaluate the influence of sports events (Fredline, Faulkner, 2001; Waitt, 2003; Lorde et al., 2011; Cudny, Rouba, 2013) or festivals (Cudny et al., 2012) on cities, in the eyes of their inhabitants. Such studies show how the inhabitants assess the promotional and economic role of events or perceive organizational problems related to them (e.g. organization costs, higher prices, etc.), and whether they approve of the authorities' actions supporting the organization of such events.

The aims of this research were similar – to check whether Łódź inhabitants were familiar with this particular TV series, how they evaluated its potential effect and the support it received from the local authorities. Such an analysis also shows whether the inhabitants notice an improvement in the city's image and potential positive socio-economic effects.

The survey was conducted among the inhabitants of Łódź and concerned the Komisarz Alex series and its potential influence on the city. The study used structured interviews, with the person conducting the survey reading questions to respondents from a questionnaire. The respondents' answers are then written down, and if they needed further clarification, it is possible to ask additional questions (Cudny et al., 2011). For this study trained interviewers (The University of Łódź students, supervised by the author) conducted the survey at public places, in the centre of Łódź, mostly in Piotrkowska Street and at the Manufaktura Centre, on 15 and 22 May 2012 in the afternoons.

All respondents were inhabitants of Łódź. The survey instrument included questions concerning four main groups of problems. The respondents were asked if they were familiar with the series, about their opinion of it, and the potential effects of setting the series in Łódź on the city. They were also asked typical socio-demographic items (gender, age, education level, etc.). During the survey, 334 interviews were carried out. In terms of gender, 49.1% of the respondents were males and 50.9% were females. Most respondents were 18–25 years of age (43.1%), and most eager to take part in the survey. They were followed by persons aged 26–35 (24%), 36–45 (14.4%) and 46–65 (13.5%). The smallest group consisted of respondents aged 66 and more years (5%).

The majority of respondents had completed secondary and university education – 42.8% and 30.8%, respectively, while 16.5% had completed vocational, 8.1% post-secondary

and 1.8% primary education. The survey included working people (62.3%), school and university students (20.4%), old age pensioners (9.5%) and some unemployed persons (7.8%).

4. Study results

The first question tested the respondents' familiarity with Komisarz Alex: "Describe briefly what the Komisarz Alex series is about". Most respondents claimed that it is a crime drama series with a dog playing one of the leading roles (47.6%), a crime drama series (29.9%), a Polish version of another series – Komisarz Rex (3.6%). The respondents' answers show they were familiar with the plot. Some of them even knew what the original series was.

The next question tested the respondents' familiarity with the realities of the series: "Name up to three Łódź locations shown in the series". This was asked in order to check whether the inhabitants could recognize the places shown in Komisarz Alex. This question was important, considering the city authorities' support for the series, which is to promote the city by showing interesting locations. The research aimed to check whether the inhabitants thought that these locations were easily recognizable in the film. Here, each respondent could quote several locations: we received 792 answers. The locations shown in the series were identified correctly. It was usually the Manufaktura Centre (34.8%), Piotrkowska Street (27.0%), and the former Scheibler's factory (Księży Młyn, 15.4%). Another site which was mentioned quite often (7.4%) was one of the main squares in the city centre - Wolności (Liberty) Square; other answers were more varied and were registered for 15.4% of cases. The respondents recognized places such as Łódź parks or the Łódź Gallery Shopping Centre. Also here the respondents were well familiar with the film realities. The locations pointed out by them are indeed the sites most often presented in Komisarz Alex. For example, many scenes in different episodes were shot at the Manufaktura Centre and in Piotrkowska Street, while the former Scheibler's factory accommodated the police station (the building of the former factory fire brigade).

The second part of the survey was devoted to the evaluation of the artistic value of the series (the plot, directing and actors' performance). It shows how popular the series is. On a Polish internet portal devoted to films and TV series (http://www.filmweb.pl/), Komisarz Alex was described by 4,257 Internet users as "not bad". It achieved an average of 5.6 points out of 10 (http://www.filmweb.pl/serial/Komisarz+Alex-2012-629466). For comparison, another popular TV crime series made by national television – Ojciec Mateusz – was rated only slightly higher, achieving 6.1 points (http://www.filmweb.pl/serial/Ojciec+Mateusz-2008-487834).

The next question was "What is the one word you would use to evaluate the series?" Generally, the respondents' opinion regarding the artistic and entertainment value of the series was positive, as 56% of them rated it as 'very good' or 'good'; 15.8% rated it as 'average' and 15.9% expressed a negative opinion. Other answers, which were quite vague, were given by 12.3% of the respondents (Tab. 1). Although most opinions were positive, the average and negative ratings still make up about 30%, which should encourage the authors of the series to focus more on the artistic side of the production. Increasing expenditure on the series production, as well as devoting more attention to the screenplay and directing, might improve the perception of the series and its locations.

The following question was "How do you rate (on a scale 1–5) the following elements: screenplay, directing, actors' performance, the dog acting in the series?" The respondents could allocate a number of points to each element: 1 – 'very poor', 2 – 'poor', 3 – 'average', 4 – 'good' and 5 – 'very good'. Based on the responses, mean values for all the mentioned elements were calculated. The actors' performance and the dog's acting were rated the highest. The remaining elements, such as screenplay and directing were also evaluated positively – as average plus (Tab. 2). The responses to this question confirm previous reservations regarding the quality of the screenplay and directing, which might have been of better quality.

The third part of the survey concerned the support provided by the city authorities and its influence on Łódź. The first question asked in this part was "Do you think that the city authorities' support (also financial) for locating the series in Łódź was appropriate? Please justify your answer". As much as 68% of the respondents said that the support was justified, 29.6% were of the opposite opinion, and 2.4% did not have any opinion. The most frequent justifications of positive answers included the following: the need to support the development of the city (by locating film and TV productions there), and the fact that the money invested in the series may be returned (e.g. due to increased number of tourists). On the other hand, negative answers were mostly justified by the opinion that the city should not support TV series at all and should use the money for other purposes. Negative opinions might have resulted from the low number of tourist products associated with the series. Its potential is not fully used and the inhabitants' ratings are lower. So far, only a tourist trail has been prepared, taking tourists to places shown in the series. Apart from an Internet website and materials for tourists and tourist guides, there are no other attractions, such as an exhibition related to the film, facilities, e.g. restaurants (places of this kind can be found in Sandomierz, where Ojciec Mateusz is filmed), or promotional events in which the series cast take place. Such steps should be taken at the time when the series is broadcast, in order to take advantage of its popularity in the media.

Rating	% of answers
Very good	21.0
Good	35.0
Average	15.8
Poor	11.7
Very poor	4.2
Other	12.3
Total	100.0

Tab. 1: General rating of the Komisarz Alex TV series by survey respondents. Source: Author's compilation

Series element	Average
Screenplay	3.6
Directing	3.6
Actors' performance	3.7
Dog acting in the series	4.6

Tab. 2: Respondents' rating of the series elements – mean values. Source: Author's compilation

The next question concerned the respondents' opinion about the influence of the series: "Do you think that the Łódź locations shown in the Komisarz Alex series have a positive effect on the perception of the city by the viewers (justify your answer)?" As much as 92.8% of the respondents said "yes", 5.7% said "no" and 1.5% did not have any opinion. Once again, the inhabitants of Łódź appreciated the role of the popular series in creating a positive image of the city. The affirmative answer was usually explained by the fact that the series shows wonderful sites in Łódź. In this way, it promotes Łódź and creates its positive image.

Next, the respondents were asked to refer in more detail to the impact of the series on the city: "What influence do you think the series will have on the image of Łódź, the tourist traffic in the city, the economy of Łódź, the amount of investment in the city?" The aim was to assess to what extent the series attracts specialists and investors, from the film industry too, to Łódź (creative class and cultural industries), as well as to evaluate the potential development of the tourism industry and city promotion. Each respondent could choose one of the following answers: good, slight, no influence, bad, I don't know (Tab. 3). The answers to this question show a very positive opinion about the influence of the series on the image of Łódź and tourist traffic (Tab. 3).

Category %			
Good 76.3 Slight 3.9 No influence 9.3 Bad 5.1 I don't know 5.4 Total 100.0 Tourism Good 44.9 Slight 10.2 No influence 24.6 Bad 1.8 I don't know 18.5 Total 100.0 City economy			
Slight 3.9 No influence 9.3 Bad 5.1 I don't know 5.4 Total 100.0 Tourism Good 44.9 Slight 10.2 No influence 24.6 Bad 1.8 I don't know 18.5 Total 100.0 City economy			
No influence 9.3			
Bad 5.1 I don't know 5.4 Total 100.0 Tourism Good 44.9 Slight 10.2 No influence 24.6 Bad 1.8 I don't know 18.5 Total 100.0 City economy			
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Tourism			
Good 44.9 Slight 10.2 No influence 24.6 Bad 1.8 I don't know 18.5 Total 100.0 City economy			
Slight 10.2 No influence 24.6 Bad 1.8 I don't know 18.5 Total 100.0 City economy			
No influence 24.6			
Bad 1.8 I don't know 18.5 Total 100.0 City economy			
Evaluation of influence I don't know 18.5 Total 100.0 City economy			
Evaluation of influence Total 100.0 City economy			
of influence Total 100.0 City economy			
Good 19.5	City economy		
Slight 6.0			
No influence 33.2			
Bad 1.5			
I don't know 39.8			
Total 100.0			
Investments	Investments		
Good 18.6			
Slight 4.8			
No influence 35.3			
Bad 5.7			
I don't know 35.6			
Total 100.0			

Tab. 3: The influence of the series on the city as regards its image, tourism, economy and investment (respondents' answers). Source: Author's compilation

Such an impact of city placement in a TV series is well described in the literature, as outlined above. It seems that it was also quite well understood by the respondents, who pointed to the positive effect of showing a city in a popular TV series. On the other hand, the impact of such an activity on the city's economy and the growth of investments was less obvious for the respondents. In this case, the answer 'good' appeared in 19.5% and 18.6% of responses, respectively (Tab. 3). However, such impact does exist and it is connected with the potential development of the creative field and creative class, due to the growing film sector and the development of a 'bohemian' atmosphere. Besides, the positive perception and the achievable brand of a city associated with film and culture may make the city additionally attractive as a good place to locate new economic investments (not necessarily film-related).

The author believes that such effects are more obvious to urban studies specialists than to the inhabitants, and thus a considerable percentage of answers were 'no influence' and 'I don't know'. Perhaps the responses to this question reflect the relatively small activity connected with the effects of the series. The insufficient number of series-related tourist products may diminish the positive perception of some of its effects. It is advisable to launch an advertising and event campaign, financed by the city. The actors of the series cast could promote the city in commercials and at events as a destination, which is interesting to live in, work in and visit. This kind of policy would help to take advantage of and strengthen the role of the series in creating a positive brand of Łódź.

The last question in the survey was of conclusive nature: "Do you think that the next season of Komisarz Alex should be shot in Łódź?" The respondents were asked to justify their answers. The most frequent response was in the affirmative (87.7%), while 8.4% gave a negative answer and 3.9% did not know. The most common justifications for the positive answer were that the series promotes Łódź, the first season was made in Łódź, and that Łódź needs a popular series. The most common justifications of the negative answer were that nobody watches the series, there are things more important, and that the series does not show Łódź in a good light. Here, some respondents pointed to the fact that a crime series is not a good method of promotion, as it shows a given location as a city associated with crime. Such doubts are to a certain extent justified, but the author believes that they are not always confirmed. For instance, despite the criminal theme of Ojciec Mateusz, tourist traffic in Sandomierz greatly increased after it was broadcast. What is more, Komisarz Alex is a series sending a positive message, because it shows crimes that may be committed in any large city. It is not full of violence or bloody scenes and the main characters are positive and optimistic. It is not then an example of a sinister and bloody crime story. The author believes that there is no danger of associating Łódź with excessive criminality due to the series presentation.

5. Conclusions

Currently, cultural and entertainment activities, including those related to film and television, are used as a particular kind of culture-based development booster in cities. It is an approach taken as a part of the cultural economy of cities (Scott, 2006, 2010), due to the growing role of cultural industries with respect to economic development, generating jobs and tourism. Another important element of this process is the creative class, the representatives of which are involved in media production (Florida, 2003). Therefore,

contemporary cities compete with one another for hosting film and television productions. In post-socialist cities, activities of this type have brought very positive effects, e.g. in Prague, which after the fall of communism has become an important centre of international film-making, thanks to a well-planned policy (Iordanova, 2003).

Moreover, cities compete for resources, which are needed for their future development. These resources include people (inhabitants, immigrants, tourists) and investment capital. Many contemporary cities are undergoing processes of economic stagnation and depopulation (shrinking cities). In such cases, the struggle for these resources is particularly important. Such cities are not only decreasingly attractive for tourists or investors, but they are also losing the resources they have had so far, as a result of the inhabitants' emigration or firms fleeing to more attractive cities with a better image.

Such processes have been observed in the developed economies of western capitalist countries for many decades. More recently, they have appeared in post-socialist countries as well (Lentz, 1997; Korec, 2007; Matlovič et al., 2001; Sýkora, Bouzarovski, 2011). Any transformations taking place in cities of these regions are similar to processes observed in the West earlier, which were connected with the transition from the industrial Fordist to a post-Fordist economy (Ondoš, Korec, 2006).

Łódź is an example of such a post-socialist and post-industrial city with serious socio-economic problems (Liszewski, 2009; Cudny, 2012). It declined socially and economically after the fall of textile industry. At present, Łódź has undergone partial restructuring, as services and modern industry have replaced the traditional textile production. However, the crisis has not finished yet, so the city authorities are trying to introduce a new development strategy. In recent years, the stress has been put on the development of culture, events and creative industries. The Creative Łódź strategy includes supporting the development of film and TV industries, aiming to attract film producers and generate new jobs and income for the city. It is also to support the promotion of Łódź through film and TV productions (place branding).

At present, the role of the media, including film and television, in the creation of an image is extremely important (see Arreola, 2005; Zimmermann, 2007; Döring, Thielmann, 2009; Reijnders, 2009, 2010). The possibility of the development of film-making in the city, which has a long and spectacular tradition, as well as for promotion, had been noticed by the city authorities. Therefore, the production of Komisarz Alex received financial and organizational support from city institutions.

This study investigated how the inhabitants of Łódź evaluated the role of this series and the support it received from the city. The approach chosen has been used many times for studying other cultural economy phenomena, e.g. events (see Fredline and Faulkner, 2001; Waitt, 2003; Lorde et al., 2011; Cudny, Rouba, 2013; Cudny et al., 2012). Studies of this type seek to answer questions such as whether the inhabitants notice the effects of such activities, and whether they approve of the support given to it by the local authorities.

The results of the survey point to a generally positive attitude of the inhabitants of Łódź towards the series. They recognized the majority of the Łódź locations shown in the film and most respondents evaluated the series favourably. As to individual artistic elements, actors appearing in the

series and the dog were rated the highest, and the screenplay and directing slightly lower. The organizational and financial support from the city authorities was regarded as justified. The respondents stated that making Komisarz Alex in Łódź has a positive influence on the city image and the growth of tourism. The possible effect of the series on the economic development of the city and the growth of investments was rated lower. The author believes that this may result from the fact that effects of this type are less obvious than the promotional or tourist effects. Moreover, too little has been done so far to take advantage of the promotional effect of broadcasting a series made in Łódź. There should be more tourist products, events which would be based on the series and strengthen its promotional effect for tourists, investors or Łódź inhabitants. A promotional campaign should be launched soon, the aim of which would be to intensify and prolong the effects of the series.

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Initial submission 2 October 2013, final acceptance 10 February 2014

Please cite this article as:

CUDNY, W. (2014): The influence of the "Komisarz Alex" TV series on the development of Łódź (Poland) in the eyes of city inhabitants. Moravian Geographical Reports, Vol. 22, No. 1, p. 33–43. DOI: 10.2478/mgr-2014-0004.

CREATIVE CLUSTERS IN THE CZECH REPUBLIC – STRATEGY FOR LOCAL DEVELOPMENT OR FASHIONABLE CONCEPT?

Blanka MARKOVÁ

Abstract

In an era of globalization and increasing competition among cities, creative industries are gaining greater attention as a catalyst for local and regional development. This is reflected in the theory of Richard Florida, which was accepted after 2002 by professionals in the field of urban planning, especially in North America and Western Europe, but critically analyzed by the academic community in the field of urban and regional development for its insufficient empirical evidence. Creative industries might be fostered through clusters that are widely accepted as concepts for improving the economic efficiency of regions. This paper introduces the concept of creative clusters into discussions by Czech geographers, while analysing the pioneer project-led development of an Audiovisual Cluster in the Zlín Region, and the possible transfer of the creative clusters concept to other Czech regions.

Shrnutí

Kreativní klastry v České republice – strategie lokálního rozvoje nebo módní koncept?

V období globalizace a sílící konkurence mezi městy nabývají na významu kreativní průmysly jako katalyzátor lokálního a regionálního rozvoje, což se odráží v teorii Richarda Floridy. Tato teorie byla přijímána praktiky z oblasti plánování měst po roce 2002, zejména v severní Americe a západní Evropě a kriticky analyzována akademiky z oblasti rozvoje měst a regionů pro svou nedostatečnou empirickou evidenci. Impuls pro rozvoj kreativních odvětví mohou dát geograficky blízká odvětvová uskupení – klastry, přičemž koncept klastrů je akceptován jako motor ekonomického rozvoje regionů. Tento článek přináší téma kreativních klastrů do debaty mezi českými geografy a analyzuje založení prvního kreativního klastru v České republice – Audiovizuálního klastru ve Zlínském kraji. Cílem článku je zhodnotit možný transfer konceptu kreativních klastrů do dalších regionů České republiky.

Key words: cluster, creative industries, audiovisual cluster, Czech Republic

1. Introduction

Globalization, market liberalization and European integration have led to deepening territorial, economic and social disparities. Thus, cities and regions are looking for development strategies that will help them to stay competitive and establish themselves on the global market, strategies that will create new jobs and avoid 'brain drain'.

One of the concepts for improving economic efficiency in regions is the concept of clusters. Although Porter (1990) often gets the credit for inventing the cluster concept, in fact it was Alfred Marshall who used the term of industrial district to describe the cutlery industry in Sheffield in 1890 when speaking about geographically concentrated clusters (Hospers, 2002). Considering that the western world is going through a massive process of deindustrialization, cities and regions have for the past twenty years endeavoured to put in place policies to foster emerging and growing industries that might ensure their economic development for the future. One strand of these "promising" industries is represented by cultural and creative industries (CCI). Support of CCI has increasingly become a part of the political agenda in a number of European countries.

The discourse over trade and culture has its predecessors in the work of Theodor W. Adorno, Max Horkheimer and Walter Benjamin of the Frankfurt School in the 1930s and 1940s (Footer and Graber, 2000). It was they who coined the term "culture industry", when criticising the

emerging serialisation of production related in particular to radio, film and recorded music sectors. The label "creative industries" was then picked up again in Australia to signpost the policies supporting an interface between commercial cultural activities and emerging new media driven by technological change (Foord, 2009). In the United Kingdom, the term creative industries was extended in the 1990s to highlight the economic contribution of commercial cultural production, leisure activities and entertainment, as well as the economic potential of many subsidized cultural activities (UK Department for Culture, Media and Sport: DCMS, 1998). The UK definition of creative industries refers to industries which "have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property" (DCMS, 2001, p. 5). The notion that creativity is a limitless resource is central to the current popularity of creativity-led economic development (Foord, 2009) and enterprise strategies.

The concept of creative industries has been adopted uncritically by central and east-European countries from west-European countries, however, without paying attention to different structural and institutional contexts. "When a strategy is formulated in a European context, it is important to realise that the environment consists of different national environments" (Van den Bosch and Van Prooijen, 1992, p. 176), so it might be said that a national strategy should

accept regional differences as well. This paper discusses challenges involved in an uncritical application of a certain policy model in the Czech Republic. In policy-making terms, assessing the position of creative industries in the economy and mapping the potential of this sector plays a key role at any spatial level (Higgs and Cunningham, 2007), and particularly during the facilitation of creative clusters (Lazzeretti, Boix and Capone, 2008).

There are at least three different types of creative clusters (Klaus, 2006):

- Creative clusters as strategies for image development and urban regeneration (Moommaas, 2004), (e.g. MuseumsQuartier in Vienna, Westergasfabriek in Amsterdam);
- Creative clusters as a development and employment policy – in Montreal, the cluster strategy was developed to protect the future of filmmaking in the context of increased competition in the sector from the United States and other Canadian provinces (Tremblay, Cecilli, 2009); and
- 3. Creative districts and quarters with a "cool" subculture, creative freelancers and Small and Medium Enterprises (SMEs) (e.g. Escher-Wyss-Areal in Zürich-West).

For the purposes of this paper, the concept of creative cluster is understood as a development policy for strengthening regional competitiveness, which is the second type of creative cluster. Within URBACT (European exchange and learning programme promoting sustainable urban development, financed by the European Development Fund), the project "Creative Clusters in Low Density Areas" was implemented to counter the notion that "the development of creative clusters is only considered viable in big cities and metropolises" (URBACT, 2010). An important question is actually what are appropriate ways to manage creative clusters, or what sort of intervention can help foster successful creative clusters? In general, the establishment of creative clusters up to the present has been promoted topdown by European, national, regional and local authorities who recognize the importance of their development. As an alternative, clusters can emerge spontaneously in a bottomup approach (URBACT, 2010). At the European level, there is a European Cluster Policy, developed and steered by the European Cluster Policy Group.

Having a suitable external framework for supporting cluster development from European funds and operational programmes has helped certain regions in the Czech Republic to embed clusters into regional policies. According to funding conditions (set by the government organisation CzechInvest), the establishment and development only of manufacturing clusters could be fostered.

Creative clusters are not an unknown concept in the Czech Republic, however. Some cluster initiatives have already occurred such as Tableware, Music Czech Made and Spa Cluster located in the Karlovy Vary Region (Zemanová, 2009), but they were not suited for the support conditions of the Czech Ministry of Trade at that time. The lack of money and know-how in cluster management were the barriers to establish these initiatives as clusters. One example of the latter which was initiated by policy is the interregional cooperation supported by the EU project "Transborder

cluster initiative for developing creative industries", led by Tomáš Baťa University in Zlín (Czech Republic) and the University of Trenčín (Slovakia), which was funded by Slovakia – Czech Republic Cross-border Cooperation Operational Programme in the years 2011–2012.

This paper describes the project-led creative cluster development which gained political and financial support but which was not accepted by local entrepreneurs and creative firms. The paper aims as well to start academic debates about the concept of creative clusters in the Czech Republic, in terms of their potential benefits for the development of Czech regions.

2. Theoretical background

The theory of national, state and local competitiveness in the context of a global economy was introduced by the American business economist Michael E. Porter (1990). He developed the concept of industrial cluster as a new way of looking at national, state, regional and urban economies, pointing out the new roles of companies, governments and other institutions in the possibility of increasing competitiveness (Břusková, 2003). According to many authors, regional clustering is part of a new industrial order (Hospers, Beugelsijk, 2002): "Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g. universities, standards agencies, trade associations) in a particular field that compete but also cooperate" (Porter, 1990). They also "trust" one another and frequently exchange knowledge (Tremblay, Cecilli, 2009). Entities within a cluster should cooperate but they compete with each other as well. The cluster is expected to create an inspiring environment to facilitate the exchange of knowledge and information, which then implicitly leads to generating innovation in both products and services in the sectors of the creative sphere: "Real competition will create innovation and innovation will create competitive advantage" (Van den Bosch, Van Prooijen, 1992, p. 173). One must be careful when targeting different industries because governments exclusively focusing their attention on traditional activities may run the risk of delaying economic restructuring, which may be needed for a region to remain competitive (Hospers, Beugelsdijk, 2002, p. 393). According to Porter (1990), the government has an important role to play in clustering, but it should promote and contribute to (not dictate) a cluster development strategy.

Historically, creative clusters developed informally: artists find a cheap space to set up studios. Recently, the clusters have shifted from a spontaneous and organic evolution to a planned process, mostly driven by political agendas for economic and cultural prosperity. Although the organic growth of clustering appears to be more favoured than a rigid planning process, Porter and Barber (2007) argue that both a "hands-off" or "hands-on" approaches have their disadvantages, for instance, driving up real estate prices that leads to exclude the artist community. By using many European examples, such as Manchester's Northern Quarter, Sheffield's Creative Industries Quarter and the Temple Bar, they claim "non-intervention may be no longer an option".

¹ Cluster initiative is an informal association of various stakeholders, whereas cluster is understood as an established formal organization.

In most writing on clusters, it is recognized that cluster development is a long-term process that is based on the mobilization of key stakeholders in the community, local or regional territory (Tremblay, Cecilli, 2009). Cassidy et al. (2005) have identified four stages in cluster development: latent, developing, established and transformation, indicating that many creative clusters are in the latent or developing stage. Evans (2009) offers another differentiation (see Table 1). NESTA (2010) suggests that building clusters from scratch is notoriously difficult: it is far better to identify whether there are any latent clusters 'hidden' in their regions, or localities that would benefit from networking and awareness-raising. Castells and Hall (1994) claim that the costs of developing new clusters are high and. if successful, the clusters will need a long time before they are embedded in their environment.

Creative industries, and thus creative clusters, are considered to have distinct characteristics that differentiate them from other types of businesses and business clusters (Bagwell, 2008). They are often characterized by flexible organizational arrangements, with temporary, project-based teams rather than a permanent workforce. Furthermore, small and medium enterprises (SMEs) tend to feature more prominently in the creative industries than in most other sectors of the economy (DCMS, 2001). Due to the nature of such industries, however, the formation of creative clusters does not tend to follow the conventional process of forming clusters, which generally speaking, tend to be attracted to an area by its market potential or to the existence of a technology institution or university. Similar to industrial clusters, there are external savings for creative clusters such as: sharing a common infrastructure and technologies, sharing a common labour market, knowledge transfer or attraction of the same target groups or joint marketing (Hitters, Richards, 2001). It is generally considered that the location of a cluster is very important because social networks are based on those specific places where culture is produced and consumed (Markusen, 2004). A key factor encouraging informal information exchange "face-to-face" is the spatial proximity of individual institutions (Heebels, van Aalst, 2010). At the same time, a cluster can contribute to stimulate and motivate other actors in the field of creative industries and to increase their activity in the form of cooperation or competition. Functioning and successful

creative clusters should contain both companies focused on local markets and those oriented to exports outside the region (Slach et al., 2013).

Taking everything into account, the notion of creative clusters is very fluid. It is comprised of a number of parameters around issues such as economy, culture, topdown or bottom-up governance, hands-on and handsoff approaches, production, consumption, local or global identity, geographic locations, and many other factors. The cluster concept even faces a lot of criticism, especially from academics. Cassidy et al. (2005) indicate that cluster initiatives have become a sort of "magic recipe" to meet the challenges of the new economy - up to the point that they have become dangerously fashionable. According to Martin and Sunley (2003, cited in van Heur), the cluster concept remains rather a "chaotic concept" that is often applied very liberally in theory and practice. Hospers and Beugelsdijk (2002) for example, call regional clustering for stimulating regional economic development a "mantra". Nevertheless, there are "best practices" used for cluster policy around the world, such as those in the MuseumsQuartier, Culturpark, Westergasfabriek, and others. The idea of creative clusters as catalysts for regional economic development emerged in the Czech Republic only recently. The development of the first Czech creative cluster is discussed in this paper.

3. Research methods

The methodology used here is based on the qualitative research paradigm (Blaxter et al., 2001) – in this case participant observation (the author worked as a research assistant on CreaClust – the Cross-border Cluster Initiative for the Development of Creative Industry, 2011–2012), interviews with experts and involved actors (in total five unstructured interviews), media analysis, internal documents and study of documents related to the European and Czech cultural and cluster policy. The research was conducted in the period from the second half of 2010 (collection of data) to the first half of 2013 (drafting the text).

The structure of the paper is as follows: in the introduction, the initial analytic concept of creative clusters is defined with a focus on their role in local and regional development. The main part of the paper consists of the presentation of the case study of the project-led development of the

Stage	Definitions
1. Dependent	Creative enterprises developed as a direct result of public sector intervention through business support, infrastructure development for cultural consumption and finance to SMEs and micro creative enterprises. Public subsidy required to sustain the cluster. Limited and underdeveloped local markets. Examples: UK creative industries quarters, Sweden – Digital Media City.
2. Aspirational	Some independent creative enterprises and/or privatised former public sector cultural enterprises in place but limited in scale and scope. Underdeveloped local markets and limited consumption infrastructure. High levels of public and institutional boosterist promotional activity. Examples: The Digital Hub – Dublin, Westergasfabriek – Amsterdam.
3. Emergent	Initiated by growing number and scale of creative enterprises with infrastructural investment from the public sector. Developing local and regional markets. Visible cultural consumption, internationalisation of market reach. Examples: Product design, architecture, digital media - Barcelona, Film/TV – Glasgow.
4. Mature	Led by established large-scale creative enterprises in specific industries with established subcontracting linkages and highly developed national and international markets. Business to business consumption. Armslength public intervention. Examples: Film/TV - Los Angeles, Fashion and furniture design/production – Milan, Fashion – New York.

Tab. 1: Stages of creative cluster development Source: Evans, 2009

Audiovisual Cluster in the Zlín Region. From a theoretical point of view, the benefit lies in the description of the creative cluster concept. From the perspective of benefits for practice, the evaluation of the process of establishing the first Czech creative cluster is fundamental, and formulating recommendations for the implementation of a creative cluster development policy in the Czech Republic should be addressed from this case study.

The main research questions guiding the study were:

- 1. What is the definition of the concept of creative clusters? What is their role in local and regional development?
- 2. What are the differences between industrial clusters and creative clusters?
- 3. Why and how should the development of creative clusters be supported in the Czech Republic?

4. Results – Development of the first creative cluster in the Czech Republic: the audiovisual cluster in the Zlín Region

The Zlín Region is situated in the eastern part of the Czech Republic with an area of 3,964 square kilometres (Fig. 1). The region's population is nearly 600,000, and there are 304 municipalities in the region, 30 of which are towns. The regional authority is located in Zlín, which is also the region's largest city. The region consists of three specific ethnographic areas: Wallachia, Moravian Slovakia and Haná. The city's development is connected with the world-known shoemaker Tomáš Baťa. Zlín Region and its surroundings are also popular by housing the Days of the People of Goodwill in Velehrad, a charity event held together with the national pilgrimage to celebrate the mission of Cyril and Methodius, the International Festival of Films for Children and Youth, the Summer Film School in Uherské Hradiště, and many popular folklore festivals such as the Kings Ride in Vlčnov, the Summer of Kunovice, Festivals in Liptál and Rožnov pod Radhoštěm, Haná Festival Chropyně and many others. The Forfest festival of spiritual music, which takes place somewhat further away in Kroměříž, the renewed salons of fine arts in Zlín and the Prostor Zlín exhibition of contemporary avant-garde arts, have also helped spread the fame of the region. Motor racing fans will certainly know the Barum Rally, which has recently been awarded Europe's highest ranking.

To strengthen regional competitiveness, two clusters exist already in the Zlín Region. The first one is the Plastics Cluster with 33 members, which was established in 2006, and the second one is the Moravian Aerospace Cluster

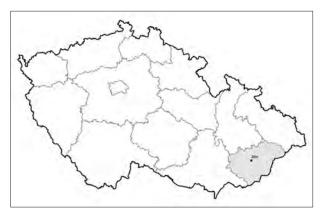


Fig. l: The Zlín Region Source: Author

with 25 members. Both clusters are operating in industries that are historically associated with this region. The project of establishing the Plastics cluster was co-financed by the Zlín Regional Government and was supported by a grant from the Operational Programme Industry and Enterprise. The Moravian Aerospace Cluster is an association of aircraft companies and educational institutions sharing a common interest with the aim to develop a competitive aircraft industry.

The new Audiovisual Cluster intended to be connected to the traditions of the region, too. The establishment of the cluster was based on the CreaClust project - A Cross-Border Cluster Initiative for the Development of Creative Industry funded by the European Regional Development Fund. Inspired by similar international initiatives, the aim of the CreaClust project was to connect the region's cultural and arts heritage with local creative industries, to support the development of business prospects and to develop potential. The benefits of the new cluster for all target groups (as indicated by project leaders) are presented in Table 2. A key ambition of this cluster was to revitalize Zlín's film industry, which was built on talents in artistic and audiovisual areas fields decades ago. Zlín Film Studios date from 1936, when Jan Antonín Baťa started the endeavour to produce advertising spots for his shoe empire. Since then, the city has been also hosting one of the oldest international children's film events, the Zlín Film Festival. Leading partners of the CreaClust were the Tomáš Baťa University in Zlín, Faculty of Economics and Management, and Alexander Dubček University of Trenčín, Faculty of Socio-Economic Relations.

Within the CreaClust project, a quantitative mapping of the regional creative potential was made. In total, 4,951 firms were revealed in the process of mapping creative industries in the Zlín Region (Bednář, Grebeníček, 2012). As to the size of enterprises with employees, a major finding was the absence of large companies over 250 employees. Thus, creative enterprises with employees (663) in the Zlín Region consist exclusively of micro- (578; 87.2%) and small-enterprises (70; 10.6%) and medium-sized enterprises (15; 2.2%) pursuant to the European Commission Recommendation 2003/361, regarding the small- and medium-sized enterprises definition (Bednář and Grebeníček, 2012). These results confirm the weak position and the low proportion of creative industries in the region's periphery and their concentration in the core areas.

In connection with the mapping, the most promising creative industry sectors were selected and the project team carried out semi-structured interviews with relevant companies, organizations and institutions for cooperation and networking. The team also completed study visits and established international contacts and cooperation in order to obtain and exchange experience on the successful development of clusters and regional cooperative networks in creative industries. The audiovisual industries (CZ -NACE: 59, 60, 62, 73) were chosen as the most promising ones. Companies and institutions in this industry are not abundant in the Zlín Region but they have tradition and historical significance, particularly with regard to the preparation of new talents at the Faculty of Multimedia Communications of Tomáš Baťa University (internal documents of the CreaClust project). In addition to smalland medium-sized enterprises, this field includes freelance filmmakers and artists in occupations with high added value (creativity and talent) related to the audiovisual cluster

Target Group	Benefits
Public administration, municipalities	Expanding the information and database by incorporating the findings of scarcely researched sectors forming a creative industry, their influence on regional economies, development, and cross-border cooperation; the ability to concisely specify development sub-objectives and target them to facilitate regional as well as cross-border inter-regional cooperation.
Small and Medium Enterprises (SMEs)	Strengthening contacts, cooperation and participation in joint projects of a cluster initiative, particularly for SMEs from creative industry area; including the possibility to join the pilot projects (1x in Zlínský, 1x in Trenčianský Region) implemented within this initiative.
Local initiatives related to cultural, social and leisure time activities	Involvement in direct cooperation within the cluster initiative. Creative industries are closely linked with cultural and leisure activities. Benefit from the implementation of selected pilot projects and participation in the preparation of further projects for international cooperation; better visibility and analysis of the status of this target group and the possibility to obtain data on its importance in the development of creative industries.
Centres for innovation, science and technology parks, incubators, research institutions	Involvement of target groups in a new, unmapped cooperation sector - creative industries.
Citizens of the regions	Participation in the joint cluster activities; further indirect benefits to tourism and culture due to further development of the creative industries in the regions; increase in information awareness and cross-border contacts.

Tab. 2: Actors in the creative cluster development: Zlin Region Source: Internal documents of CreaClust, Author

value chain (stage of development, financing and production of a wide range of creative professionals for postproduction, distribution and promotion, screening).

Leaders of the audiovisual sector in the Zlín region are as follows:

- FilmFest, s.r.o.;
- Summer Film School, Uherské Hradiště;
- Golden Apple Cinema, a.s.;
- Film Ateliers Zlín, s.r.o. (declining);
- KINOSERVIS s.r.o.;
- Film Laboratories, Ateliers Bonton Zlín a.s.;
- · Czech Association for Film and Video Kroměříž; and
- Private companies (VAFIS, Hubafilm and more).

The cluster foundation was announced officially at the final project conference towards the end of 2012. The main actor of the Audiovisual Cluster is the Faculty of Multimedia Studies of Tomáš Bafa University. The City of Zlín, among others supporters of the Zlín Film Festival, declared support for the Audiovisual Cluster too, mentioning it in the Development Strategy for the City of Zlín until the year 2020. The government agency for tourism development (CzechTourism) should have an important role in the activity of the Audiovisual Cluster as well, because CzechTourism will launch a regional office of the Czech Film Commission in the Zlín Region to attract filmmakers to the region.

Another objective of the cluster is to avoid 'brain drain' from the region (interview: Břusková, 2012). The main activity of the Audiovisual Cluster will be the establishment of a creative incubator for students from the Faculty of Multimedia Studies and the introduction of a regional film fund that would be the first one in the Czech Republic. Financial sources for these activities are not known yet but these pilot projects should provide for the functioning of the cluster structure.

The Audiovisual Cluster is a civic association registered with the Ministry of Interior as a legal entity. The constituting

assembly of cluster members has not been convened at this time, but when it is the statutory body, the executive board and the president will be elected.

The full operation of the cluster and the fulfilment of the above objectives depend on human resources, i.e. a cluster manager and his/her team (at least one part-time person) and "the funding is expected to be provided from public funds by the form of subsidies in the initial phase" (internal documents of the CreaClust project). In the Czech Republic, there is still no grant programme to support clusters in creative industries. Since national resources to support emerging cluster organizations in the creative field are not available in the Czech Republic, "it will be necessary to create an initial downward creative cluster funding from the Zlín Region" (internal documents of the CreaClust project).

To set up a regional cluster policy, the Faculty of Management and Economics of Tomáš Baťa University is currently working on a certified methodology for a regional cluster policy, where the recipient of this methodology will be the Zlín Region. This activity is funded by the Technology Agency of the Czech Republic, Omega Programme. Thus, the local university develops the cluster methodology according to real experience with forming clusters, while knowing the regional environment. This methodology was not published at the time of drafting this text.

5. Conclusions

Although the creative industries do not represent mainstream topics in Czech regional policy and the term has occurred only recently within national cultural policy, we may say that the concept of creative clusters (although fragmented and as yet undefined) has started to apply in the Czech Republic. Creative clusters are tools of urban regeneration (Moommaas, 2004; Klaus, 2006), local and regional development, and they help to develop a new image of industrial areas and are part of employment policy (Tremblay and Cecily, 2009).

As of 2013, creative cluster initiatives are not eligible for financial support from the Operational Programme Enterprise and Innovation in the Czech Republic because this programme is set up to support clusters focused only on manufacturing. One very specific example is the existence of the non-manufacturing Moravian-Silesian Tourism Cluster, which is funded mainly from cluster members' contributions (Marková, 2011). More than 20 Czech clusters are members of the National Cluster Association (NCA), that brings together organizations and individuals with the purpose of coordinating the sustainable development of cluster initiatives and to develop cluster policy in the Czech Republic, based on the concentration of knowledge, experience and expertise to strengthen the competitiveness of the Czech Republic.

NCA president Pavla Břusková was also the main coordinator of the top-down CreaClust project that led to the establishment of the first Czech creative cluster – the Audiovisual Cluster in the Zlín Region. In the year since this cluster was registered at the Czech Ministry of the Interior, the relations between cluster actors have not been activated efficiently.

The stage of the development of the Audiovisual Cluster is dependent (Evans, 2009) as a public subsidy is needed to run the cluster and to develop the local market in the Zlín Region. Thanks to the financial support provided by the Technology Agency of the Czech Republic, the first methodology for a regional cluster policy is being prepared by Tomáš Baťa University in the Zlín Region. Other regions must be aware, however, that (successful) examples of regional clustering cannot be taken over mechanically (Hospers, Beugeldijk, 2002).

Ghilardi (Marková, 2011) claims that in today's world, it is probably more important to learn to practise urban and cultural 'acupuncture' rather than to rely on top-down, large-scale approaches. Essentially, there is a need to improve cluster diagnostics first, and this includes also improved capacity of understanding the creative cluster's potential for spillovers (to other sectors). Moreover, there will be a need for joint approaches (i.e. coalitions of creatives, industry leaders, stakeholders from different departments of local and regional governments and local community representatives) to nurture such clusters.

Local stakeholders in the Zlín Region (mainly creative enterprises, representatives of independent culture and students) have not been involved sufficiently in the cluster initiative from the beginning (interview: Kujová, 2013). Experienced and strong local leaders of the audiovisual industry were also missing. This case study of the Audiovisual Cluster demonstrates that a top-down cluster strategy without the early involvement of local actors led to the establishment of a dependent cluster, which needs additional financial support to awake it from "hibernation". The support of existing, hidden latent clusters (Cassidy et al., 2005; NESTA, 2010) that need a hands-on approach from government agencies, professionals and experts to establish themselves on the market locally and internationally, might be less costly and more efficient than creating new clusters (Castells and Hall, 1994). It will be interesting to see how the cluster policy is further developed in the Czech Republic, and whether the cluster methodology for a regional policy applied in the Zlín Region can help to foster creative clusters as such. Clusters existing on paper only may have a fashionable image but bring nothing to regional development!

Acknowledgements

The author would like to thank Lia Ghilardi and Ondřej Slach for useful comments and review of this paper.

Interviewees:

Pavla Břusková, Lia Ghilardi, Marek Koňařík, Zdeňka Kujová, David Mírek

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Initial submission 25 April 2013, final acceptance 10 February 2014

Please cite this article as:

 $MARKOV\acute{A}$, B. (2014): Creative clusters in the Czech Republic – strategy for local development or fashionable concept? Moravian Geographical Reports, Vol. 22, No. 1, p. 44–50. DOI: 10.2478/mgr-2014-0005.

MORAVIAN GEOGRAPHICAL REPORTS

Aims and Scope of the Journal

Moravian Geographical Reports [MGR] is an international peer-reviewed journal, which has been published in English continuously since 1993 by the Institute of Geonics, Academy of Sciences of the Czech Republic, through its Department of Environmental Geography. It receives and evaluates articles contributed by geographers and by other researchers who specialize in related disciplines, including the geosciences and geo-ecology, with a distinct regional orientation, broadly for countries in Europe. The title of the journal celebrates its origins in the historic land of Moravia in the eastern half of the Czech Republic. The emphasis at MGR is on the role of 'regions' and 'localities' in a globalized society, given the geographic scale at which they are evaluated. Several inter-related questions are stressed: problems of regional economies and society; society in an urban or rural context; regional perspectives on the influence of human activities on landscapes and environments; the relationships between localities and macro-economic structures in rapidly changing socio-political and environmental conditions; environmental impacts of technical processes on bio-physical landscapes; and physical-geographic processes in landscape evolution, including the evaluation of hazards. Theoretical questions in geography are also addressed, especially the relations between physical and human geography in their regional dimensions,

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The journal, Moravian Geographical Reports, publishes the following types of papers:

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Fig. 6: Agritourism farms operate in a preserved nature and in a landscape of high value and ecological stability; almost 2/3 of the captured farms functioned in such an environment in the Czech Republic; Protected Landscape Area Český Ráj (Photo: O. Konečný)



 $Fig.\ 7:\ Agritourism\ based\ on\ non-traditional\ industry:\ beekeeping\ (an\ example\ of\ an\ educational\ trail\ and\ a\ bee\ farm\ in\ the\ protected\ landscape\ area\ Beskydy\ -\ photo:\ O.\ Konečný)$