



Exploring the hidden potential of sugar beet industry brownfields (case study of the Czech Republic)

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ABSTRACT

The paper focuses on spatial analyses of sugar beet industry brownfields in the Czech Republic. In the first part of the paper history of sugar beet industry on the area of the Czech Republic is briefly presented, then links between location of these sites and its transport potential are discussed. Benefits of brownfields regeneration for regional development are also evaluated. In the empirical part of the paper 49 brownfield sites within the Czech Republic, where the sugar beet industry was abandoned during the transition period after 1989, are evaluated and classified based on field research and aerial picture analyses. Three examples of reuse of former sugar beet factories are finally presented. It was found that development potential of studied sites is highly depended on their geographical location and some inspiration might be derived from presented examples. More targeted supportive policy in the Czech Republic to support regeneration of brownfields is needed. In the concluding part of the paper further development possibilities of sugar beet industry brownfields and their railway connection are considered.

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Introduction

The sugar beet industry in the Czech Republic has been experiencing a dramatic period full of changes since the societal turn in 1989, which heavily affected extent and structure of the food industry and related agricultural production in the country. These changes can be in case of sugar beet industry characterised by significant shifts in ownership structure of land and sugar beet factories, their closures, by consequent changes in distribution channels of sugar, by a massive decrease in sugar beet sowing areas, and by strong concentration of sugar beet growing in the most suitable natural conditions with a consequent increase in sugar beet yields. Currently there operate in the Czech Republic just seven sugar factories, quarter-century ago it was more than fifty, one and half century ago it was almost four hundred. Dozens of sugar factories have been closed and abandoned in the course of the last one and a half century during cyclical ups and downs of the sugar beet industry in the Czech lands. After nationalisation of whole sector at the early times of the communist era after the end of World War II and implementation of planned economy with huge state interventions development was followed in the 1970s by a restructuring of the industry by means of grouping of sugar beet factories into large state companies, and later by the effects of the political and economic changes of early 1990s, causing the return of the market economy, renewal of

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private ownership of companies, and finally by the European Common Agricultural Policy after the accession of the country to the European Union (2004).

Such dramatic development caused frequent occurrence of abandoned or underused sites, where sugar beet industry used to operate for decades. Those buildings and areas of former sugar beet factories, which are nowadays looking for a new utilisation, can be marked as a specific type of brownfields, so called sugar beet industry brownfields (brownfields remaining after the sugar beet industry). These sites are with respect to their long industrial tradition usually marked by very good transport connections and accessibility. It can be assumed that regeneration of these areas has an important influence on the formation, development, and functionality of given settled areas, and that utilisation of the forgotten transport potential of sugar beet industry brownfield sites can be perceived as a possible impetus for making these (usually spacious) sites viable again.

The aim of this paper is to analyse the transport connections of sugar beet industry brownfields in the Czech Republic and to evaluate their overall development potential. In the analysis 49 sites within the Czech Republic, where the sugar beet industry was abandoned during the transition period after 1989, are discussed. The paper methodologically builds on the previous paper by Krejčí et al. (2014), where more attention was paid to recent development of sugar beet industry brownfields in the Czech Republic and their categorisation from the perspective of utilisation and functionality. To follow-up previous study, within this paper transport potential is assessed with an emphasis on rail transport, which has been experiencing in the last two decades distinct changes. Whilst rail transport (railway sidings) has been facing in studied cases in the Czech Republic a rather negative process of liquidation, quality of road transport has reached in a majority of cases at least minimal improvements. These railway sidings to abandoned sugar beet factories and connected sites are commonly classified as brownfields.

Theoretical background

The sugar beet industry in the Czech Republic – A brief history to the present

The history of the sugar beet industry in the Czech lands might be recorded from the end of the 19th century but 1829, when the sugar beet factory as founded in Kostelní Vydří in the south-western part of Moravia, is usually considered the true year of origin (for more details see Gebler et al., 2007). During the course of the 19th century the sugar beet industry became a crucial part of the contemporary economic and industrialisation process of the Czech lands. Some authors even rate the sugar beet industry amongst the very most important branches (with engineering and textile industries) of contemporary industry heavily affecting the newly formed industrial society. Such booming development also naturally influenced other branches of industry, agriculture, and the dynamics of coal mining development. Simply stated, it was necessary to improve the modes and capacities of raw material transport to the processing factories and to enable quick and flexible transport of the outputs of the sugar beet industry to their final consumers. Thus extensive development of the rail transport network within Czech lands was caused. As recorded in the paper by Havlíček et al. (2013), significant changes affected the landscape and its utilisation in the context of sugar beet growing. They argue that landscape changes as result of long term growing of sugar beet caused a reduction of water surfaces (i.e., the desiccation of ponds) and an abatement in the extent of permanent grasslands. Vyskočil (2010) addresses the social impacts of the huge development of the sugar beet industry during the 19th century. According to the study of Málek (2010), the sugar beet industry might be perceived as an integral part of the Industrial Revolution of the country since the 1850s. Massive spreading of steam engines to sugar beet factories as an example of an important innovation heavily affecting economic development has been widely discussed by, e.g., Jakubec et al. (2007).

From the geographical point of view, mass production of sugar beets was concentrated within the Czech lands in the areas with fertile soils between rivers (e.g., between the Ohře River and the Vltava River basins, along the Labe River and the Morava River basins). The latter two of these areas are usually considered as an example of the developmental symbiosis of the sugar beet industry and the railways (Vyskočil, 2010).

At that time, it was the core railway network in the Czech lands (incl. Kaiser Ferdinand Nord Bahn (KFNB)), along which new sugar beet factories were founded (see the study on the Hodonín region by Havlíček et al., 2013). This main railway arteries were gradually complemented by local and branch lines (see Schreier, 2004). This phase of railway development can be placed in the period from the 1860s to the 1890s.

It is indisputable that both sugar production and railway development have particularly contributed to the development of given regions and localities. The importance of transport for both local and regional development is indisputable. As stated by Dostál and Adamec (2011), transport has to be considered as an important pillar of the economy, and economic impacts of transport on areas is of great importance (e.g. MacKinnon et al., 2008; Banister and Berechman, 2000; Rephann, 1993; Rietveld and Nijkamp, 1992). Marada et al. (2006) discuss the concept of positive impacts from the construction of transport infrastructure, taking the example of transport accessibility improvements in peripheral areas. Transport enables and determines a variety of human activities; transport of goods means a strong economic flow with clear and defined sources and destinations. Moreover, as argued by Rodrigue et al. (2009), strong transport of goods is typical for urban spaces, whose positions as centres of the economy are thus emphasized. The importance of cities as strong centres of both production and consumption gradually rises and enables the development of still stronger mutual relations between individual centres. Such development might be evidenced at the international (Vienna–Bratislava), national (Prague–Brno), or regional levels (for

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