

Pressure on natural environment in major tourist locations of the Karkonosze Mts. in light of demographic trends and expansion of the tourist function of the region

Presja na środowisko przyrodnicze w głównych miejscowościach turystycznych Karkonoszy w świetle tendencji demograficznych i rozwoju funkcji turystycznej regionu

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Abstract The article discusses the changing impact on the natural environment of the Karkonosze in the 20th and at the beginning of the 21st century, exerted by the presence of man and the expansion of the region's tourist function in particular. The research refers to the total area *users* method. The analysis of demographic transitions and changes in the reception capacity of the region reveals a notable difference in development patterns of major tourist destinations on the Polish and the Czech side of the Karkonosze. The rapid tourist growth in the Czech Karkonosze in the 20th century co-occurred with depopulation of the region. The main resorts on the Polish side, however, recorded both a rise in the number of inhabitants and the growth in tourist accommodation. As a result, the environmental pressure in the main tourists locations of the Polish Karkonosze is far bigger than in the Czech ones, which has a negative impact on the quality of tourists' recreational experience.

Abstrakt Artykuł omawia zmiany obciążenia środowiska przyrodniczego Karkonoszy w 20 i na początku 21 wieku, wynikające z obecności człowieka, w tym zwłaszcza rozwoju funkcji turystycznej regionu. W badaniach nawiązano do metody określania całkowitej liczby użytkowników terenu. Analiza przemian demograficznych oraz zmian pojemności recepcyjnej pozwoliła stwierdzić istnienie wyraźnej różnicy w rozwoju głównych miejscowości turystycznych po polskiej i czeskiej stronie Karkonoszy. W czeskich Karkonoszach burzliwemu rozwojowi turystyki w XX w. towarzyszyła depopulacja regionu. Po stronie polskiej główne miejscowości turystyczne odnotowały zarówno wzrost liczby mieszkańców, jak również rozbudowę bazy noclegowej. W efekcie w głównych ośrodkach turystycznych polskich Karkonoszy presja na środowisko jest daleko większa niż w miejscowościach czeskich, co negatywnie odbija się także na komforcie wypoczynku turystów.

Key-words: mountain regions, tourist locations/resorts, environmental impact

Słowa kluczowe: region górski, miejscowości turystyczne, obciążenie środowiska

INTRODUCTION

In the 20th century the Karkonosze underwent intensive development as a tourist region. The tourist growth was accompanied by a relative decrease in the significance of agriculture and industry. As a result, tourism has become the main sector of local economy. The growth of mass tourism causes increased pressure on natural environment. However, we must remember that the Karkonosze range is divided into the Polish and the Czech part by the state border. The determinants of socio-economic processes and their environmental consequences are somewhat different on each side. The purpose of this article is to compare the processes of socio-economic development on both sides of the border in the 20th century, to diagnose the current environmental burdens and give recommendations for further expansion of the region's tourist function. The research concentrated mostly on the main tourist destinations of the Karkonosze i.e. Karpacz, Szklarska Poręba, Piechowice, Kowary, Przesieka and Sosnówka on the Polish side, and Harrachov, Rokytnice n. Jizerou, Špindlerův Mlýn, Pec p. Sněžkou, Janské Lázně and Malá Úpa on the Czech side of the border.

METHODOLOGY

A method of total area users was employed for the research. It is based on an assumption that the more people take advantage of the environment, the bigger environmental pressure is. The calculations of the number of environment users take into account both permanent residents of a particular spatial unit, as well as people staying there seasonally. (POŠTOLKA 2005). The research used population data for particular locations, published by the Czech Statistical Office, the Chief Statistical Office (in Poland) and the German statistics services (historical data from before 1945). The data about tourist accommodation were compiled by the author, obtained from the Czech Statistical Office, and included archival (unpublished) data obtained from the Institute of Tourism.

DEMOGRAPHIC TRANSITION AND EXPANSION OF TOURIST ACCOMMODATION IN THE KARKONOSZE

Karkonosze became an area of extensive economic activity, mostly connected with metal ore mining, as early as in the 15th century. In the next centuries textile crafts and pastoralism took over as the main sector of economy (ŠTURSA 2003). The intensive economic growth resulted in a relatively high population density in the Karkonosze and the neighbouring areas. The end of the 19th century brought demographic stagnation and subsequently depopulation of the majority of mountain settlements. Their inhabitants were moving to towns and villages located at lower altitudes and undertaking work in the fast growing industry. Depopulation occurred especially in the Czech part of the mountains. On the Silesian side, then belonging to Germany, intensive tourist development started as early as at the turn of the 19th century, and being an alternative source of income for the declining mountain agriculture, it stemmed population outflow. The inter-war period (1918-39) even saw the growth in the number of permanent residents in the major tourist localities of the Silesian part of the Karkonosze.

World War II brought about essential social and political changes in Central Europe. The northern part of the Karkonosze was incorporated into Poland, and the populations on both sides of the border were almost completely replaced as a result of the displacement of the German inhabitants of the region. The majority of settlements on the Czech side witnessed a dramatic decline in the number of inhabitants. Things were different on the Polish side, where the population grew all the time until the late 1980s. The differences in demographic trends observed in 1871-2007 in communities on both sides of the border (exemplified by Karpacz and Pec pod Sněžkou) are displayed in detail in Figs. 1-2, while an overall picture for the major tourist resorts on both sides of the mountains is presented in Fig. 3.

The analysis of statistical data demonstrate that the populations of five main tourist resorts on the Czech side of the Karkonosze fell almost by half between 1869 and 2007. At the same time, the number of residents of the two main tourist locations on the Polish side rose over threefold. The current number of permanent residents of these two Polish tourist resorts is 50 % bigger than that of the five

tourist destinations on the Czech side.

At the end of the 19th century, mass tourism started to develop in the Karkonosze. On the Silesian side (then located in the German territory), Szklarska Poręba was the first town to develop the tourist function. It was soon joined by Karpacz (only at the very beginning it was Sobieszów that played a more important role) – cf. Fig. 4.

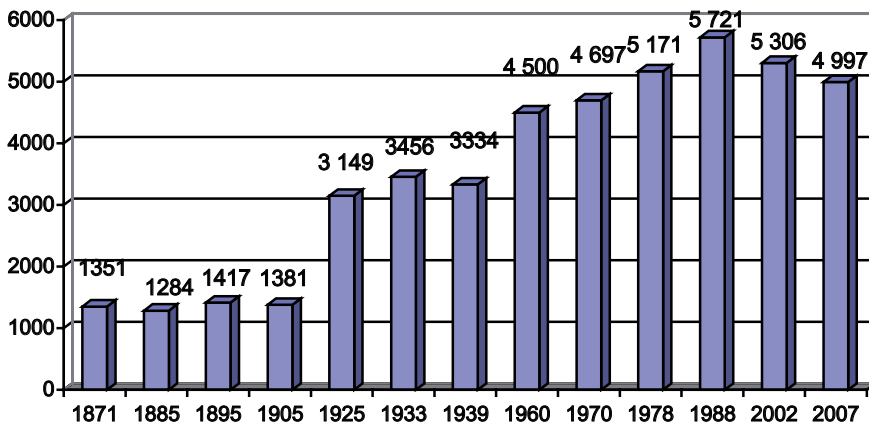


Fig. 1 Population changes in Karpacz in 1871-2007. Source: Author’s own research based on data from: *Gemeindelexikon...*, *Słownik Geografii Turystycznej Sudetów*, and from the Chief Statistical Office. Author’s own research based on data from: *Gemeinden des Reichsgaues...*(1942), and *Historický lexikon obci...*(2006).

Ryc. 1. Zmiany liczby ludności Karpacza w okresie 1871-2007. Źródło: Opr. własne na podst. danych z: *Gemeindelexikon...*, *Słownika Geografii Turystycznej Sudetów*, oraz danych Głównego Urzędu Statystycznego.

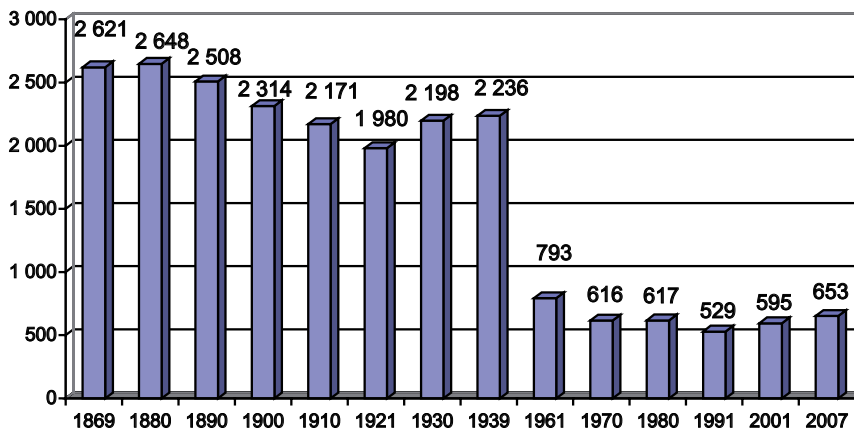


Fig. 2 Population changes in Pec pod Sněžkou in 1869-2007. Source: Author’s own research based on data from: *Gemeinden des Reichsgaues...*(1942), and *Historický lexikon obci...*(2006).

Ryc. 2. Zmiany liczby ludności Peca pod Sněžkou w okresie 1869-2007. Źródło: Opr. własne na podst. danych z: *Gemeinden des Reichsgaues...*(1942), *Historický lexikon obci...*(2006).

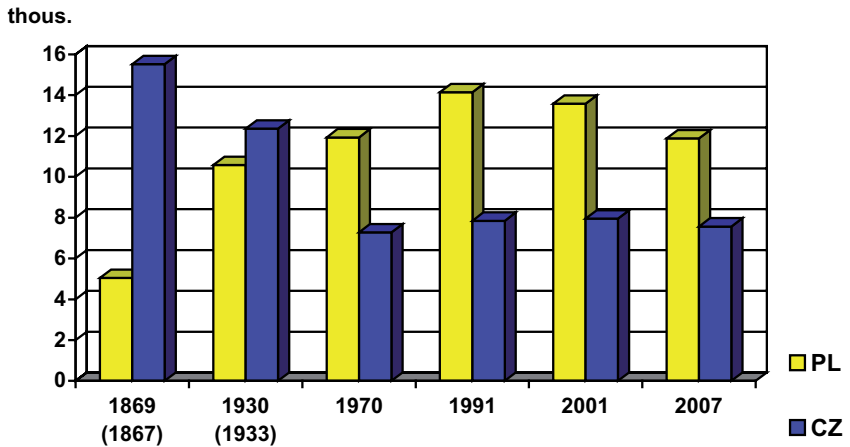


Fig. 3 Population of the main tourist locations in the Polish (PL) and Czech (CZ) Karkonosze (based on data from the Chief Statistical Office, the Czech Statistical Office, Gemeindelexikon... et al.). PL – Szklarska Poręba and Karpacz, CZ – Harrachov, Rokytnice n. Jizerou, Špindlerův Mlýn, Pec p. Sněžkou, and Janské Lázně. The years 1869 and 1930 refer to the Czech side, while 1867 and 1933 – to the Polish Silesian side.

Ryc. 3. Liczba mieszkańców w głównych miejscowościach turystycznych Karkonoszy polskich i czeskich (na podstawie danych Głównego Urzędu Statystycznego, Czeskiego Urzędu Statystycznego, Gemeindelexikon... i in.). PL – Szklarska Poręba i Karpacz, CZ – Harrachov, Rokytnice n. Jizerou, Špindlerův Mlýn, Pec p. Sněžkou, Janské Lázně. Daty 1869 i 1930 dotyczą strony czeskiej, a 1867 i 1933 strony śląskiej.

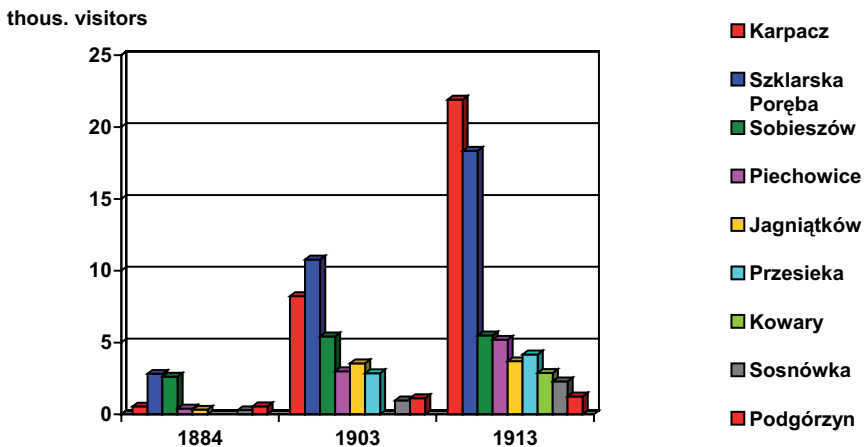


Fig. 4 Tourist flow to the Silesian Karkonosze localities at the turn of the turn of 19th and 20th century.

Ryc. 4. Ruch turystyczny w miejscowościach śląskich Karkonoszy na przełomie XIX/XX w.

On the Czech side, the tourist function developed mostly in Janské Lázně (a place with long health-spa traditions), Špindlerův Mlýn and Pec p. Sněžkou. After World War II new locations joined in, particularly Harrachov, Rokytnice n. Jizerou and Malá Úpa (Fig. 5). When investigating the growth in reception capacity in the Karkonosze, one can notice its different patterns on each side of the border. On the Polish side reception facilities expanded continuously in Karpacz and Szklarska Poręba, and the domination of these two resorts over other tourist locations increased all the time. On the Czech side, however, the tourist function of various localities developed more evenly; besides, the number of bed-places obviously decreased following the political transformation after 1989, which was due to a change in the prevailing model of tourism and upgrading the existing accommodation facilities.

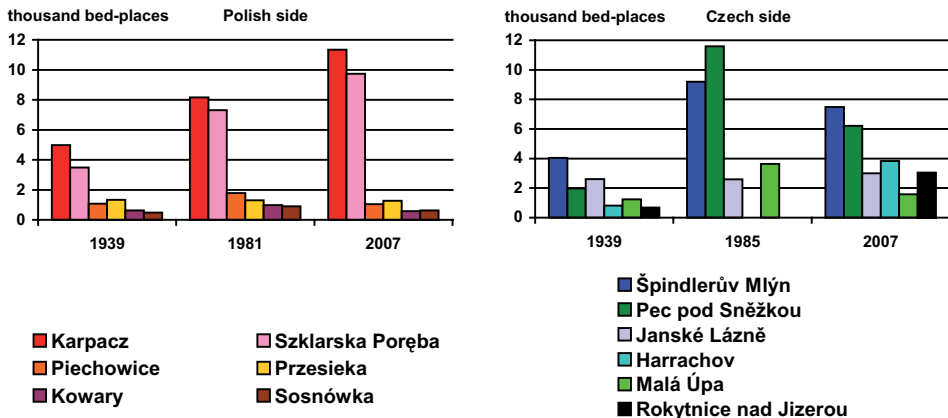


Fig. 5 Growth in accommodation capacity in the main tourist destinations of the Karkonosze (no data have been obtained for some Czech localities for 1985).

Ryc. 5. Rozwój bazy noclegowej w głównych miejscowościach turystycznych Karkonoszy (dla części czeskich miejscowości brak danych z 1985 r.).

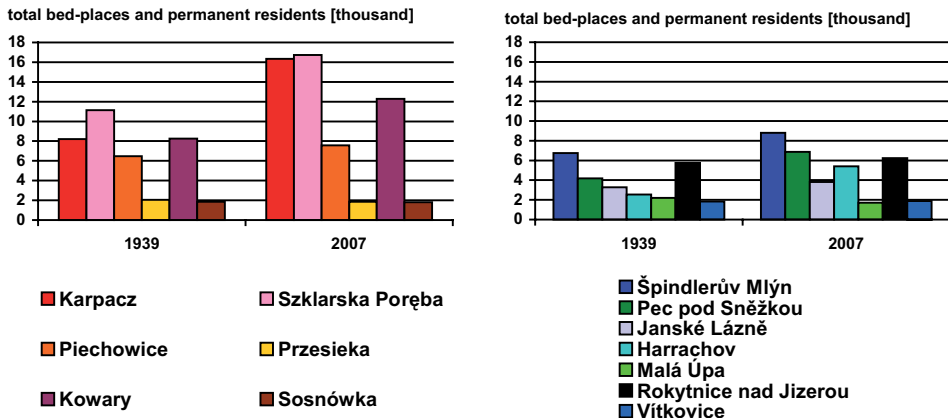


Fig. 6 Environmental impact of the main Karkonosze resorts.

Ryc. 6. Obciążenie środowiska w głównych miejscowościach turystycznych Karkonoszy.

If we add up the number of bed-places and the number of permanent residents, we will obtain the approximate number of persons (environment users) able to stay in a particular locality at the same time. This figure can be treated as one of the indicators of man's pressure on the environment. Fig. 6. compares the sizes of this indicator calculated for the main Karkonosze resorts (for the Polish and the Czech side separately) and its changes between 1939 and 2007.

Graph analysis reveals that the environmental impact of the main resorts of the Polish Karkonosze increased notably in the period after World War II. This is especially true for Karpacz (a twofold growth). On the Czech side the growth was not so high, owing to the fact that the expansion of reception capacity co-occurred with a depopulation process. Thanks to this, the environmental impact of Špindlerův Mlýn, the largest tourist location not only in the Czech Karkonosze but in all the Czech mountains in general, is almost half the size of that of Karpacz or Szklarska Poręba. What is more, the reception capacity of Karpacz does not include huge hotel projects that were still under construction in 2009. What is also noticeable is a substantial environmental impact of Kowary (due to a large number of permanent residents), exceeding the values calculated for Czech resorts and falling little behind Karpacz and Szklarska Poręba. This questions the feasibility of the local government's plans to promote Kowary as a tourist destination, since increasing the number of people staying in a particular locality in translated into an increased use of water, higher production of sewage and litter, growing traffic congestion and, consequently, more pollution by exhaust fumes and higher level of noise. These nuisances will have a negative impact not only on the environment, but also on the quality of visitors' recreation experience.

CONCLUSIONS

The analysis of reception capacity data and the number of permanent residents in the major localities of the Karkonosze reveals that Polish resorts exert much bigger impact on the environment than those on the Czech side. Further growth in accommodation capacity in such centres as Karpacz or Szklarska Poręba will produce negative consequences not only for the natural environment but also for the tourist attractiveness of these localities. Consequently they will be losing the competition with less crowded Czech Karkonosze. Local development policies should provide for the stabilisation of reception capacity and development of accompanying facilities, broadening the range of services offered to visitors. Also, communities in the Czech Karkonosze should be very prudent when planning the expansion of their tourist function, in order to avoid the mistakes made on the Polish side of the mountains.

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