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CO-EVOLUTION OF TOURISM AND INDUSTRIAL SECTORS: THE CASE OF THE BEŁCHATÓW INDUSTRIAL DISTRICT

Abstract. The goal of the study is to explore the co-evolution of the tourism and industrial sectors. This paper addresses the concept of inter-path dependency as the theoretical framework for this study. The case study of Bełchatów industrial district is applied to discuss the co-evolution of tourism and heavy industries. Tourism and heavy industries are usually seen as mutually exclusive. However, in the case of the Bełchatów industrial district, tourism (starting from social tourism, through business tourism and educational tourism) is confirmed as being complementary to the industrial path shaped by triggering events (launch of radical industrialisation, and economic transition). Recently, implementation of the Just Transition Mechanism was planned and includes

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development of leisure tourism in the case study area. Some doubts of that intersectoral linkages are discussed in the paper – mainly in the context of the expected sustainable development of the Bełchatów industrial district – and followed by policy recommendations.

Key words: path dependency, co-evolution of multiply paths, tourism, lignite mining, energy production, Bełchatów industrial district, Poland.

1. INTRODUCTION

This research aims to explore the co-evolution of the tourism and industrial sectors (lignite mining and energy production). It is argued that top-down initiated industrialisation leads to the deterioration of tourism assets and the failure of any initiative to promote tourism development (Hospers, 2003). Heavy industries and tourism are identified as mutually exclusive. Interestingly, in the case of the Bełchatów industrial district, both are confirmed as complementary or substitutive functions of the research area rather than being exclusive. Thus, we have proposed the concept of inter-path dependency by Martin and Sunley (2006, 2010) as the theoretical framework for this study to investigate the interrelations between the industrial and tourism developmental paths. The insufficiency of studies into the interdependencies between multiple paths has been confirmed many times (Martin and Sunley, 2010; Frangenheim *et al.*, 2020; Hassink *et al.*, 2019). Thus, from the methodological point of view, focusing on the co-evolution of the investigated paths might fulfil an specific research niche.

Developmental driving forces, but also relevant actors, nature, the character and effect of long-term economic change, and, finally, the role of regional and national authorities in governing the development of the Bełchatów industrial district are the main contexts of the analysis. Structural changes triggered by supra-local and industry-related political decisions (the launch of radical industrialisation, then economic transition and, more recently, implementing the Just Transition Mechanism), as well as their interdependency with the path of tourism development are the focus of this study. A discussion of structural transformation of the Bełchatów industrial district covers both spatial and sectoral changes (Hospers, 2004).

The roots of tourism development in the Bełchatów industrial district date back to the turn of the 20th century. At that time, a limited expansion of holiday homes was indicated. The first triggering event for the development was related to the discovery of rich and accessible lignite deposits. Since the mid-1970s, the area has undergone rapid and permanent structural changes with unprecedented development of opencast mining and energy production. That included the stimulation of leisure and tourism through organisational and financial support intended for employees and their families, as well as direct investment in facilities for holidaymakers (social tourism). The economic transition is considered as the second triggering

event shaping the co-evolution of the tourism and industrial sectors in the Bełchatów industrial district. In 1990, lignite mining and energy production were marketed in Poland. The Bełchatów Mining and Energy Complex was included in the assets of the company currently known as PGE Polska Grupa Energetyczna (Polish Energy Group). The development of a large enterprise in the Bełchatów industrial district stimulated a significant increase in both demand and supply of business tourism. In 2014, the exhibition of 'PGE Giganty Mocy' (PGE Giants of Power) was opened. This event initiated the development of educational tourism in the area.

The future of the Bełchatów industrial district is shaped by the European Green Deal and the implementation of the Just Transition Mechanism. To make the European Union (EU) climate neutral by 2050, the lignite mine in the Bełchatów industrial district will be closed in the 2030s, and the way the power plant operates will be transformed. Regional authorities and the state government have agreed that tourism, leisure tourism in particular, might become a new developmental function of the Bełchatów industrial district.

The paper is structured as follows. The theoretical section begins with a presentation of the inter-path dependency concept, crucial to understanding the co-evolution of industrial sectors and tourism. This is followed by a discussion on structural changes in industrial regions. In the next three sections, the co-evolution of lignite mining and energy production, as well as tourism are discussed. Each section refers to the following supra-local political decisions triggering developmental changes: radical industrialisation, economic transformation, and decarbonisation. The paper ends with a discussion and conclusions. Moreover, policy recommendations were proposed as an additional value of the final section.

2. THEORETICAL FRAMEWORK

The concept of interdependence of multiple paths was proposed by Martin and Sunley (2006, 2010) within the theoretical framework of evolutionary economic geography. They have suggested that the most likely scenario of regional development is where developmental paths are interrelated to some extent. Path interdependence is defined as a situation "where the path-dependent trajectories of particular local industries are to some degree mutually reinforcing" (Martin and Sunley, 2006: 17). It is argued that interdependencies might occur between already established paths, as well as emerging paths, and both have positive and negative features (Hassink *et al.*, 2019).

It is also proposed that the linkages between paths depend on the supply side, i.e., the scarcity of local assets used by different paths, as well as on the demand side, i.e., the similarity of markets targeted by the considered paths (Frangenheim

et al., 2020). However, political and institutional sides should be considered as well (Hassink *et al.*, 2019; Hospers, 2004). European and state regional interventions focus on reducing inequalities between regions. Successful support of both European and national actions depends on the efficient cooperation with regional and local authorities. Such cooperation is substantially influenced by the specificity of institutions, which are path-dependent in nature and characterised by relative stability (Kurikka and Grillitsch, 2021).

The role of political actors is not the only significant factor in the process of new path creation. Regional development depends on individual adaptability of all stakeholders, including their ability to network with other actors. This ability might result from those actors' understanding of the significance of cooperation, but also should be supported by top-down initiatives of a change agency (Meekes *et al.*, 2017). Thus, non-hierarchical relations between authorities and other stakeholders of regional development seem crucial (Halkier and Therkelsen, 2013).

The structural change of any region might be and should be viewed from a geographical perspective (Boschma, 2021). Successful regional change depends on the diversification of regional industries, both related and unrelated (Boschma *et al.*, 2017). That process is path-dependent rather than accidental, and results from the history of an area or from decisions made by economic agents (Brekke, 2015). The assessment of the co-evolution of investigated paths depends on the ability of one path to compensate for the deficiencies of another, and to solve the problems of unemployment and poverty, as well as environmental issues (MacKinnon *et al.*, 2019).

It has been empirically confirmed that old monofunctional industrial regions can face issues of over-specialisation and implement the postulates of diversification (Boschma, 2021). The strengthening of learning capability has been identified as the most influential action (Boschma and Lambooy, 1999). Two types of adjusting strategies to solve the issue of lock-in situations of old industrial regions were proposed: (1) path-dependent strategy or path reformation – referring to the increase in adaptability of their inhabitants, established companies and institutions, and (2) pathless strategy or new path formation – focused on deep restructuring of a region when old functions and structures expire and brand-new arise (Boschma and Lambooy, 1999; Breul *et al.*, 2021). Moreover, path creation in mid-sized peripheral regions requires state intervention, including both policy actions and investments, e.g., modernising the knowledge infrastructure, and stimulating innovation and entrepreneurial activity (Brekke, 2015). Interestingly, external shock, similar to a pathless strategy, might also unlock the situation of the region (Simmie and Martin, 2010).

When discussing the triggering events of regional change, both path- but also place-dependence should be mentioned. Path dependence is related to a region's embeddedness in external social, cultural, economic, technological, and political regimes while place dependence refers to localised vested interests and resources, mainly knowledge and institutions (Boschma *et al.*, 2017; Brekke, 2015).

3. CASE STUDY AREA AND METHOD

The Bełchatów industrial district in Central Poland is the case study area. It consists of fourteen communes (2nd level of Local Administrative Units, hereinafter LAU): the city of Bełchatów, the Bełchatów rural commune, Dobryczyce, Gomunice, Kamięnsk, Kielczygłów, Kleszczów, Kluki, Lgota Wielka, Rusiec, Rzaśnia, Strzelce Wielkie, Sulmierzyce, and Szczerców (Fig. 1). These units are located in three counties (LAU1): Bełchatów, Pajęczno, and Radomsko. Most of the area belongs to the Piotrkowski Subregion (3rd level of the Nomenclature of Territorial Units for Statistics, hereinafter NUTS), approximately equivalent to the former Piotrkowskie Voivodeship, currently within the boundaries of the Łódzkie Voivodeship (NUTS2). The case study area was delimited based on industrial landscape transformation resulting from lignite mining and energy production, and fitted into administrative divisions at the local level. The area of the investigated Bełchatów industrial district is 1,292 sq. km, populated by 130,594 inhabitants, living mostly in the city of Bełchatów (56,419 inhabitants). Unlike in previous decades, nowadays the region is relatively stable in terms of its population, but net migration suggests a high probability for increasing the outflow of people in the near future. The local economy and labour market remain in a relatively good condition. For this area, however, growing unemployment among women is a distinctive feature (Churski *et al.*, 2022). According to local development plans valid for the case study counties, that is a result of the specificity of the regional economy, as well as of the still popular patriarchal family model. The majority of employees work in the industry and construction sectors. The majority of business operate within the private sector. What is noticeable is the increasing presence of micro-entities, while the medium and large enterprise sector has not changed much in this respect. Among the newly established economic activities, industrial manufacturing, transport and warehouse management, real estate, education, health care, social assistance, information and communications technologies, and commercial and reclamation sectors are registered most often.

The goal of the paper is the exploration of the co-evolution of industrial and tourism paths. Supralocal political decisions shaping interdependent paths are considered as triggering events (Sanz-Ibáñez *et al.*, 2017). According to the empirical concept by Breul *et al.* (2021), the initial analysis concerns the formation processes of the industrial path, followed by inter-path relationships, and finally the reformation of the tourism path. It has been argued that, while theoretical considerations in evolutionary economic geography emphasise the interdependency and co-evolution of multiple competing and complementary developmental paths, empirical studies were mostly focused on individual paths (Frangenheim *et al.*, 2020). Considering each individual path, including tourism, in a multi-dimensional, multi-sectoral and interdependent framework of a region's development enables one to better understand the complex economic structure and forces

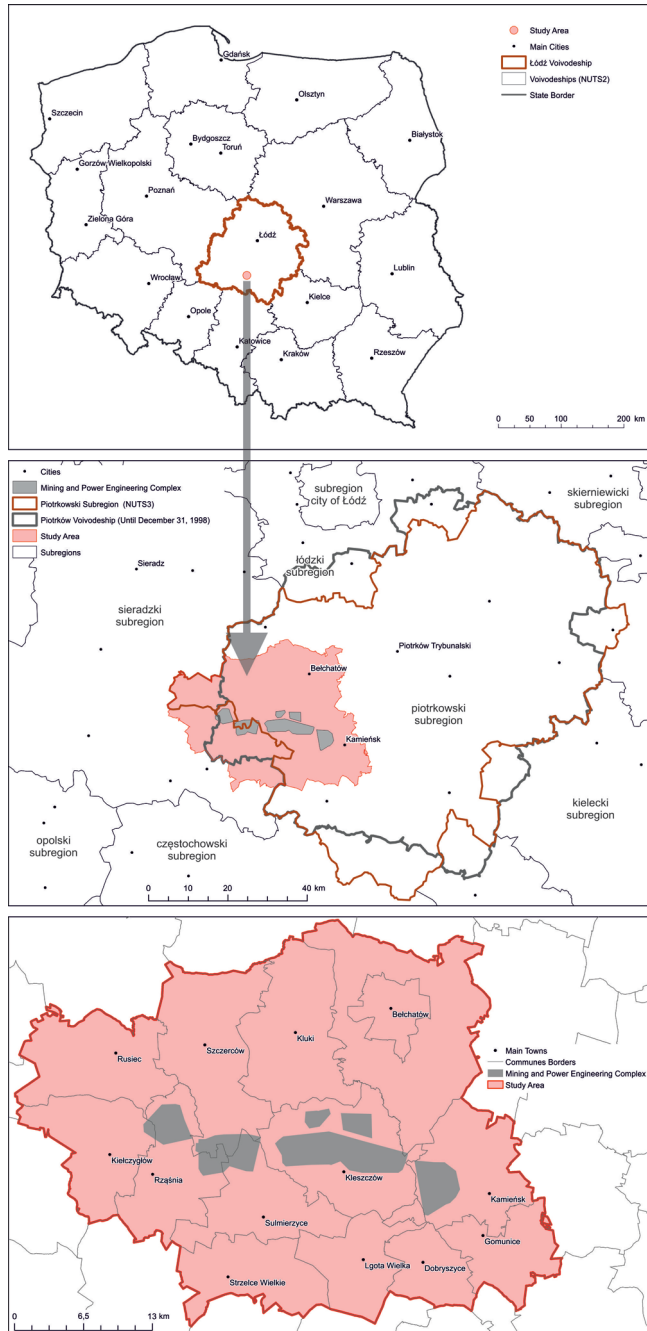


Fig. 1. Case study area of the Belchatów industrial district
 Source: own work based on the Head Office of Geodesy and Cartography.

determining every investigated path (Ioannides and Brouder, 2016). Therefore, this demands an interdependent and co-evolving approach in empirical research. This study fulfils this methodological niche.

The main method applied in this study is a descriptive case study (Leśniewska-Napierała and Napierała, 2017; Yin, 2018). This method enables one to maintain a holistic perspective in research using varied research techniques (Yin, 2018). The following steps of the method should be emphasised: (1) an analysis of literature related to the case study, (2) desk research on both qualitative and quantitative data in statistical sources, as well as in strategic and spatial planning documents, and, finally, (3) a cartographic analysis. A detailed analysis of existing data should precede each research project. It enables the collection and analysis of data that documents theoretical and empirical knowledge about the research phenomenon. From the perspective of conducting scientific research, it is a time-saving and cost-effective activity (Makowska and Boguszewski, 2013). As part of the analysis of the existing data, the authors searched for qualitative and quantitative data in strategic documents, e.g., *Territorial Plan of Just Transformation of the Łódzkie Voivodeship* (2021) and the *Development Strategy of Łódzkie Voivodeship 2030* (2021). Moreover, the latest studies on the future situation of the Bełchatów industrial district have been analysed, e.g., *Green transformation or collapse. Bełchatów basin on the eve of change* (Burchard-Dziubińska et al., 2020) and *A sleepy revolution: The social situation in the Bełchatów region on the threshold of the energy transformation* (Dańkowska and Sadura, 2021). The authors have also conducted secondary statistical and cartographic analyses utilising the following data sources: the Topographic Sites Database, made available by the Head Office of Geodesy and Cartography, and Statistics Poland. Additionally, the analysis was supplemented with more data obtained from the existing literature, e.g., Szupiło (1982), Drozdowski and Kozłowski (1980), Niżnik and Pączka (1979), and Sobocka-Szczapa (1986).

4. FROM SOCIAL TOURISM TO BUSINESS AND EDUCATIONAL TOURISM

The tourism function of the Bełchatów industrial district has always been related to the core economic activities of this area: lignite mining and energy production. The history of tourism began only at the turn of the 20th century, as holiday villages along the Warsaw-Vienna railway line were developed. However, it was the establishment of the Bełchatów Mining and Energy Complex in the mid-1970s that became the significant trigger of tourism development in the area (Fig. 2).

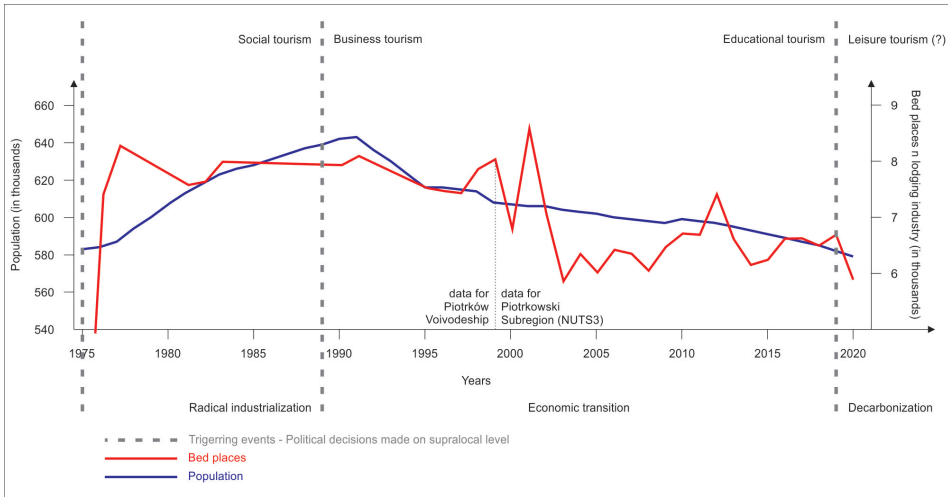


Fig. 2. Triggering events of tourism and industry development in the Bełchatów industrial district¹

Source: own work based on Statistics Poland.

At the end of the 19th century, agricultural activity was dominant in this sparsely populated lowland (Drozdowski and Kozłowski, 1980). The launch of a railway connection between Warsaw and Vienna, as well as further infrastructural developments, became the trigger moment for the dynamic development of summer second homes. Stylish wooden villas scattered throughout the underdeveloped lands and forests belonging to local landowners. Soon, villages located near railway stations became popular summer tourism destinations for urban intelligentsia and the bourgeoisie (Kuźnicki, 2017).

Radical changes have occurred in the case study area, similarly to other parts of the country and the whole Central-Eastern Europe, after the Second World War. There was a strong pressure to reconstruct the national economy and make advances in competition with more developed Western countries. A new socio-economic and political order was introduced, with heavy industry perceived as the major driving factor. Subsequent long-term plans for economic development were implemented, the industry was seized into state property and underwent further organisational changes. The concentration of employment and production was growing (Blazyca, 1980).

As heavy industry relies on raw materials, excessive exploration of mineral deposits was conducted throughout the country. The search for natural gas de-

¹ Due to the availability of statistical data sources, data on population and the number of accommodations in lodging facilities were obtained for the former Piotrkowskie Voivodeship (until 1998) and the Piotrkowski Subregion (since 1999).

posits in Central Poland revealed a rich and conveniently located lignite deposit (Ratajczak *et al.*, 2009). It stretched a few kilometres south-west from the town of Bełchatów. Soon, extensive analyses and preparation works for the future extraction began. Lignite exploitation was possible after establishing a state-owned enterprise, namely the Bełchatów Lignite Mine. This happened in 1975, along with the foundation of the Bełchatów Power Plant – the second key element of the energy complex (Szupilo, 1982). In 1980, the first lignite portion was extracted (Drozdowski and Kozłowski, 1980; Goździewicz and Kulesza, 2006).

The Bełchatów Mining and Energy Complex is the biggest object of this kind in Europe, and it has an enormous impact on the natural environment in the area, its society, and economy. During the first stage of industrialisation (1973–1981), huge expanses of farmland (3,600 ha) and forested land (2,100 ha) were cleared for excavation and storing purposes, which dramatically transformed the local landscape (Fig. 3). The extraction of deposits and dumping the leftovers created new concave and convex landforms, which disturbed local geological structures and accelerated exogenic geomorphic processes. As for the Bełchatów pit, the difference between the former and contemporary elevations has reached 250 m. The overburden from the first field was stored in the vicinity, creating an enormous hill called Mount Kamieńska. Its peak reaches 405 m above sea level, while the surrounding areas on average slightly exceed 210 m above sea level (Jaskulski and Nowak, 2019).



Fig. 3. Rural landscape transformed by lignite exploitation. Bełchatów Power Plant in the background

Source: own work, August 2021.

As a result of intensive excavation processes, up to several dozens of earth tremors, landslides and cases of subsidence occur in the mine each year. Another threat concerns the possible critical stress changes in the salt dome, which

eventually might affect ground freshwater. Moreover, excavation and transportation of raw materials generate noise and increase air dust content, which may be another local nuisance for both inhabitants and visitors (Flisiak and Rybicki, 1997; Kucharska, 2018; Mirek and Biały, 2009). Such an intensive exploitation requires constant water drainage. As a result, a 285-metre-deep depression cone affecting the area of 756 ha has developed, while previously groundwater table had appeared at depth of approximately 5 m below the surface (Drozdowski and Kozłowski, 1980; Malina and Niezgodna, 2017; Motyka *et al.*, 2007). Another serious threat to the environment comes from the combustion of approx. 40 million tons of lignite annually, which releases huge amounts of toxic heavy metals, gases and particulate matter into the atmosphere. Interestingly, in the case of the Bełchatów Power Plant, no efficient filtering installation has been put into operation until 1990. Moreover, ash and slag from lignite combustion were stored in a dump covering 1,600 ha. Such practices, highly burdensome on the environment, endured for decades (Mierosławska, 1997).

Due to industrialisation, whole villages and their heritage were lost, and their inhabitants were forced to move. Individual objects of contemporary culture were preserved only because they were relocated elsewhere (a church, graves, etc.). There was insufficient time for a detailed exploration of what laid beneath the surface of the entire mining area, even though rescue archaeological excavations, which were organised between 1970s and the beginning of 21st century, revealed numerous artefacts of the Przeworsk, Funnelbeaker and Lusatian cultures (Czepas, 2020).

As for the socio-demographic impact, the average population density of the study area in the pre-investment period was only 60 persons per 1 sq. km. That changed dramatically in the second half of the 20th century, as the population of the area doubled (Niżnik and Pączka, 1979; Sobocka-Szczapa, 1986). The mine and the power plant created thousands of new jobs and stable sources of income, both during the construction works and later – with the mine and power plant already operating. That attracted immigration instead of the earlier outflow of residents (Szupilo, 1982). Migration flows efficiently accelerated the socio-economic and spatial development of the neighbouring city of Bełchatów, which was indicated as an accommodation base for the Bełchatów Mining and Energy Complex. During the radical industrialisation period, the population of the city grew from 10,800 in 1975 to 53,600 in 1988.

Industrialisation created a huge demand for accommodation for builders, and soon after – also for mine and power plant employees (Fig. 4). In the 1980s, approx. 5,200 thousand people worked in the power plant alone (Kaliński, 2017). The area was not ready for such a rapid demographic influx. Housing and related service facilities had to be developed. Employees had to use emergency temporary accommodation facilities, usually overbooked low-standard hotels. Similarly, schools, kindergartens and a hospital were yet to be built to satisfy the demand of the new residents, and that did not progress as fast as the development of the

Bełchatów Mining and Energy Complex. The housing situation only improved to some extent in the mid-1980s (Drozdowski and Kozłowski, 1980; Goździewicz and Kulesza, 2006; Niżnik and Pączka, 1979).

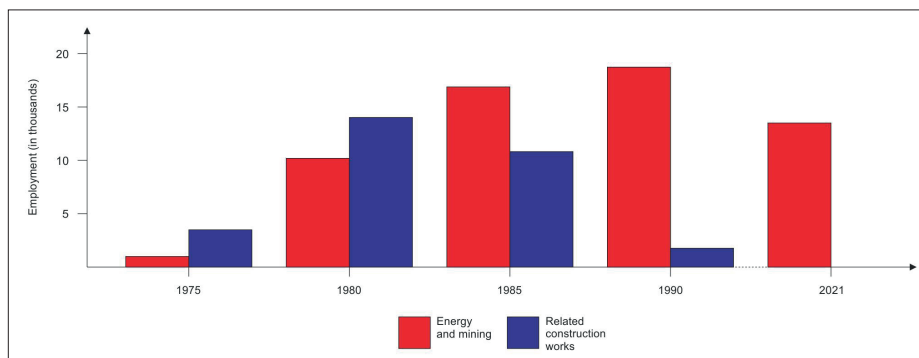


Fig. 4. Employment in the Bełchatów Mining and Energy Complex in 1975–2021

Source: own work based on Szupilo (1982b) and Zarząd Województwa Łódzkiego (2021).

At that time, the development of the Bełchatów industrial district was strictly supported by state social policy focusing on, *inter alia*, the development of the tourism and recreational functions, and infrastructure. That period refers to social tourism and the general change in the attitude towards tourism and recreation. The shift began in 1945, making them a kind of a social benefit offered by the state to the citizens. New legislation enabled all employees, even those working in small plants, to have holiday leaves (Grabowski, 2010). Due to ideological reasons, the focus was shifted more towards the recreational qualities of tourism (Jarosz, 2001; Nowotarski, 2019). For the outline of the institutional setting, it was crucial that already in the 1940s Fundusz Wczasów Pracowniczych (Employee Holiday Fund), a trade union entity, was established centrally. Soon afterwards, company social benefit funds were provided on a local basis nationwide. They subsidised excursions, self-arranged domestic holidays, as well as bed and board offers in local and non-local holiday resorts for employees and their families (Jarosz, 2001). Due to the fact that workplaces required only limited or even none of employees' co-pay, they played "a significant role in socialisation of Polish citizens to tourism and leisure" at that time (Grabowski, 2010).

In the 1960s and 1970s, two main environmental assets were recognised in the Łódzkie Voivodeship as factors determining tourism development: (1) forests, and (2) rivers and water reservoirs, even though the latter were not common in this part of the country. These factors had a significant impact on the development of facilities focussed on mass forms of social tourism. During the 1970s and 1980s, there was a visible development of second homes and family allotment gardens,

especially in forested areas, and then in the 1990s close to rivers and reservoirs. However, contrary to other areas of the Łódzkie Voivodeship, the Bełchatów industrial district has never indicated any significant increases in tourism flows related to the above-mentioned development of second homes and family allotment gardens (Bezowska, 2004). It is noteworthy that the capacities of both these environmental assets, crucial from the perspective of creating the tourism path of the case study area, were significantly limited by the creation of the lignite mining and energy production path of the Bełchatów industrial district. Thus, the supply-based interdependency between both analysed paths is evidenced (Frangenheim *et al.*, 2020).

Facilities for mass leisure in the Bełchatów industrial district relied on the creation of 2 artificial reservoirs, Wawrzkowizna and Słok, with areas of 80 and 18 ha, respectively. Both were located on the Widawka river. To a large extent, Słok was fed with mine water, remaining also the major source of water for the power plant (Lik and Sołtuniak, 2012). Soon after constructing the reservoirs, sport and recreation centres were established in their vicinity, financially and organisationally supported by the mine and the power plant as a part of their prosocial activities.

When trying to characterise the contemporary social and economic phenomena in the Bełchatów industrial district, it is necessary to mention the political changes that have occurred in Poland over the last three decades. The political, social, and economic transitions initiated in 1989 in Poland, and then in the whole region of Central-Eastern Europe, were characterised by the neoliberal so-called ‘shock therapy’ promoted by Western interests (Williams and Baláž, 2000). Changes in tourism at that time were aimed at creating some convergence with Western European countries, mainly through market-creating reforms, privatisation, and a liberalisation of international investments. It should be mentioned that at the beginning of the transformation, tourism was identified as an industry characterised by one of the most substantial capacities for restructuring and privatisation, as well as by less attention to the government (Dumbrăveanu, 2001).

The most important changes in Poland after 1989 directly affecting the development have included: (a) political transformation and the transition from centrally planned economy to market economy, (b) transition from a socialist society to a democratic (civil) society, (c) the decentralisation of the political authority and the rebirth of self-governance, (d) the privatisation and decentralisation of the economy, (e) the adjustment of legal regulations in the scope of spatial planning, pollutant emissions, etc. to EU standards, and (f) the acquisition of access to structural funds and subsidies after joining the EU in 2004 (Dąbrowska-Prokopowska, 2018; Jarmołowicz and Pątek, 2013; Kaczmarek, 2002; Kulesza, 2000). In the second half of the 1990s, initiatives were undertaken to decentralise public administration. In 1999, 49 existing voivodeships were replaced by 16 larger units of the same name (NUTS2), divided into counties (LAU1) and then communes (LAU2) (Wendt, 2001, 2007). As a result of these changes, Bełchatów was incorporated into the Łódzkie Voivodeship, at the same time becoming the capital of

the county (Goździewicz and Kulesza, 2006). After Poland's accession to the EU in 2004, there has been a visible dynamic growth of the largest urban agglomerations, as well as a significant improvement in the condition and provision of technical infrastructure elements. Moreover, several strategic documents shaping the country's spatial development have been adopted (Bański, 2007).

In 1990, the company currently known as PGE Polska Grupa Energetyczna was founded. The company became Poland's largest energy sector enterprise managing, among others, the Bełchatów Mining and Energy Complex. Nowadays, 57.39% of PGE shares are owned by the Polish State Treasury (PGE, 2022). The PGE Capital Group is now the largest enterprise in the power sector in Poland. The Bełchatów Lignite Mine is the leader in the Polish lignite mining industry. The coal from Bełchatów is the cheapest fuel in Poland, from which the cheapest energy in the country is produced.

In 1992, Poland signed the United Nations Framework Convention on Climate Change. The aim of the document is to stabilise greenhouse gas emissions and prevent dangerous interference with the climate system (Dańkowska and Sadura, 2021). It has resulted in the implementation by the Bełchatów Power Plant of a gradual modernisation plan aimed at increasing the efficiency of energy generation and meeting emission standards. Most of the units of the power plant have been equipped with flue gas desulphurisation installations and modern, highly efficient electrostatic precipitators. As a result, the emissions of pollutants have been significantly reduced in recent decades (Bujak *et al.*, 2007).

Since 2000, when the works related to the launch of the Szczerców pit began, enormous changes in land development have been observed, mainly in the communes of Rząśnia, Sulmierzyce, and Szczerców. A total of 3,396 ha of land were obtained for the area of the Szczerców pit, where the mining excavation, external dump and auxiliary facilities of the open-cast were built (Kasztelewicz and Kaczorowski, 2009; Pędziwiatr, 2014). In 2005, the Bełchatów Power Plant became for the first time the largest emitter of CO₂ in the EU. It has maintained this status until today, with the exception of 2007. In 2009, the Bełchatów Power Plant received 180 million euros from the European Energy Programme for Recovery, for the co-financing and preparatory work for the construction of a CO₂ capture and storage installation (Cirkos and Gurgul, 2009; Dańkowska and Sadura, 2021).

It should be noted that the development of the Bełchatów Mine and Energy Complex significantly affected the development of the Kleszczów commune, centrally located in the Bełchatów industrial district. By dint of substantial amounts of local taxes paid by PGE, the commune has been transformed from a poor agricultural area into an industrial one. It has become one of the richest communes in the country. At the same time, the Kleszczów commune has been directly affected by the negative effects of mining and energy production, including soil and air pollution, land drainage, etc. Environmental losses and threats of ecological imbalance are the price Kleszczów pays for its outstanding local economic growth (Kucharska, 2018).

Starting from 1990, the development of a large PGE company in the Bełchatów industrial district has stimulated a significant increase in both demand and supply of business tourism. The growing interest in meetings, incentives, conferences, and events was evidenced. Consequently, in the Bełchatów industrial district, several commercial accommodation facilities, mainly hotels and conference centres, were launched. Business tourism should be indicated as the dominant form of travel to the Bełchatów industrial district in the 1990s and 2000s. PGE's growing corporate social responsibility resulted in the opening in 2014 of an outstanding exhibition entitled 'PGE Giganty Mocy'. This event triggered the development of educational tourism in the area. This unique and award-winning tourism product is an outstanding attraction (Fig. 5). The exhibition presents the processes of lignite mining and energy production in the Bełchatów region and targets pre-schoolers, primary and secondary school students, and families with children (Dronka and Król, 2019).

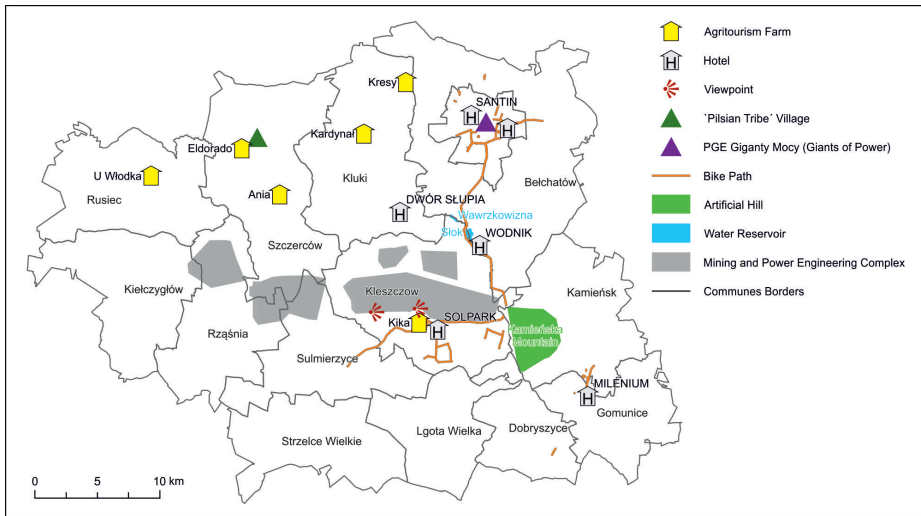


Fig. 5. Selected tourist facilities in the Bełchatów industrial district

Source: own work based on the Topographic Sites Database.

5. DISCUSSION

The future of the Bełchatów industrial district has been shaped by the European Green Deal. To make the EU climate neutral by 2050, special support has been provided for regions dependent on fossil fuels and high-emission industries to diversify their economies and create new jobs. Support for areas particularly suffering from

the negative social and economic effects of the transition towards climate neutrality is provided by the Just Transition Mechanism, equipped with 55 billion euros over the period of 2021–2027 (European Commission, 2019; United Nations Climate Change, 2022). As the Bełchatów Power Plant is responsible for the largest CO₂ emissions in the entire EU, a plan for its closure is a necessary step to start the transition (European Commission, 2019, 2020). It forced the authorities of the Łódzkie Voivodeship, along with PGE, to set a schedule for shutting down the Bełchatów Mining and Power Engineering Complex. In the years 2030–2036, the power plant will be shut down and in 2038, lignite mining in the district will end. This will affect the local labour market as the employment in the Bełchatów Mining and Power Engineering Complex is now more than 13,500 people. This may have negative economic effects, such as a decrease in the wealth of inhabitants and an increase in poverty, a decrease in the incomes of individual communes, and a decrease in the investment rate and GDP. That said, the cessation of the extraction and combustion of lignite will improve air quality and reduce the depression cone, which will improve the condition of the natural environment and the quality of life in the region (European Commission, 2019; Zarząd Województwa Łódzkiego, 2021).

In the Bełchatów industrial district, interconnected lignite mining and energy production were identified as a growth pole. Until recently, the case study area matched the stereotypical characteristic of the intermediate industrial territory: with its economy dependent on a mono-structure industry in the last phase of the life cycle (i.e., lignite mining and energy production based on it) and centred on a medium-sized city (i.e., Bełchatów). Recently, such regions have usually been identified as coping with the problems of over-specialisation, over-embeddedness, poverty, and low-educated population (Hospers, 2004). The future of this growth pole is disputable, mainly because of political decisions triggered by negative environmental effects. Tourism industry is proposed as a new growth pole for the region. Interestingly, tourism is usually seen by local and regional governments of peripheral and marginalised areas as a desirable path of development (Meekes *et al.*, 2017; Sechi *et al.*, 2020). However, this way of stimulating development has already been confirmed to be both non-linear and unpredictable (Meekes *et al.*, 2017). Moreover, the innovativeness of the tourism industry is questionable. Thus, the potential for creating a new effective tourism path is limited. As shown by the results of other studies, the development of tourism in industrial regions can be based on the values of the natural environment of regions or on the industrial landscape and facilities as tourism assets, their industrial heritage (Zanko, 2009; Mansfeld, 1992; Jonsen-Verbeke, 1999; Conesa, 2010; Klempa *et al.*, 2016; Abda, 2017; Szromek and Herman, 2019; Józwik and Sieg, 2021). The Bełchatów industrial district does not have any extraordinary natural environment values conducive to the development of tourism. Therefore, recultivation and revitalisation of the areas degraded by open-cast lignite mining is necessary and comprises many actions that target tourism and recreation development directly or indirectly, namely afforesting and creating reservoirs. Two

lakes in the Bełchatów pit accompanied by a recreation, tourist and cultural centre are planned (Zarząd Województwa Łódzkiego, 2021). This is in line with a slightly more diverse concept of recultivation presented by Malina and Niezgoda (2017), focused on afforestation, creating a reservoir in a part of the current Bełchatów pit and, surprisingly, the development of a municipal waste dump (Fig. 6). The planned land-use changes of the Szczerców pit include afforestation and transformation into agriculture. The recultivation plan has already been partially implemented as a 760-metre-long ski route with a ski lift, cycling and off-road vehicle routes, as well as a wind power plant were created on Mount Kamińska – the external dump of the Bełchatów exploitation field (Malina and Niezgoda, 2017; Zarząd Województwa Łódzkiego, 2021). It is expected that the proximity of the ageing agglomerations of Łódź and Warszawa will affect the development of leisure tourism, recreation, as well as SPA and wellness services, which will become one of the core functions of the region (Burchard-Dziubińska *et al.*, 2020; Sejmik Województwa Łódzkiego, 2021; Zarząd Województwa Łódzkiego, 2021).

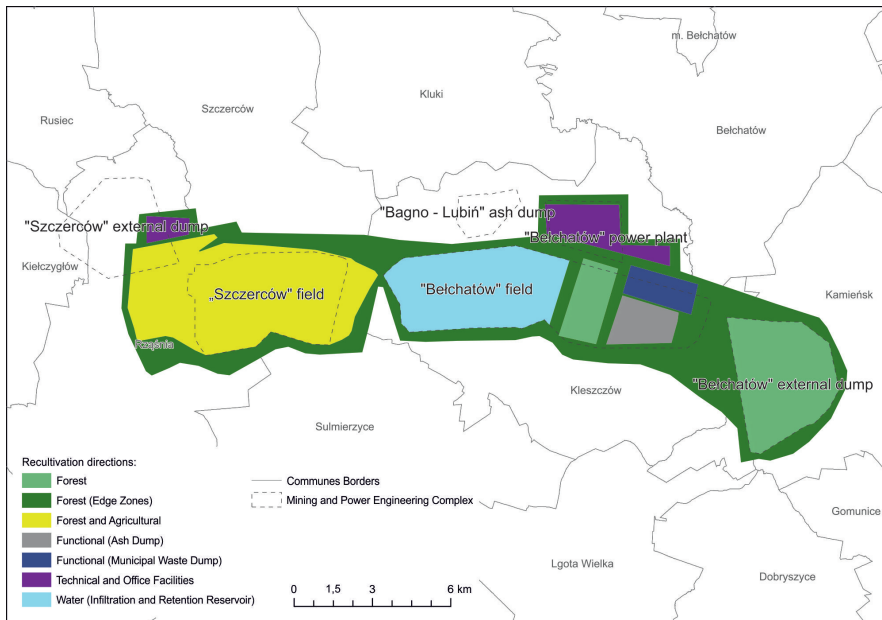


Fig. 6. The concept of the Bełchatów Mining and Power Engineering Complex recultivation

Source: own work based on Malina and Niezgoda (2017).

Interestingly, the presented idea of tourism development is accepted only by the authorities of the communes most significantly transformed by lignite mining, namely the rural communes of Bełchatów, Kleszczów, Szczerców, and Rząśnia. Furthermore, the analysis of local development strategies, as well as the local

studies of land-use conditions and directions have revealed that the majority of communes in the Bełchatów industrial district identify second homes as the preferable direction of tourism and recreational development. The inhabitants do not indicate tourism as the future direction of development intended to ensure employment. Generally speaking, they feel excluded from decision-making regarding the transformation of the case study area and predict that it will lead to an economic collapse. They also do not link the development of tourism with recultivation after the end of lignite mining and indicate agriculture as an old/new developmental function of the area. The example of Mount Kamińska shows that the creation of tourism infrastructure has not led to the development of the accommodation base, and it has not become a recreation area for the residents. If the inhabitants consider tourism as the direction of development at all, it is related to the contemporary function of these areas. The mining landscape as a peculiar tourist attraction is to be the main driving force of tourism development (Dańkowska and Sadura, 2021; Zarząd Województwa Łódzkiego, 2021).

However, in the Bełchatów industrial district, the already planned activities also aim at increasing the role of small and medium-sized enterprises (especially start-ups), the support for entrepreneurship incubators and cluster networks, and the development of economic activity zones. The priority of this transformation is the economic diversification of the case study area towards circular economy and bioeconomy, creative industries, and leisure services, but mainly industries oriented on modern green technologies, especially in energy production, as the energy infrastructure is unquestionably the strength of the Bełchatów industrial district. It is emphasised that the development of investments in renewable energy sources has the potential to generate new jobs and to fill the gap in the national energy balance. The support and development of these activities can protect the Bełchatów industrial district from becoming a peripheral area (Czyżak *et al.*, 2020; Sejmik Województwa Łódzkiego, 2021; Zarząd Województwa Łódzkiego, 2021).

6. CONCLUSIONS AND POLICY RECOMMENDATIONS

The concept of inter-path dependency proposed by Martin and Sunley (2006, 2010) was applied to better understand the co-evolution of tourism and core industries of the Bełchatów industrial district: lignite mining and energy production. This has enabled us to contribute to the neglected discussion on the links between new paths emerging in a region (Hassink *et al.*, 2019). Certain triggering moments substantially affected both investigated paths. Interestingly, in line with the findings of Hospers (2003), the industrial path limited the resources for tourism development to some extent only. More importantly, the in-

dustrial path created potentials for tourism. The development of social tourism, business tourism, and educational tourism paths resulted directly from changes in the industrial path.

As plans are underway to substantially reduce the significance of the recent industrial path, the creation of a new tourism path for the case study area has become crucial. In respect to the findings of MacKinnon *et al.* (2019), the question is whether the negative forms of new path interdependence would be dominating. It was explained that the European Green Deal will directly affect 13,500 people in the Bełchatów industrial district. The chances that the emerging tourism path will compensate for this overwhelming economic loss and prevent social and demographic consequences is extremely low in the near future. For now, as has been proposed in local development strategies and spatial planning documents for the investigated area, tourism development should focus on second homes and family allotment gardens. This form of tourism is embedded in the history of the area, already identified and accepted by local authorities, and finally able to keep links to some extent between the Bełchatów industrial district and its inhabitants migrating out of the area after the industrial path deteriorates.

Moreover, the developing of mass and growth-oriented leisure tourism in the case study area seems to be disputable. While the overall objective of regional development is about sustainability, the strategy is focused on the neoliberal idea of fostering competitiveness and growth (Blázquez-Salom *et al.*, 2019; Weck *et al.*, 2021). This hedonistic approach clearly leads to place commodification of a destination (Debbage, 2018), and also negatively influences social and environmental sustainability (Dodds and Butler, 2010). It is necessary to face the above-mentioned risks and to remove the potential barriers of the sustainable transformation of a regional policy oriented on increasing regional cognitive capacity and increase of social awareness of innovations' failure (Chaffin *et al.*, 2016). Brouder (2017) sees the potential economic ineffectiveness of sustainability core values (e.g., engagement of local stakeholders). Growth-oriented governance within the mainstream neoliberal capitalist framework looks much more tenacious. This occurs when growth priorities dominate social and environmental concerns at the supra-local level (Dodds and Butler, 2010). Thus, the very local decisions should be considered in the international discourse on the development paradigm.

It must be stressed that the time perspective of the development of the Bełchatów industrial district with a target of 30 to 50 years should enable planners to include possible shifts in the development paradigm into general and tourism strategies and initiatives for the investigated region, raised in both top-down and bottom-up ways. In line with recent studies, post-capitalism concepts, including degrowth (Fletcher *et al.*, 2021) or green growth (Sandberg *et al.*, 2019), should be considered on the one hand while, on the other, targeting such a far-reaching perspective is definitely out of the political ability of strategic planning targeting periods up to 10 years maximum (Piras *et al.*, 2021). Moreover, the character

of the already proposed strategy for the development of the Bełchatów industrial district intended by the European Green Deal is mainly normative, as it describes only the future conditions demanded (Piras *et al.*, 2021).

New paths for the development of the case study area require the proactive role of an agency towards facilitating, optimising, coordinating or neutralising inter-path dependencies (Frangenheim *et al.*, 2020). This is in line with the findings of Kurikka and Grillitsch (2021), who have suggested the significant role of a change agency in creating regional resilience. Finally, a place-based approach resulting from the European Union's cohesion policy should characterise the process of the creation of a new path for the development of the case study area. Thus, place sensitiveness, social inclusion, spatial justice, and cross-sectoral focus are needed (Weck *et al.*, 2021). A co-evolution of future tourism with brand new core industries of the Bełchatów industrial district is expected. This raises the questions about the future core industries of the case study area, namely: green energy production, circular economy, bioeconomy, or creative industries. The questions should be related to the ability of the investigated region to cluster companies representing new industries, and to create and endow an organisational framework for generating and diffusing knowledge (Isaksen, 2015). Furthermore, the questions should directly refer to the local and supra-local relations between the mentioned industries and future tourism.

Finally, future tourism planning and development requires more advanced research and discussion. The paper presents the results of a territorial and institutional analysis. To follow best practices in the field (Katurić *et al.*, 2021), the research process oriented on delivering actionable policy recommendations should also include in-depth stakeholders analysis, expert interviews, and in-depth discussion on the local, regional, national and European interventions.

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