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Living on coal: Mined-out identity, community displacement and forming of anti-coal resistance in the Most region, Czech Republic

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ABSTRACT

This paper provides new insights about the factors shaping social acceptance of and opposition to coal mining. It is based on a comparative survey of communities living in two towns with different demographic development and residential quality located in a close proximity to expanding opencast mine in the Czech Republic, which are threatened by displacement due to possible revisions of the current territorial mining limits. We analyze social-spatial differences in perceptions of landscape and place attachment, and the influence of geographical and sociodemographic factors on personal attitudes and the involvement in local anti-coal activities. A strong place attachment that is determined by the quality of living environment and the length of residence proved to be significant predictor of anti-coal attitude, while the employment tied to coal industry and weak place attachments are key factors shaping a pro-coal attitude. A typical active opponent of the coal mining expansion has a higher age, university education and strong place attachment. While both studied communities are characterized by strong active engagement in protest activities, a low level of confidence in the effectiveness of protests to affect decisions of political authorities was also detected.

1. Introduction

During the last two decades, environmental and security concerns have led to a rapid and widespread development of renewable energies. Coal still plays a vital role in electricity generation worldwide, however. Coal-fired power plants currently provide about 40% of global electricity, but in several countries (including the Czech Republic) coal still fuels a majority of electricity production (IEA, 2012). The World Resources Institute identified some new 1200 plants to be fueled by coal in the planning process, with about three-quarters of those projects in China and India, and 130 projects in Europe (Yang and Cui, 2012). Nevertheless, the public resistance against coal mining, new power plants and carbon capture and storage infrastructure projects increases across nations around the world (Pape, 2013).

The current energy policy of the Czech Republic remains highly dependent on conventional resources. Overall electricity generation is based predominantly on thermal power plants burning brown coal [41%], black coal [6%], gas and other fuels [6%], nuclear power [35%], and renewable energy sources [12%] (Energostat, 2014). The Czech Republic has also been regularly among the biggest world net exporters of electricity, with the annual net export about 17 TWh. This annual export represents approximately 15 million tons of coal burnt in thermal power plants with low energy efficiency (some of the still operational power plants that were constructed already during 1960´s operate with only 30% efficiency). The burning of coal and exportation of electricity abroad has been considered a form of landscape commodification and exportation, which raised questions of environmental injustice or the uneven spatial and social distribution of benefits and costs of coal energy (Frantál and Nováková, 2014). Today the coal mining companies pay only 1.5% of the profits from extracted brown coal (and only 0.5% in the case of black coal) into the state budget, and only three quarters of this profit go back to the region and municipalities affected by mining.

A public debate and political disputes over the future national energy policy are related to the issue of possible changes to the "territorial ecological limits of surface coal mining" in the Most region. Breaking of these limits (established by the first post-communist government in 1991), which have been recently contested by coal mining companies and the central government, would cause a demolition of several municipalities, strained relocation of thousands of people, and ecological devastation of a valuable foothill landscape. While in the period of communism, the public's opportunity to participate in decision-making processes was minimal, there are significantly more legal options now. In 2012, the so-called Mining Act (No. 44/1988 Coll.) was amended, of which this legislation has deleted paragraphs allowing the mining companies to expropriate the property and land

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located at so called reserved mineral deposits. Therefore, the Mining Act gives now priority to the concerns of local communities before the interests of mining companies or so called public interest, and it provides greater opportunities for negotiations on financial compensation. In this respect, the companies and political authorities should now take more account of the views of local communities, and the factors that shape public attitudes.

Recently published study (Badera and Kocoń, 2014) from another traditional European coal country, Poland, reported about high level (about 80%) of two local communities´ acceptance of lignite mining in their place of living. The local communities´ awareness about the profits was reported stronger than anxiety about mining-induced negative effects. These results do not correspond with studies from other parts of Poland, however, where the local opposition to development projects is higher. A comparison of selected Polish communes shows that the level of acceptance for mining projects depends on the socio-economic parameters characterizing those local communities. Whereas Czech population shows much higher degree of opposition. A recently published public opinion poll (Lukáš, 2014) revealed that 57% of residents of the town of Horní Jiřetín, which is located in the vicinity of expanding open-pit mine, consider themselves as fundamental opponents of coal mining. This poll have not found, however, any correlation between reported attitudes and personal political affiliation, level of education, and employment, and thus does not answer the question of what influences people's attitudes.

Problems of the social non-acceptance of the mining industry (particularly new development projects) is relatively new, so more widely discussed for a relatively short time (Badera, 2014). This paper aims to provide new insights about factors shaping the pro-coal acceptance and anti-coal resistance in the context of Europe. Our study is based on a comparative survey of two communities living in a close proximity to expanding opencast coal mines, which are threatened by potential resettlement in case of breaking the current territorial mining limits. We analyze socio-spatial differences in perceptions of local landscape and people´s place attachment that are hypothesized main factors of personal attitudes, and the influence of geographical and socio-demographic factors on public attitudes towards coal mining and the individual involvement in local anti-coal activities.

2. Theoretical background

Throughout modern history coal has played a key role in human development. Coal has transformed societies, expanded frontiers and sparked social movements, it has redefined the role of workers, changed family structures, altered concepts of public health and private wealth, crystallized debate over national values, and it still vitally powers electric grids (Freese, 2003).

The historical role of coal for industrialization, urbanization, creation of new jobs, and regional economic development is indisputable (see e.g., Domenech, 2008; Latzko, 2011). The coal-powered development and positive economic and social impacts (such as increased employment, income and expenditure levels, affordable own housing, etc.) has come with tremendous costs, however, including negative environmental, health and social externalities (Lockie et al., 2009; Riva et al., 2011). The economic effects of coal mining industries have also been typically subject to "boom and bust" cycles (Black et al., 2005; Shandro et al., 2011) and the most affected by the processes of deindustrialization during the 20th century. A successful transformation of coal mining cities and regions and their sustainable development largely depended on a timely economic diversification, industrial transformation, and investments in land reclamation and new economic sectors (Evans, 2008; Hudson, 2005; Kunc et al., 2014; Martinát, et al., 2016, Martinát and Turečková, 2016).

In this sense, the coal industry has been frequently associated with the "resource curse" theory (see, inter alia: Freudenburg and Gramling, 1998; Perdue and Pavela, 2012), stressing that resource-dependent regions whose development has been strongly dependent on the extraction of natural resources (specifically non-renewable resources such as minerals and fossil fuels) are characterized by economic vulnerability, demographic instability, negative health and socioeconomic impacts, increasing geographic isolation, imbalances of scale and power with respect to extractive industries, and the absence of realistic alternatives for diversified development. In the context of economic and social impacts of coal mining on local communities, Petrova and Marinova (2013) speak about the culture of transiency and dependency.

Probably no other industry has been raising more land use conflicts than mining, perhaps together with the construction of dams – and these two areas are often related to each other (the dams have been often constructed to be used for coal processing operations, to serve as coal slurry impoundments and/or water resources for operating coal-fired power plants, see e.g., Berga et al., 2006). Castro and Nielsen (2001; cited in Hilson, 2002a) stressed that natural resource conflicts are typically severe and debilitating, resulting in violence, resource degradation, the undermining of livelihoods, and the uprooting of communities. Destructive impacts of mining industries on local communities are particularly evident in developing countries (Bhengara, 1996; Downing, 2002), where public's property and procedural rights are limited and where local communities (particularly indigenous people living in peripheral rural areas) are characterized by generally low socio-political efficacy (Morrice and Colagiuri, 2012). The mining-induced displacement and resettlement remains a thorny issue in the context of Europe, though (Badera and Kocoń, 2014; Nilsson, 2010); even if it has been so far relatively neglected in academic research unlike more common studies focusing on Africa, Asia or Australia.

The existing literature dealing with diverse negative impacts of coal mining and coal combustion can be divided into two groups. *First,* comparative regional studies mapping the spatial diffusion of air pollution and analyzing selected data (mostly related to public health) about coal-affected and non-coal-affected populations (Higginbotham et al., 2010; Saha et al., 2011; Zullig and Hendryx, 2010; Weng et al., 2012). Second, local case studies assessing in more details the environmental, economic and socio-cultural impacts of coal mining on affected communities (Lockie et al., 2009; Petkova-Timmer, et al. 2009; Shandro et al., 2011; Petrova and Marinova, 2013). A significant part of the second group is represented by studies focusing on contexts and negative effects of mining-induced community displacement and resettlement, majority of which is from developing countries (Bhengara, 1996, Hilson, 2002b).

A forced resettlement and the scale of rehabilitation for local communities seem to be the main bone of contention in land use conflicts associated with coal mining. The resettlement does not mean just a physical relocation of people but it can result in the loss of physical as well as non-physical assets, including jobs, productive land, income-earning sources, disruption to social structures and community networks, increased health risks, social disarticulation, the disruption of formal educational activities, the loss of traditional cultural ties and local cultural identity (Downing, 2002; Nilsson, 2010; Speller and Twigger-Ross, 2009). Underfinancing – in terms of the financial repayment to residents who are forced to leave the living space, within which their ancestors had often lived for centuries – is the key problem in terms of mitigating potential negative impacts of resettlement. As Downing (2002) emphasized, the settlement with local communities have usually had a form of "compensation" rather than "rehabilitation"

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