

Źródła finansowania „Studia Periegetica” 3(27)/2019



Ministerstwo Nauki
i Szkolnictwa Wyższego



WYŻSZA SZKOŁA BANKOWA
w Poznaniu

Projekt współfinansowany ze środków Ministerstwa Nauki i Szkolnictwa Wyższego stanowiących pomoc *de minimis*, przyznaną w ramach programu „Wsparcie dla czasopism naukowych” na lata 2019-2020 na podstawie umowy nr 475/WCN/2019/1 z dnia 31.07.2019 r. oraz ze środków Wyższej Szkoły Bankowej w Poznaniu

The project is co-financed from the funds of the Ministry of Science and Higher Education constituting *de minimis* aid, granted under the “Support for scientific journals” program for the years 2019-2020 under agreement no. 475/WCN/2019/1 dated 31.07.2019 and from the funds of the WSB University in Poznań

Studia Periegetica nr 3(27)/2019

Turystyka i rekreacja w społeczno-ekonomicznym i przestrzennym rozwoju miast

redaktor naukowy

Agata Basińska-Zych



Wydawnictwo
Wyższej Szkoły Bankowej w Poznaniu

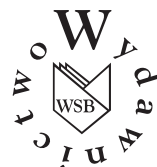
Poznań 2019

Studia Periegetica No. 3(27)/2019

Tourism and Recreation in the Socio-economic and Spatial Development of Cities

volume editor

Agata Basińska-Zych



The WSB University in Poznań Press

Poznań 2019

Redaktor naczelny czasopisma / Editor-in-chief
Marek Nowacki (WSB University in Poznań, Poland)

Kolegium redakcyjne / Associate Editors
Arnold Bernaciak (WSB University in Poznań, Poland)
Grzegorz Golebski (WSB University in Poznań, Poland)
Agata Basińska-Zych (WSB University in Poznań, Poland) – sekretarz redakcji / Editorial Secretary

Rada naukowa / International Editorial Advisory Board
Alexander Adamovsky (Ukrainian National Forestry University, Lviv, Ukraine)
Ryszard Asienkiewicz (University of Zielona Góra, Poland)
Thomas Fletcher (Leeds Beckett University, United Kingdom)
Wanda M. Gaczek (Poznan University of Economics and Business, Poland)
Brian King (The Hong Kong Polytechnic University, China)
Zygmunt Kruczek (University of Physical Education in Krakow, Poland)
Anne-Marie Lebrun (University of Burgundy, France)
Lina Pilelienė (Vytautas Magnus University, Lithuania)
Tatjana Põlajeva (Tallinn University of Technology, Estonia)
Miroslava Pridalova (Palacky University, Olomouc, Czech Republic)
Lars Ryden (Uppsala University, Sweden)
Ewa Szczepanowska (University of Szczecin, Poland)

Czasopismo znajduje się na liście punktowanych czasopism naukowych Ministerstwa Nauki i Szkolnictwa Wyższego (wykaz z dn. 31 lipca 2019 r. poz. 28175 – 20 punktów).
Czasopismo indeksowane w bazach: Index Copernicus, BazEkon, PBN, POL-Index, BILGINDEX, Google Scholar, DOAJ.
Czasopismo recenzowane według standardów Ministerstwa Nauki i Szkolnictwa Wyższego.
Lista recenzentów na stronie www.studia-periegetica.com oraz w ostatnim numerze czasopisma z danego roku.

The journal included in the list of ranked scientific journals published by the Ministry of Science and Higher Education (dated 31 July 2019, item 28175 – 20 points).
The journal indexed in: Index Copernicus, BazEkon, PBN, POL-Index databases, BILGINDEX, Google Scholar, DOAJ.
The journal reviewed in compliance with the standards set forth by the Ministry of Science and Higher Education.
A list of referees is available at studia-periegetica.com and published in the last issue of the journal each year.

Procedura recenzowania / Review procedure
<https://studia-periegetica.com/resources/html/cms/FORAUTHORS>

Redaktor naukowy (tematyczny) numeru / The volume's managing editor
Agata Basińska-Zych (WSB University in Poznań, Poland)

Weryfikacja tekstów w języku angielskim / English texts revised by
Grzegorz Grygiel

Redaktor prowadzący / Text editor
Elżbieta Turzyńska

Redakcja, skład i lamowanie / Copyedited and typeset by
Elżbieta Turzyńska

Projekt okładki / Cover design by
Martyna Dawidziak

Projekt współfinansowany ze środków Ministerstwa Nauki i Szkolnictwa Wyższego stanowiących pomoc *de minimis*, przyznana w ramach programu „Wsparcie dla czasopism naukowych” na lata 2019-2020 na podstawie umowy nr 475/WCN/2019/1 z dnia 31.07.2019 r. oraz ze środków Wyższej Szkoły Bankowej w Poznaniu

The project is co-financed from the funds of the Ministry of Science and Higher Education constituting *de minimis* aid, granted under the “Support for scientific journals” program for the years 2019-2020 under agreement no. 475/WCN/2019/1 dated 31.07.2019. and from the funds of the WSB University in Poznań

Wersja pierwotna – publikacja elektroniczna / Source version – electronic publication

© Copyright by Wyższa Szkoła Bankowa w Poznaniu, 2019

ISSN 2658-1736

Wydawnictwo Wyższej Szkoły Bankowej w Poznaniu
ul. Powstańców Wielkopolskich 5, 61-895 Poznań, tel. 61 655 33 99, 61 655 32 48
e-mail: wydawnictwo@wsb.poznan.pl, dzialhandlowy@wsb.poznan.pl, www.wydawnictwo.wsb.poznan.pl

Contents

Introduction (<i>Agata Basińska-Zych</i>)	9
Aleksander Panasiuk	
Crises in the Functioning of Urban Tourism Destinations	13
Józef Komorowski, Bernadeta Holderna-Mielcarek	
Economic and Social Consequences of Mass Tourism in City Management – the Case of Poznań and Wrocław	27
Halyna Labinska	
Influence of Agglomerations on the Development of Tourism in the Lviv Region	45
Olha Liubitseva, Iryna Kochetkova	
Spatiotemporal Distribution of Recreational Activities of People Living in the Kyiv Agglomeration	59
Jakub Ryśnik, Piotr Gibas	
Identification of Urban Sports Zones as a Potential Product of Sports Tourism Using Spatial Dispersion Indicators	73
Maria Zamelska, Beata Kaczor	
Tourist and Recreational Activity of Senior Residents of Wrocław	99
Piotr Gutowski	
Development of Virtual Museums in Poland	119
Magdalena Olejniczak	
Dark Tourism – the Dark Side of Berlin	139

Igor Pandyak

Interdependence between Agglomeration Processes and the Hotel Sector
in the City of Lviv..... 153

**Yuriy Zinko, Marta Malska, Tetyana Bila, Volodymyr Bilanyuk,
Yuriy Andreychuk, Iryna Kriba**

Tourist-recreational Regionalization of the Lviv Agglomeration..... 171

Editorial requirements..... 189

Spis treści

Wstęp (Agata Basińska-Zych)	9
Aleksander Panasiuk	
Zjawiska kryzysowe w funkcjonowaniu miejskich destynacji turystycznych	13
Józef Komorowski, Bernadeta Holderna-Mielcarek	
Ekonomiczne i społeczne konsekwencje turystyki masowej w zarządzaniu miastem na przykładzie Poznania i Wrocławia	27
Halyna Labinska	
Wpływ aglomeracji na rozwój turystyki w obwodzie lwowskim	45
Olha Liubitseva, Iryna Kochetkova	
Rekreacyjne wykorzystanie ziemi przez mieszkańców aglomeracji Kijowa w układzie czasowo-przestrzennym	59
Jakub Ryśnik, Piotr Gibas	
Identyfikacja miejskich stref sportu jako potencjalnego produktu turystyki sportowej przy użyciu metody wskaźników dyspersji przestrzennej	73
Maria Zamelska, Beata Kaczor	
Aktywność turystyczna i rekreacyjna seniorów-mieszkańców Wrocławia	99
Piotr Gutowski	
Rozwój wirtualnego muzealnictwa w Polsce	119
Magdalena Olejniczak	
<i>Dark tourism</i> – ciemna strona Berlina	139

Igor Pandyak

Współzależność procesów rozwoju aglomeracji i branży hotelarskiej we Lwowie..... 153

**Yuriy Zinko, Marta Malska, Tetyana Bila, Volodymyr Bilanyuk,
Yuriy Andreychuk, Iryna Kriba**

Regionalizacja turystyczno-rekreacyjna metropolii lwowskiej 171

Wymogi edytorskie 190

Introduction

This issue attempts to expand the understanding of tourism and the role of recreation in the socio-economic and spatial development of selected cities of Poland, Germany and Ukraine by providing empirical evidence of the current problems that affect tourism and recreation and analysing the social, economic and spatial context of metropolitan development. One of the biggest challenges faced by “cities of the future: is the need to understand the contemporary conditions in which urban systems function and to create friendly and healthy spaces for recreation and tourism.

Cities play an important role in the lives of people living in and around them but they also drive the socio-economic and spatial development of regions or even entire countries. It is estimated that about 70% of the EU population – about 350 million people – live in urban areas with over 5,000 inhabitants. Although the pace of urbanization processes has slowed down, the percentage of urban population keeps growing¹. According to UN forecasts, by 2050 the urban population in Europe is projected to increase by 9%². The term “city” has many meanings: it can refer to an administrative unit or contiguous areas with a certain population density. One can also distinguish between “administrative” and “actual” city – a larger agglomeration with various socio-economic connections.

In recent years, some urban research focusing on ‘cities of the future’ has increasingly highlighted the need to adopt a holistic model of sustainable development in urban planning and management. What are the distinguishing features

¹ European Commission, Directorate General for Regional Policy, (2011), *Cities of tomorrow Challenges, visions, ways forward*, October 2011, https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_final.pdf [accessed: 2.12.2019].

² United Nations, Department of Economic and Social Affairs, Population Division (2019). *World Urbanization Prospects: The 2018 Revision (ST/ESA/SER.A/420)*. New York: United Nations, p. 25.

of this management system? It involves: 1) dealing with challenges in an integrated and holistic manner; 2) combining a place-based approach with a people-oriented approach; 3) combining a formal administration structure with flexible, informal management structures that correspond to the scale of the problem (territorial and temporal scope); 4) creating a management system that helps to build common visions that reconcile competing goals and conflicting development models; and 5) cooperation to ensure consistent spatial development and efficient use of resources.

It is worth emphasizing that the idea of a “sustainable”, “ecological” or “healthy city” is not only about reducing CO₂ emissions, eliminating smog, noise, providing ecological transport or creating urban green spaces, although these activities are important. A sustainable city must also have attractive open public spaces, places of daily recreation located in close proximity to places of residence, and should promote sustainable, healthy and inclusive mobility. Therefore, the development of leisure and tourist facilities in modern cities should account for the needs of residents of all ages, while efforts should be made to encourage people to change their attitudes and lifestyles. It should be emphasized, however, to enable this change of habits, people need favorable conditions for participating in tourism and recreation in their place of residence.

The starting point for the discussion is the article by Aleksander Panasiuk *Crises in the Functioning of Urban Tourism Destinations*, which describes critical threats to the contemporary tourist market in the functioning of urban tourist destinations. Special emphasis is placed on endogenous phenomena, which result from intensive tourist traffic in cities, i.e. overtourism and the environmental impact on urban spaces, particularly regarding air quality. The theoretical study is supplemented by results of a pilot survey of potential tourists concerning the role of information on air pollution when making decisions about tourism trips to cities.

The article entitled *Economic and Social Consequences of Mass Tourism in City Management – the Case of Poznań and Wrocław* by Józef Komorowski and Bernadeta Holderna-Milecarek addresses the problem of urban mass tourism and its consequences, with emphasis on phenomena that have an adverse effect on the quality of life for local communities. Drawing on the analysis of statistical data and in-depth interviews with local tourism experts in Poznań and Wrocław, the authors conclude that focus on tourism in urban management can contribute to positive economic effects, while the awareness of how tourism can affect various aspects of social life can help to create sustainable solutions.

Another issue analysed by Halyna Labinska is discussed in the article entitled *Influence of Agglomerations on the Development of Tourism in the Lviv Region*, in which the author presents a cartographic visualization of the influence of the Lviv agglomeration on the hospitality industry using methods of centrographic

analysis and the number of hotels in administrative regions and major cities of the region as the most representative indicator of the tourism industry provided by Ukrainian statistics. The author concludes that the growing trends in urbanization and agglomeration in Ukraine and in the Lviv region in particular are in line with global trends.

Interesting findings are provided in the article by Olha Liubitseva and Iryna Kochetkova entitled *Spatiotemporal Distribution of Recreational Activities of people living in the Kyiv Agglomeration*. The article examines the development of recreational activities in the Kyiv agglomeration since the 1960s as exemplified by cottage development. The authors use methods of statistical and cartographic analysis to take stock of and evaluate the spatial distribution of recreation activities over the reference period. The article identifies stages of development and the effect of basic patterns of the spatial distribution of recreational activity at each stage as well as areas of possible development in the Kyiv agglomeration.

Jakub Ryśnik and Piotr Gibas describe very interesting research results in the article *Identification of Urban Sports Zones as a Potential Product of Sports Tourism Using Spatial Dispersion Indicators*. The purpose of the article is to identify urban sports zones (also known as sports cities) as potential products of urban or sports tourism in Poland using the spatial dispersion indicator of residential buildings in relation to sports infrastructure buildings. The main outcome of the study was a distribution of sports infrastructure buildings in Poland with concentration zones established for communes treated as functional units. The findings can be used to identify areas that could serve as sports cities, which are defined as varied, separate, large areas, whose development is associated with sport and recreation.

A different research approach is presented by Maria Zamelska and Beata Kaczor in their article entitled *Tourist and Recreational Activity of Senior Residents of Wrocław*. The aim of the study described in this article was to identify the main factors determining tourist and recreational activity of residents of Wrocław aged 50 and older in the Wrocław agglomeration. A questionnaire survey conducted in Wrocław found that the key factors motivating people aged 50+ to take up tourist and recreational activity are the need to relax outdoors, including various forms of physical recreation, and the desire to learn about nature and culture.

The development of the cultural offering provided by museums is also an element of the socio-economic development of the city, which is the main topic of Piotr Gutowski's article entitled *Development of Virtual Museums in Poland*. The author reviews and analyzes the level of development of selected virtual museums in Poland. Based on his personal assessment and the proposed evaluation model, the author answers questions about the quality of museum e-services, their competitiveness in relation to traditional museums and, finally, the benefits of developing and maintaining such services.

In pursuit of new destinations and experiences, tourists are now visiting places that are monuments of tragedy, suffering, death and destruction. These places are often associated with mass murders or catastrophes. Such locations have always attracted interest, fascination and evoked dread. This phenomenon has been described as “dark tourism” or thanatourism and is addressed by Magdalena Olejniczak in her article entitled *Dark Tourism – the Dark Side of Berlin*. The author discusses the subject of thanatourism in the urban space of Berlin, which is becoming an increasingly popular branch of cultural tourism in Germany and other countries.

In the next article entitled *Interdependence between Agglomeration Processes and the Hotel Sector in the City of Lviv*, Igor Pandyak uses describes relationships between the development of the agglomeration and the hotel market. Empirical data about the city of Lviv are used to characterise basic factors that affect the development of the hospitality market, including positive and negative ways in which it is influenced by the agglomeration.

The last article presented in the current issue is co-authored by Yuriy Zinko and his team of researchers and entitled *Tourist-recreational Regionalization of the Lviv Agglomeration*. The authors present a very comprehensive approach to delimiting areas of tourism activity. They identify existent and future tourist-recreational complexes and tourist points (tourist localities) within the limits of functional zones of the agglomeration – urban, suburban and peripheral ones and propose potential forms of tourist activities and services (products) for functional zones and spatial units.

I hope that all articles in this issue will spark off debate on the role of tourism and recreation in the social and economic development of cities, will help answer current questions about more sustainable tourism and recreation planning and management in the modern urban environment, and, in general, will stimulate further research on the spatial, social and economic development of metropolises.

Agata Basińska-Zych
Thematic Issue Editor

ALEKSANDER PANASIUK*

Crises in the Functioning of Urban Tourism Destinations

Abstract. Cities are among the most common tourist destinations as they are not only interesting in their own right but also, to a large extent, determine the transit tourist traffic. The article addresses issues related to crisis phenomena in urban tourism destinations. Crisis phenomena are classified into exogenous, endogenous and mixed. Special emphasis is placed on endogenous phenomena, which result from intensive tourist traffic in cities, i.e. overtourism and the environmental impact on urban spaces, particularly regarding air quality. The purpose of the article is to present critical threats to the contemporary tourist market in the functioning of urban tourist destinations. The theoretical study is supplemented by results of a pilot survey of potential tourists concerning the role of information on air pollution when making decisions about tourism trips to cities. The study has a diagnostic and conceptual motivation. The following methods were used: review of the literature, logical operations, quantitative methods, heuristic methods. The results can be used to inform tourism policy in cities with well developed tourism.

Keywords: city, tourist destination, crisis phenomena, overtourism

1. Introduction

Urban tourism is one of the most frequently chosen forms of tourism driven by various kinds of motivations. As a result, the modern tourism market is afflicted by numerous crisis phenomena, which have a strong impact on urban tourist destinations. Cities are popular with tourists are characterized by a high concentration of tourist traffic, which is why crisis phenomena are more likely to affect

* Jagiellonian University (Poland), Faculty of Management and Social Communication, e-mail: aleksander.panasiuk@uj.edu.pl, orcid.org/0000-0002-5807-6636.

urban tourism spaces; on the other hand, a higher level of tourism in cities can also contribute to the emergence of crisis situations. The article presents issues related to crisis phenomena in urban tourism destinations. Crisis phenomena can be divided into exogenous, endogenous and mixed ones. Particular attention was paid to phenomena generated by intensive tourist traffic in cities, i.e. overtourism and the environmental impact on urban spaces. The aim of the study is to present critical threats faced by the contemporary tourist market in the functioning of urban tourist destinations with special emphasis on issues arising from the intensity of tourist traffic in cities. This theoretical article is supplemented by results of a pilot survey of potential tourists about the role of information on air pollution when making decisions about tourism trips to cities. The study has a diagnostic and conceptual motivation. The following methods were used: critical review of the literature on the subject, logical operations, quantitative methods, heuristic methods. The results can be used to inform tourism policy in cities with developed tourism.

2. The city as a tourist destination

Cities are one of the most common tourist destinations as they are not only interesting in their own right but also, to a large extent, determine the transit tourist traffic [Bramwell 1998: 35-47]. City tourism is one of the most dynamically developing forms of tourism [Ashworth, Page 2011: 1-15; Maitland, Ritchie 2010], and, in many cases, one of the most important drivers of economic growth [Postma, Buda, Gugerell 2017: 95-101], and the basis for socio-economic development [Karski 1990: 15-17] thanks to its impact on tourism entrepreneurship in cities [Bednarczyk 2010; Douglas, Derrett 2001], labor market [Ladkin 2011: 1135-1155] and the standard of living of the inhabitants [Kim, Uysal, Sirgy 2013: 527-540; Andreck, Jurowski 2006]. It is difficult to interpret urban tourism unequivocally due to a wide spectrum of motives behind tourist arrivals, which are shaped by tourist behavior and consumption in cities [Edwards, Griffin, Hayllar 2008: 1032-1052, Gospodini 2001: 925-934; Pawlicz 2008]. Urban or metropolitan tourism [Hall 2002: 235-248] is associated with destinations which attract tourist traffic. These destinations are urban areas or, more broadly, metropolitan areas, with extensive urban infrastructure, including transportation, residence (accommodation and catering), cultural, sport and recreation, entertainment, commercial, communal and other facilities serving both the needs of tourists and permanent residents [Panasiuk 2007: 212-215; Rani 2017: 1-4]. Typical goals that draw tourists to cities include: sightseeing, culture, business, sports, family and social interaction or shopping. An important element responsible for gen-

erating urban tourist traffic is the organization of events, which are particularly impressive in large metropolitan areas and can cause short periods of very intensive tourist traffic. These can be sports, cultural, entertainment, commercial or conference events, and in some cities events related to holiday, health (including spa) or religious activities.

There are many definitions of a tourist destination that highlight different aspects [Borzyszkowski 2012: 19]. From the point of view of demand, a tourist destination is understood as a place (city, region, country) associated with its specific functions and properties [Leiper 2004: 128]. For the purpose of considerations presented in this article, a tourist destination is defined as a single entity (institution) or a group of tourist market entities operating in a tourist area and engaged in creating conditions for tourism and developing, disseminating and promoting the tourism offering in this area. It is a basic unit of the modern tourist market that can meet market requirements thanks to its uniqueness and individual ability to create new and diversified tourism offering based on its specific features [Kesić, Pawlić 2011: 7-25]. According to this definition, a destination is therefore not merely a place. It is a system of institutions managing the tourism offering of a given place (an area-specific tourism product) which is the responsibility of competent entities [Page, Connell 1993].

An urban tourist destination is a market entity which in a specific area of the city, or more broadly, in an agglomeration or in a metropolitan area offers an urban tourism product that is currently or potentially available on the tourist market [Meler 1998: 173-186]. An urban tourist destination, understood as an entity of supplying services on the tourist market, is responsible for providing and supporting the city's tourism offering and fostering cooperation with other suppliers of tourism services in order to create a comprehensive urban tourism product. However, the city as a tourist area is a physical place where an urban tourist destination operates and is a space for tourist market processes.

The urban tourist destination carries out tasks through institutional entities that enable it to function as an economic entity and create conditions for tourism enterprises to operate in the tourist area and deliver their offering to tourist consumers. Institutional entities that create an urban tourist destination include the city's local government, local tourist organizations, tourist self-regulatory organizations operating in the city, destination marketing organizations (DMO) and other tourism organizations cooperating with the previously mentioned entities. Tourism enterprises operating in a given urban tourism area create the destination's tourism offering. The city council and the local tourist organization are co-creators of the city's tourism offering to the extent enabled by their the local government functions for the purpose of promoting the local (urban) tourism product of the area [Panasiuk 2019: 91-103].

3. Crisis phenomena in urban tourism

The dynamic development of the global tourism market is largely shaped by crisis phenomena, which comprise a set of circumstances, mainly exogenous ones, that affect the market and cause periodic or permanent changes in its functioning. These situations may result in quantitative or qualitative changes in the structure of the tourism market. Crisis phenomena can directly affect local and regional tourist areas. However, it should be pointed out that the highest levels of tourist traffic can be observed in cities, especially the largest ones. Therefore, crisis phenomena occurring in the global tourism market are mainly associated with cities, where they are likely to be more intensely felt than in peripheral areas. Hence, interest in crisis phenomena should mainly concern urban destinations, especially large metropolises.

As regards their impact on the functioning of the tourism market, the most typical forms of crisis phenomena in urban tourist destinations include:

1. Exogenous phenomena, i.e. independent of the functioning of urban tourism:
 - adverse and unexpected changes in the economic situation, with mega-, macro- and meso-economic effects (i.e. on the tourist market or on its sub-markets, e.g. tour operator market),
 - natural disasters in cities and neighboring areas,
 - climate change, especially for cities located near sea basins,
 - prolonged adverse weather conditions, mainly in cities with recreational functions,
 - industrial disasters in cities and surrounding areas, including transport disasters,
 - social (internal) conflicts not related to overtourism,
 - military and political conflicts (external – bilateral and multilateral),
 - terrorist activities,
 - migration crises,
 - epidemics and pandemics [Panasiuk 2013: 26-27],
 - threats related to the use of information technologies, concerning the purchase of tourism products, as well as threats to tourists' security resulting from the direct use of information technologies at a tourist destination [Zhiyang et al. 2012: 138-143].
2. Mixed, exo-/endogenous phenomena, crisis processes occurring in urban tourist destinations coincide with processes depend on the intensity of tourist traffic:
 - excessive transport congestion [Wilk, Pawlak 2014: 11117-11122] which makes it difficult to reach urban tourist destinations [Riganti, Nijkamp 2008: 25-44],

– condition of the natural environment, including air and water quality [Łapko, Panasiuk 2019: 290-299], and resulting from the functioning of the urban transport system and the state of municipal waste management.

3. Endogenous phenomena, related to the volume and structure of tourism in the city – i.e. overtourism.

The above phenomena can have natural, social, economic and political causes. They can affect consumers' interest in the tourism offering of urban tourist destinations to a varying degree. All of these phenomena, have direct social and economic effects on the processes occurring in the tourist market.

Crisis phenomena directly limit the number of tourist arrivals registered in affected cities and their surroundings, but they can indirectly influence people's decisions regarding tourist trips to neighboring urban destinations, tourist regions, countries or even to the entire continent. These phenomena lead to changes in the structure of demand, and therefore trigger changes in tourism supply, limiting revenues of tourism enterprises and those leading to a deterioration of the economic situation of cities and their residents, mainly those employed in the tourism sector.

The need to study crisis phenomena that affect the functioning of the urban tourist market is most clearly justified by broadly understood issues related to the security of entities of the tourism industry and, above all, by the necessity to secure the safety of tourists and residents in urban tourist destinations.

4. Overtourism as a crisis phenomenon of urban tourist destinations

Overtourism is being recognized as a growing problem of many smaller and larger urban tourist destinations, which should, in fact, be also treated as an endogenous crisis phenomenon. It is also referred to as the Venetian syndrome [Seraphin, Sheeran, Pilato 2018: 374-376], after the place where the effects of overtourism became most apparent and received global media coverage. Overtourism, which is the situation when the place's tourism carrying capacity is exceeded, has a negative effect on the natural and socio-cultural environment.

The concept of overtourism is applied to destinations where residents of tourist areas (locations) and/or guests (tourists) believe that there are too many tourists in the area (locations), which negatively affects the quality of life for local residents, and/or the quality of tourist experiences for visitors, either as a result of their significant deterioration or due to the impossibility of obtaining them [Goodwin 2017]. Because the carrying capacity of tourist destinations is exceed-

ed, residents and visitors who experience a deterioration in the quality of life and stay start taking steps to counteract this situation. This leads to protests in which residents call on authorities of tourist destinations and visitors to limit tourist traffic or designate areas within tourist destinations that would be accessible to residents only.

The phenomenon of overtourism is becoming an increasingly acute problem in the 21st century. More and more cities with an established tourist image are witnessing protests against mass tourism, which are a clear and indispensable element of attempts to limit the incoming tourist traffic. Cities in which the phenomenon of overtourism is visible are very often major or even the most important destinations in a given country [Borzyszkowski 2018: 19-30]. Excessive influx of visitors, i.e. mass tourism, leads to conflicts in which four groups of entities are involved:

- residents, who want to make sure that crowds of tourists do not to limit the quality of their daily life,
- tourists, who want to make the most of their free time and take full advantage of the tourism offering in a given destination,
- tourism enterprises, whose purpose is to increase profits and develop the tourism offering [Kruczek in: Borzyszkowski 2018: 134-136],
- tourist destinations, whose task is to adapt the carrying capacities of tourist areas they manage to meet the needs of residents and visitors, and which suffer the consequences of dissatisfaction and protests of residents, tourists and tourist enterprises.

No effective adaptation measures or anti-overtourism tools have been developed so far. It should also be noted that in many tourist destinations profits from tourism are often achieved only by a limited number of entities, e.g. global tourist corporations, while the costs and negative effects are borne by entire destinations and their residents. On a microeconomic level, pricing is the most effective tool. Entities of the local tourism sector, e.g. restaurants, tourist attractions, raise prices to limit the number of customers. In the case of tourist destinations, the pricing policy applies to tourist taxes. In order to limit overtourism, long-term measures (investment, promotion) are necessary, not only in the most popular tourist destinations, but also in completely new ones, often not yet discovered by mass tourism and in alternative places as well. In this regard, activities should be carried out not only by individual tourist destinations. They should also be part of a broad tourism policy of states, economic groups (the European Union) and international tourism organizations. The fact that the carrying capacity of some tourist destinations is exceeded as a result of overtourism is an opportunity for the development of tourism offerings in other destinations [Panasiuk 2019: 343-345].

5. The degradation of the natural environment as a problem of the functioning of urban tourist destinations

The degradation of the natural environment does not seem to be primarily associated with urban tourism. Only limited parts of tourism offerings in cities rather involve natural tourist attractions. However, given the growing levels of air and water pollution in many cities, this issue may affect the purchasing decisions of tourists interested in coming to urban destinations.

With regard to the endogenous aspect, it should be noted that tourism causes strong anthropopressure on the environment resulting from the fact that the urban tourist destination can be reached by various means of transport (especially by air and sea) [Page 2005; Bieger, Wittmer 2006: 40-46] and from the stay of visitors in the destination. There is no doubt that urban tourism, owing to population density resulting from permanent residents and tourists arriving for temporary stay, dynamically developing transport, trade and other services supporting tourist traffic significantly affects the socio-natural environment in urban tourist areas. The development of tourism in urban areas causes a deterioration in the quality of the natural environment through increased emissions of exhaust gases and waste. However, endogenous issues are usually secondary to exogenous aspects, i.e. the quality of the natural environment, affected primarily by industrial activities, services, transport and everyday life of inhabitants of large urban agglomerations that are attractive tourist destinations. The state of the natural environment in the urban tourist space is determined by assessing the quality of air and water as well as waste management [Schianetz, Kavanagh 2008: 601-628]. It also involves the assessment of environmental protection tasks carried out by municipal authorities themselves and in cooperation with entities offering services to tourists. The state of the environment can also be determined by monitoring indicator trends (e.g. emission of pollutants – improvement or deterioration) [Panasiuk (ed.) 2011: 236-237]. Based on individual assessments of the quality of the overall tourism offering and its individual elements, tourists make collective assessments that inform their purchasing decisions [Decrop 1999].

Air quality is one of the escalating problems in urban tourist destinations of Central and Eastern European countries, including Poland and cities that are tourist destinations in the Far East. The state of air quality should be treated as part of a comprehensive tourist attractiveness assessment [Hu, Ritchie 1993: 25-34; Cracolici, Nijkamp 2008: 336-344], which determines the tourist competitiveness of an urban destination [Crouch, Ritchie 1999: 137-152]. Information about air

quality in the city that is the destination of a tourist trip may directly influence visitors' travel plans and the length of stay. Air quality is analyzed by the emission of solid and gaseous pollutants (dusts and chemical compounds) [Anaman, Looi 2000: 133-143]. These issues are regulated by Directive 2008/50/EC of the European Parliament and of the Council of 21 May, 2008 on air quality and clean air for Europe [Directive] and take into account activities that should be implemented by Member States on their territory, taking into account area types and indicating agglomeration areas as well. It is the responsibility of EU Member States to assess air quality and to ensure that information on air quality is made available to the public [*Europe's urban air quality...* 2018; *Air quality in Europe* 2018]. This also includes tourists travelling to urban destinations. For this purpose, air quality standards have been set that specify the so-called critical levels, limit values and alert thresholds related to the protection of human health. Air quality management issues are also regulated through guidelines regarding pollution reduction objectives.

Air quality and related information affects not only travel decisions and the structure of elements that make up the tourism offering consumed by visitors, but also determine the overall tourist image of a destination [Echtner, Ritchie 1991: 2-12; Nawrocka 2008: 128-129; Cooper, et al. 1993: 25; Muhoho-Minni, Lubbe 2017: 58-79], also for potential tourists, i.e. those who compare destinations (cities) that could visit in the near or more distant future. These issues may be subject to long-term assessment combined with the observation of activities undertaken by government authorities, including individual tourist cities, to control air quality in a certain time perspective [Avgoustis, Achana 2003: 65-71].

The perception of air quality by tourists directly influences their assessment of urban tourist destinations and is a factor in their decision to visit particular cities, which is confirmed by studies conducted in Europe [Arbulú, Lozano, Rey-Maqueira 2015: 628-636; Katircioglu, Feridun, Kilinc 2014: 634-640], China [Dong, Xu, Wong 2019; Zhang et al. 2015: 2397-2414; Xu, Reed 2019: 601-614; Ahmad et al. 2018] and in other countries as well [Ng, Lye, Lim 2015: 1-12]. Thus, lower air quality can influence tourists' plans to visit particular cities, and at the same time requires action from public authorities to limit the negative impact of smog on the functioning of the urban tourism industry through measures to improve air quality in the short and long term. At the same time, it should be emphasized that especially in European cities, including Poland, low air quality can be observed mostly in the autumn and winter period when, in addition to industrial and transport emissions occurring with varying intensity throughout the year, there is a significant rise in pollution resulting from heating houses, flats and facilities operated by enterprises and institutions. Actions taken in cities and aimed at reducing emissions help to influence city development, including urban tourism, increase the level of the city's competitiveness, including the level of

tourist attractiveness, as well as conduct an active promotional policy of cities on the tourist market, and in particular to shape a positive tourist image.

Consumer awareness of tourists and their purchasing decisions related to domestic and foreign trips only to a small extent indicate that air quality is actually taken into account when planning tourist trips. Based on the results of a survey conducted by the author as a member of a research team, one can identify trends in the extent to which Polish tourists take into account information about air quality when planning tourist trips. The survey was conducted in 2019 on a group of almost 500 people living in various regions of the country. Only less than 4% of respondents said that they were always interested in information about air quality before travelling to cities, while about 17% indicated that they found such information relevant only sometimes. This information is sought a bit more often for private than for business trips. Regarding trips to Polish cities, about 5% of respondents said they looked for such information, 18.5% did so sometimes; about 2.5% of respondents always sought such information when travelling abroad, while 15.5% did so sometimes. Almost 55% of respondents had never looked it up, and about 25% had not even thought about it. When it comes to travelling with children, the interest in air quality before travelling to Polish cities rose to 7%, but in the case of foreign cities only 1% of respondents checked such information. Much more interest (13%) in air quality in urban tourist destinations was reported by tourists taking long-term private trips (lasting over 1 month).

It is difficult to draw certain conclusions from the preliminary results of the survey. Apart from noting that the growing environmental problem observed in many Polish cities so far has not significantly affected purchasing decisions related to urban tourism. On the other hand, it should be noted that the problem is recognised by consumers. While the survey results do not support this, conversations with employees of travel agencies selling tourist packages to cities in China or suggest that customers do make inquiries about smog in cities that are potential tourist destinations. Some customers, after being informed that air quality in a particular city is poor, choose not to travel that destination and keep looking for another offer.

6. Summary

After analysing issues related to crisis phenomena in urban tourist destinations, the root causes of these phenomena were identified and a distinction was made between exogenous and endogenous phenomena as well as those of a mixed nature. One of the most important problems of modern tourism, especially in urban destinations, is overtourism, which was characterised in more detail. Anoth-

er problem that receives less attention in the context of the functioning of urban tourist destinations is the condition of the natural environment, for example air quality. Polish tourists pay relatively little attention to the problem of smog when choosing urban destinations, as evidenced by the results of a survey. However, this is a problem that significantly affects the overall tourist attractiveness of the city. From the point of view of Polish tourists, living in urban agglomerations, negative experiences regarding poor air quality in their cities of residence should encourage them to choose tourist destinations where there is no smog. Despite the low interest in air pollution indicators exhibited by Polish tourists travelling to cities in Poland and abroad, it is necessary to emphasize the need to be interested in these problems at city and macroeconomic level. In this regard, appropriate measures should be taken by entities involved in general socio-economic policy and as part of sectoral policies, i.e. industrial policy, environmental protection policy and tourism policy.

References

- Ahmad F., Draz M. U., Su L., Oztruk I., Rauf A., 2018, Tourism and Environmental Pollution: Evidence from the One Belt One Road Provinces of Western China, *Sustainability*, 10: 1-22.
- Air quality in Europe*, 2018, European Environment Agency, no. 12, Copenhagen.
- Anaman K.A., Looi C.N., 2000, Economic Impact of Haze-Related Air Pollution on the Tourism Industry in Brunei Darussalam, *Journal of Economic Analysis & Policy*, 30: 133-143.
- Andereck K., Jurowski C., 2006, Tourism and Quality of Life, in: G. Jennings, N. Polovitz Nickerson (eds.), *Quality Tourism Experiences*, London: Butterworth Heinemann.
- Arbulú I., Lozano J., Rey-Maqueira J., 2015, Tourism and solid waste generation in Europe: A panel data assessment of the Environmental Kuznets Curve, *Waste Management*, 46: 628-636.
- Ashworth G., Page S.J., 2011. Urban tourism research: Recent progress and current paradoxes, *Tourism Management*, 32(1): 1-15.
- Avgoustis S.H., Achana F., 2003, A practical approach to city tourism sustainability, in: S. Rudy (ed.), *Proceedings of the 2002 Northeastern Recreation Research Symposium*, Newtown Square, PA: USDA Forest Service.
- Bednarczyk M. (ed.), 2010, *Przedsiębiorczość w turystyce*, Warszawa: CeDeWu.
- Bieger T., Wittmer A., 2006, Air transport and tourism – Perspectives and Challenges for Destinations, Airlines and Governments, *Journal of Air Transport Management*, 12(1): 40-46.
- Borzyszkowski J., 2012, Dyskusja nad pojęciem destynacja, *Ekonomiczne Problemy Turystyki*, 4(20): 19-30.
- Borzyszkowski J., 2018, Overtourism w turystyce kulturowej, *Turystyka Kulturowa*, 2: 134-150.

- Bramwell B., 1998, User satisfaction and product development in urban tourism, *Tourism Management*, 19(1): 35-47.
- Cooper C., Fletcher J., Gilbert D., Wanhill S., 1993, *Tourism, Principles & Practice*, Pitman Publishing.
- Cracolici M.F., Nijkamp P., 2008, The Attractiveness and Competitiveness of Tourist Destination: A study of Southern Italian Regions, *Tourism Management*, 30(3): 336-344.
- Crouch G.I., Ritchie J.R., 1999, Tourism, competitiveness, and societal prosperity, *Journal of Business Research*, 44: 137-152.
- Decrop A., 1999, Tourists' decision-making and behavior processes, in: A. Pizam, Y. Mansfeld (eds.), *Consumer behavior In Travel and tourism*, New York–London–Oxford: The Haworth Hospitality Press.
- Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe, OJ L 152, 11.06.2008.
- Dong D., Xu X., Wong Y. F., 2019, Estimating the Impact of Air Pollution on Inbound Tourism in China: An Analysis Based on Regression Discontinuity Design, *Sustainability*, 11: 1-18.
- Douglas N., Derrett R., 2001, *Special interest tourism*, Milton: John Wiley and Sons.
- Echtner C.M., Ritchie J.R., 1991, The meaning and measurement of destination image, *Journal of Tourism Studies*, 2: 2-12.
- Edwards D., Griffin T., Hayllar B., 2008, Urban tourism research: developing an agenda, *Annals of Tourism Research*, 35(4): 1032-1052.
- Europe's urban air quality – re-assessing implementation challenges in cities*, 2018, European Environment Agency no. 24, Copenhagen.
- Goodwin H., 2017, The challenge of overtourism, *Responsible Tourism Partnership Working Paper*, 4 October, <http://haroldgoodwin.info/pubs/RTP'WP4Overtourism01'2017.pdf> [accessed: 14.10.2019].
- Gospodini A., 2001, Urban design, urban space morphology, urban tourism: an emerging new paradigm concerning their relationship, *European Planning Studies*, 9(7): 925-934.
- Hall C.M., 2002, Tourism in capital cities, *Tourism* 50(3): 235-248.
- Hu Y., Brent Ritchie J.R., 1993, Measuring Destination Attractiveness: A Contextual Approach, *Journal of Travel Research*, 32(2): 25-34.
- Karski A., 1990, Urban Tourism: A Key to Urban Regeneration?, *The Planner*, 76(13): 15-17.
- Katircioglu S.T., Feridun M., Kilinc C., 2014, Estimating tourism-induced energy consumption and CO₂ emissions: The case of Cyprus, *Renewable and Sustainable Energy Reviews*, 29: 634–640.
- Kesić T., Pawlić I., 2011, Tourism destination image formation. The case of Dubrovnik, Croatia, *Tržište*, 23(1): 7-25.
- Kim K., Uysal M., Sirgy M.J., 2013, How does Tourism in a Community Impact the Quality of Life of Community Residents?, *Tourism Management*, 36: 527-540.
- Ladkin A., 2011, Exploring tourism labor, *Annals of Tourism Research*, 38: 1135-1155.
- Leiper N., 2004, *Tourism management*, Sydney: Frenchs Forest, Pearson Education.

- Łapko A., Panasiuk A., 2019, Water Tourism as a Recipient of Transport Services on the Example Szczecin, *Transportation Research Procedia*, 39: 290-299.
- Maitland R., Ritchie B.W., 2010, *City Tourism. National Capitals Perspectives*, Cambridge: CAB International.
- Meler M., 1998, Marketinški identitet turističke destinacije hrvatskog Podunavlja, *Tourism and Hospitality Management*, 4(1): 173-186.
- Muhoho-Minni P., Lubbe B.A., 2017, The role of the media in constructing a destination image: The Kenya experience, *Communicatio*, 43: 58-79.
- Nawrocka E., 2008, Wizerunek obszaru recepcji turystycznej, *Ekonomiczne Problemy Turystyki*, 11: 128-129.
- Ng T.H., Lye C.T., Lim Y.S., 2015, A decomposition analysis of CO₂ emissions: Evidence from Malaysia's tourism industry, *International Journal of Sustainable Development World Ecology*, 23(3): 1-12.
- Page S., 2005, *Transport and Tourism: Global perspectives*, London: Pearson, Prentice Hall, Harlow.
- Page S., Connell J., 1993, *Tourism development. Guide for local planners*, Madrid: WTO.
- Panasiuk A. (ed.), 2011, *Ekonomika turystyki i rekreacji*, Warszawa: Wydawnictwo Naukowe PWN.
- Panasiuk A., 2007, Tourism Infrastructure as a Determinant of Regional Development, *Ekonomika ir vadyba: aktualijos ir perspektyvos*, 1(8): 212-215.
- Panasiuk A., 2013, Marka turystyczna jako instrument zarządzania regionalną gospodarką turystyczną w warunkach sytuacji kryzysowych, *Współczesne Zarządzanie*, 1: 26-27.
- Panasiuk A., 2019, Rynek turystyczny. Struktura. Procesy. Tendencje, Warszawa: Difin.
- Pawlicz A., 2008, *Promocja produktu turystycznego. Turystyka miejska*, Warszawa: Difin.
- Postma A., Buda D. M., Gugerell K., 2017, The future of city tourism, *Journal of Tourism Futures*, 3(2): 95-101.
- Rani H.A., 2017, Determination of Tourism Infrastructure Development Priority in Weh Island – Aceh using Location Quotient, *International Journal of Emerging Technology and Advanced Engineering*, 7(2): 1-4.
- Riganti P., Nijkamp P., 2008, Congestion in popular tourist areas: A multi-attribute experimental choice analysis of willingness-to-wait in Amsterdam, *Tourism Economics*, March: 25-44.
- Seraphin H., Sheeran P., Pilato M., 2019, Over-tourism and the fall of Venice as destination, *Journal of Destination Marketing & Management*, 9: 374-376.
- Schianetz K., Kavanagh L., 2008, Sustainability Indicators for Tourism Destination; A Complex Adaptive Systems Approach Using Systemic Indicator Systems, *Journal of Sustainable Tourism*, 16(6): 601-628.
- Wilk T., Pawlak P., 2014, Kongestia transportowa, *Logistyka*, 6: 11117-11122.
- Xu X., Reed M., 2019, Perceived pollution and inbound tourism for Shanghai, A panel VAR approach, *Current Issues of Tourism*, 22(5): 601-614, <https://www.tandfonline.com/doi/pdf/10.1080/13683500.2018.1504898?needAccess=true> [accessed: 2.09.2019].

- Zhang A., Zhong L., Xu Y., Wang H., Dang L., 2015, Tourists' Perception of Haze Pollution and the Potential Impacts on Travel: Reshaping the Features of Tourism Seasonality in Beijing, China, *Sustainability*, 7(3): 2397-2414.
- Zhiyang J., Yiyin S., Yuan J., Ding L., 2012, A Framework of Knowledge Management Systems for Tourism Crisis Management, *Procedia Engineering*, 29: 138-143.

Zjawiska kryzysowe w funkcjonowaniu miejskich destynacji turystycznych

Streszczenie. Miasta stanowią jeden z najczęstszych celów podróży turystycznych, są miejscem docelowym i odgrywają istotną rolę w zakresie obsługi turystycznego ruchu tranzytowego. W opracowaniu przedstawiono zagadnienia dotyczące problematyki przejawiania się zjawisk kryzysowych w miejskich destynacjach turystycznych. Dokonano klasyfikacji zjawisk kryzysowych, wyodrębniając zjawiska egzo- i endogeniczne oraz mieszane. Szczególną uwagę zwrócono na zjawiska endogeniczne, które generowane są przez intensywny ruch turystyczny w miastach, tj. *overtourism*, oraz oddziaływanie na stan środowiska przyrodniczego w przestrzeni miejskiej, zwłaszcza na jakość powietrza. Celem pracy jest prezentacja zagrożeń mających charakter kryzysowy na współczesnym rynku turystycznym w funkcjonowaniu miejskich destynacji turystycznych. Praca ma charakter teoretyczny, uzupełniony pilotażowymi wynikami badań empirycznych z zakresu percepcji przez potencjalnych turystów informacji dotyczących zanieczyszczeń powietrza przy podejmowaniu decyzji wyjazdów turystycznych do miast. Zaprezentowane zagadnienia mają charakter diagnostyczny i koncepcyjny. Wykorzystano metody: krytycznej analizy literatury przedmiotu, operacji logicznych, metody ilościowe, metody heurystyczne. Przedstawione wyniki mogą być wykorzystane w kształtowaniu polityki turystycznej w miastach o rozwiniętej funkcji turystycznej.

Słowa kluczowe: miasto, destynacja turystyczna, zjawiska kryzysowe, *overtourism*

JÓZEF KOMOROWSKI*, BERNADETA HOŁDERNA-MIELCAREK**

Economic and Social Consequences of Mass Tourism in City Management – the Case of Poznań and Wrocław

Abstract. The article addresses the problem of urban mass tourism in the context of its consequences, with emphasis on phenomena that have an adverse effect on the quality of life for local communities. The aspects of analysis described by the authors are an example of operationalizing the indicator-based approach to the assessment of mass urban tourism to identify its economic and social consequences for the cities of Poznań and Wrocław. Drawing on the analysis of statistical data and in-depth interviews with local tourism experts, the authors conclude that focus on tourism in urban management can contribute to positive economic effects, while the awareness of how tourism can affect various aspects of social life can help to create sustainable solutions.

Keywords: urban mass tourism, indicators of urban mass tourism, economic-social consequences of urban mass tourism

1. Introduction

Tourism, as an economic sector, is viewed in the light of economic benefits expected as a result of the growth in tourist traffic.¹ However, as a multifaceted

* WSB University in Poznań (Poland), Department of Finance and Banking, e-mail: rudnicze@interia.pl, orcid.org/0000-0003-3578-0302.

** Poznan University of Physical Education (Poland), Department of Economics of Tourism and IT, e-mail:holderna-mielcarek@awf.poznan.pl, orcid.org/0000-0002-9738-1633.

¹ In 2018 the tourism industry accounted for 10% of the world's GDP, 7% of world's exports and 30% of world's services exports, provided 10% of world's jobs, generated US\$ 1,340 billion in receipts earned in the destinations, including US\$ 529 billion in Europe; world's tourist traffic amounted to 1,326 million international tourist arrivals, including 672 million in Europe [UNWTO Tourism Highlights 2018].

phenomenon, it affects other spheres of socio-cultural life and the natural environment. Mass tourism can be credited not only with benefits derived from accompanying processes, such as the growth of investment and innovation, the development of employment and an increase in consumption and well-being, but can also be associated with threats, such as deteriorating living conditions for local communities, economic and social disparities between tourists and local inhabitants, disappearance of the local culture and environmental degradation. Undoubtedly, effects of mass tourism depend on local conditions in particular destinations and entities participating in its development, as well as other factors, such as intensity, frequency and duration of tourism-related impacts on the local community and environment, tourism carrying capacity, solutions used in tourism supply and organization of tourist traffic, including pro-environmental and pro-social measures.

The purpose of the article is to identify phenomena associated with mass tourism and their economic and social consequences by analysing the cases of two agglomerations: Poznań and Wrocław.² The research problem refers to the development of tourism in cities as a possible policy objective in urban management, which can contribute to positive effects for the local economy and community.

The study following study is based on literature review and analysis of statistical data about the two cities, as well as results of in-depth interviews with local tourism experts

Two research questions were formulated in the empirical study:

- 1) Is mass tourism and overtourism the result of local tourist assets, including those of international importance, characteristics of the service sector (the range of its offering and its spatial differentiation) and the regulatory framework, expressed in development strategies and programs pursued by both cities?
- 2) Can the strategic focus on tourism in the management of both cities, which takes into account its multiples effects on socio-cultural life, support sustainable development?

2. Economic and social problems and possible solutions in the development of urban mass tourism

The problem of the impact of mass tourism on the socio-economic development of tourist destinations can be analysed from various perspectives. Existing studies indicate both positive and negative effects of tourism on the local economy and

² The problems described in the article are a continuation of the analysis of mass tourism and overtourism and its consequences for the development of cities and local communities as exemplified by Poznań and Wrocław, described in the article published in the Scientific Bulletin of Wrocław University of Economics and Business.

community. With respect to economic benefits, tourism is viewed as a source of revenues for companies and local residents and a contributor to the local budget, as a facilitator of employment activation of the local population [Wodejko 1998], a factor stimulating national and foreign investment (capital and technology transfer, improvement of quality standards, promotion of tourist destinations) [Kędziorek 2017], a factor contributing to the development of entrepreneurship in the tourism or other related sectors, as a factor in multiplier effects [Pawlusiński 2012; Milewski 2011].

Other studies focus on negative economic impacts of tourism, such as its role as a potential factor of inflation, problems resulting from attempts to overcome a limited supply of qualified labour force [Wodejko 1998], import expenditures and profit outflows to countries providing foreign capital [Kędziorek 2017]. Tourism is seen as a facilitator of urban development and economic urbanization, including the development of tourism and dependent infrastructure, municipal infrastructure and housing management, which affect the operation of tourist facilities and institutions and lead to the growth of urban fixed assets [Gaworecki 1997].

With respect to the social dimension, studies identify a number of positive functions of tourism, which can help local residents achieve higher standards of living, trigger higher educational aspirations and a desire to improve one's qualifications, which fosters tolerance. Tourism can also have negative social consequences, such as commercialization of hospitality, the development of social pathology and a deterioration of living conditions as a result of noise and pollution [Mika 2012].

Processes and changes brought about by tourism in the economic and socio-cultural character of tourist destinations can be explained by applying theoretical models, such as R.W. Butler's Model of Tourism Development, D.V. Doxey's irritation index, describing changes in local residents' attitudes towards tourists and tourism development, J. Jafari's platform model, D. MacCannell's concept of authenticity in tourist experiences, J. Urry's *notion* of the 'tourist gaze' in the tourist experience [Halik 2013; Durydiwka 2014].

Studies analysing consequences of the rise of mass tourism at the start of 21st century point out that negative phenomena are largely the result of the commercialization of mass tourism and the fact that dysfunctions of tourism outweigh its local benefits, which can affect the quality of life and cause dissatisfaction of local residents. Scientists highlight the continuing globalization of tourism, driven by modern information technologies, innovative systems of sharing information and booking tourist services, the development of low-cost airlines, liberalization of passport and visa regulations, the competitive market of tourism products that meet expectations of modern tourists [Mańko, Wolna-Samulak, Stankiewicz 2012]. These factors can also influence the development of tourist traffic in cit-

ies. Moreover, negative effects of exceeding the tourism carrying capacity of cities can be further aggravated by the behaviour of post-tourists in line with the concept of the collective gaze and authentic sociability. This is because expected tourist experiences are associated with an indispensable atmosphere of shared experience and visual consumption of a given place [Urry 2007].

The popularity of cities as tourist destinations along with critical reactions associated with excessive tourist traffic at certain periods and in certain places are what motivates the scientific discussion about the conditions that affect the development of urban mass tourism and sustainable solutions, such as the inclusion of local communities in the tourist value chain, measures aimed at preventing inconveniences to local residents and the deterioration in quality of life, protection of cultural and environmental assets.³

Sustainable tourism was mentioned in the New Urban Agenda as one of the sectors which can help to support the urban economy in increasing efficiency and creating high quality jobs (Quito Declaration On Sustainable Cities and Human Settlements for All, Habitat III, Quito, 2016, UN⁴). The task of designing the development of urban tourism can involve actions that not only stimulate tourist traffic but also have a positive influence on the economic situation and living conditions of local residents by helping them to avoid the inconvenient effects of overtourism in the urban space and enable the sustainable development of tourism initiatives that are mutually beneficial to tourists and residents.

In European cities, where the effects of mass tourism and overtourism are evident, specialists pay close attention to various aspects of this phenomenon. Overtourism poses a threat and can lead to a physical destruction of the value of the tourist capital of a given place, causing a degradation of its *genius loci*, which comprises the natural and cultural elements of this capital. Among places most exposed to the dangers of overtourism, however, are small tourist destinations such as the Rialto Bridge (It. *Ponte di Rialto*) or St Mark's Square (It. *Piazza San Marco*) in Venice, the Uffizi Gallery (It. *Galleria degli Uffizi*) in Florence, the Eiffel

³ In 2018 15 European cities registered 367.6 million bednights, including (in millions): London (71.16), Paris (52.55), Berlin (32.9), Rome (28.5), Istanbul (21.0), Madrid (19.8), Barcelona (19.3), Prague (18.2), Vienna (17.4), Munich (17.1), Amsterdam (16.9), Stockholm (16.9), Hamburg (14.5), Milan (12.4), Lisbon (10.8) (<https://www.europeancitiesmarketing.com/ecm-benchmarking-report/> [accessed: 1.08.2019], <https://en.calameo.com/read/0006740146113b6fd02fc?page=5> [accessed: 1.08.2019]). For instance, in Germany, nearly 40% (14.0 million) of foreign arrivals concentrate in 6 cities, including: Berlin, Munich, Frankfurt, Dusseldorf, Heidelberg, Freiburg. In the last 10 years, particularly high increases have been registered in Berlin (+117%), Hamburg (+97%), Dresden (+81%) [Burdack 2018].

⁴ In Polish: Deklaracja z Quito w sprawie zrównoważonych miast i osiedli ludzkich dla wszystkich, Habitat III, Quito, 2016, ONZ, <http://habitat3.org/wp-content/uploads/NUA-Polish.pdf> [accessed: 2.08.2019].

Tower in Paris or Machu Picchu in Peru. Once a destination is exposed to overtourism, the quality of the tourist experience (the perception of cultural assets and sights) declines. However, this is only true theoretically, as can be seen from studies conducted by the authorities of Barcelona, which did not conform this relationship; only 58% of surveyed tourists complained about inconveniences associated with an excessive number of tourist.⁵ Such inconveniences do not seem to discourage tourists and the number of places affected by overtourism is growing year after year. This trend can probably be observed in the majority of very popular tourist destinations. The mass tourist wants to see as much as they possibly can in a given place, following recommendations contained in guidebooks, and make the most of what the place has to offer, even for a short period of time. This is the result of behaviour driven by high expectations, which in turn are stimulated by tourism marketing and the media. In addition of the seasonal nature of overtourism, another particularly disruptive aspect of this phenomenon is its concentration within a limited space, where tourists are treated as a diverse, foreign element arriving in search of diverse forms of entertainment. Overtourism is a source of social conflicts, driving up prices of real estate (tenement houses and apartments) and rental rates and forcing local residents to abandon them, which disrupts social life.

Various solutions are proposed to alleviate the negative effects of overtourism, involving a more flexible management of tourist attractions by extending opening hours and increasing the number of days when they can be visited, by creating special tourist routes and introducing flexible pricing strategies and promotional measures, e.g. raising prices when tourism demand is higher, as well as undertaking educational initiatives aimed at shaping the attitudes and behaviour of tourists [Borzyszkowski 2018: 135-136]. One way in which the problem of overtourism can be solved at micro-scale level is to split tourist traffic by directing it to alternative destinations [Borzyszkowski 2018: 145]. Examples of such strategies are various approaches, such as those implemented in Barcelona, where the authorities are trying to increase the role of quality tourism and attract more affluent tourists [Komorowski 2018], or the case of Venice, which is considering introducing fees for visiting the city.

Solutions to the problem of mass tourism and overtourism can be optimized by creating spatial management plans, which designate zones and places and describe ways of controlled use of urban space for purposes of tourism. Practical solutions include various management techniques for urban mass tourism that take into account the carrying capacity of the place and can be used to keep tourist traffic at a reasonable level.

⁵ www.lavanguardia.com/local/barcelona/2016/08/21 [accessed: 5.08.2019].

3. The state of tourism in Poznań and Wrocław

Mass tourism and overtourism are associated with management problems concerning many aspects, including the consequences of socio-economic and spatial development of agglomerations. After analysing the phenomenon of overtourism in EU countries, P. Peeters et al. [2018] concluded it was difficult to identify a common set of indicators for assessing it because of its complex causes and effects. They argued that in order to avoid overtourism, it is necessary to implement non-standard policies that need to be developed in cooperation with stakeholders and decision makers in tourist destinations. Based on a review of the literature, they found that indicators regarding density, intensity, growth, seasonality, peer-to-peer platform and social media usage were considered to be most relevant [Peeters et al. 2018].

The state of tourism in the two cities analysed in our study is characterised by local variation and different development dynamics. It should be remembered that the scale of mass tourism in Wrocław and Poznań, compared to European cities where the largest numbers of bednights was recorded in 2017,⁶ including bednights by international tourists,⁷ is much lower. The two analysed cities differ in terms of the share and dynamics of tourism, including international tourism. The number of bednights in Wrocław was about 2 million (the index value for the period 2015-2017 was equal to 1.16). In Poznań 1.4 million bednights were recorded (the index value for the same period was 1.1). The share of international tourists using accommodation resources in Wrocław is higher (32.6%) than in Poznań (23.5%). One should note the considerable contribution of fair-related tourism in Poznań, which, undoubtedly, has an effect on the value of this indicator. As regards the mean length of hotel stay of total tourists and international tourists, it is similar in both cities (in Wrocław – 1.67 days for total tourists and 1.89 for international tourists; in Poznań – 1.65 and 1.92, respectively). The indicators showing tourism intensity in the period 2015-2017 in Wrocław and Poznań indicate an growing trend, with a 11-12% growth in the number of bed-

⁶ London – 79.87 million, Paris – 48.11 million, Berlin – 31.14 million, Rome – 29.29 million, Madrid – 19.26 million, Barcelona – 18.79 million, Prague – 18.06 million, Istanbul – 17.26 million, Vienna – 16.42 million, Munich – 15.86 million, Amsterdam – 15.66 million, Stockholm – 14.05 million, <https://de.statista.com/statistik/daten/studie/527374/umfrage/anzahl-der-tourismusuebernachtungen-in-europa-nach-staedten/> [accessed: 12.03.2019].

⁷ London – 19.83 million, Paris – 17.44 million, Istanbul – 10.70 million, Antalya – 9.42 million, Milan – 8.81 million, Palma de Mallorca – 8.78, Barcelona – 8.69 million, Rome – 7.17 million, Amsterdam – 7.16 million, Venice – 7.01 million (*Städtereisen boomen weiter: Bangkok, London und Paris führen 2018 Global Destination Cites Index von Mastercard an*, <https://newsroom.mastercard.com/eu/de/press-releases/staedtereisen-boomen-weiter-bangkok-london-und-paris-fuehren-2018-global-destination-cities-index-von-mastercard-an/> [accessed: 11.03.2019]).

Table 1. Tourism capacity and intensity of tourist traffic in Poznań and Wrocław

Indicator	Wrocław			Poznań		
	2015	2016	2017	2015	2016	2017
Number of beds per 100 persons	1.70	1.70	1.97	1.63	1.68	1.74
Number of beds per 1 km ²	37.6	37.3	42.9	33.8	34.6	35.8
Number of tourists using hotel accommodation per 100 persons	164	174	184	151	157	163
Number of bednights per 100 persons	275	301	307	240	258	267
Number tourists using hotel accommodation per 1 km ²	3552	3792	4021	3129	3232	3351
Number tourists using hotel accommodation per 1 bed	94.5	102.0	93.8	92.5	93.4	93.6
Number of bednights per 1 bed	159	175	156	147	154	153
Bedspace/hotel bed occupancy rate %	44.8/59.4	52.8/63.7	52.0/62.1	40.8/52.8	42.9/56.8	43.0/55.0
Share of international tourists using accommodation resources %	28.1	31.8	32.6	23.3	23.5	23.5

Source: Wrocław w liczbach, 2017; Rocznik Statystyczny Wrocławia 2016; Rocznik Statystyczny Poznania 2017; Rocznik Statystyczny Wrocławia 2018; Rocznik Statystyczny Województwa Wielkopolskiego 2018.

nights per 100 persons. Compared to analogical values for European cities, these indicators are a number of times smaller. Still, both cities saw an increase in the number of bednights per 100 persons and per square kilometre, with a slightly smaller rate of growth recorded in Poznań. In the period 2015-2017 the index value for bednights per 100 persons in Wrocław was 1.16 and in Poznań – 1.08, while the index for bednights per square kilometre was 1.14 in Wrocław and 1.05 in Poznań (see Table 1).

The spatial distribution of tourist attractions can result in varying levels of tourist traffic within each city. Unlike Poznań, where tourist traffic practically concentrates in just two areas: the Old Town (75% of visitors) and Ostrów Tumski also known as the Cathedral Island (33% of visitors) [Poznań #2015#2016... 2018]; the sights of Wrocław located in various parts of the city attract visitors away from the city centre (to Ostrów Tumski (the Cathedral Island, the Old Market, the Four Confessions District, the Royal Palace with the Baroque garden, the main building of the University of Wrocław, the Raclawice Panorama, the Hydropolis Centre for Ecological Education, the Centennial Hall, the Szczytnicki Park, the Wrocław Zoological Garden).⁸ Wrocław boasts at least 20 attractions

⁸ <https://visitwroclaw.eu/top-10-atrakcje-wroclaw> [accessed: 28.03.2019].

of international significance, including the Centennial Hall, listed as a UNESCO World Heritage Site, which encourage tourists to make a longer stay in the city. As a result, Wrocław can definitely be treated as an endpoint destination, in contrast to Poznań, which is much more of a stopover destination for cultural tourism.

The intensity of tourist traffic is associated with various events (cultural, sports, business) organized in the city and can exceed the city's service capacity or its social and ecological resilience. For example, Poznań experiences periodic peaks in the number of visitors coming to attend fair events held at the MTP Poznań Expo complex. The scale of this phenomenon is revealed by the number of visitors attending the two most popular events (114.5 thousand and 48.3 thousand). In the case of other events, the number of visitors ranges from 1.1 to 34.7 thousand. In 2017, 57 events attracted 9057 exhibitors and 711.2 thousand visitors [*Rocznik Statystyczny Województwa Wielkopolskiego* 2018]. Another factor that contributes to a greater congestion of urban spaces is the relatively large number of sports events, including popular marathons and half-marathons. In the period 2008-2017 the number of runners participating in half-marathons increased 10 times (from 1037 to 10398 participants), and in the case of marathons – 8 times (from 761 in 2000 to 6362 in 2017) [Królikowska-Tomczak A. 2017]. An analysis of the structure and number of events held in Wrocław reveals that they are mainly organized in two districts (Fabryczna and Old Town). Events organized in the Old Town attracted 18.7% of participants, while those held in Fabryczna district as many as 73.3% of all participants. Relevant indicators suggest that the Old Town in Wrocław is not overloaded as a result of hosting large events [*Wrocław w liczbach* 2017].

Another factor that can lead to an excessive intensity of tourist traffic is the spatial distribution of accommodation facilities in the city centre. From this point of view, the period 2010-2018 saw a growth in the number of such facilities or in occupancy rates not only in the Old Town of Wrocław (up by a factor of 1.2-1.4) but also in other districts (up by a factor of 3.5-4).⁹ In Poznań, in the same period, the number of tourists using accommodation facilities located in the Old Town district declined by 8 p.p., while in other districts it rose by 2 to 4 p.p. [*Poznań – biuletyn statystyczny*, IV kwartał 2018].

The economic significance of urban tourism is manifested by investment outlays. The development of tourism in Wrocław is confirmed by investment outlays in companies in the accommodation and catering industry, which more than doubled between 2015 (PLN 62.4 million) and 2017 (PLN 135.3 million) [*Rocznik Statystyczny Wrocławia* 2018]. In the same period Poznań saw a slower rate of growth in investment outlays (from PLN 38.2 million in 2015 to PLN

⁹ General data about tourist accommodation facilities in Wrocław, by district in the period 2010-2018. Informatorium Urzędu Statystycznego we Wrocławiu [unpublished data].

54.4 million in 2017). In 2018 there were 3046 companies in the accommodation and catering industry in Poznań, while Wrocław could boast 400 companies more i.e. 3421 (as in April 2018). The average employment in this sector in Wrocław (10.5 thousand) is four times as high as in Poznań (2.4 thousand) [*Biuletyn statystyczny województwa dolnośląskiego, IV kwartał 2018; Poznań – biuletyn statystyczny, IV kwartał 2018*]. The development of air transport has created favourable conditions for the development of mass tourism. In the period 2010-2018 Poznań recorded a 60.4% growth in the number of passengers, while in Wrocław this number grew by 102.8%.¹⁰

The above analysis reveals a diverse character and different conditions underlying the development of tourist traffic in both cities and individualized local polices to manage urban tourism. It is worth noting that taking into consideration the spatial distribution and differentiation of tourist attractions and tourism infrastructure can help to avoid inconveniences resulting from excessive tourist traffic in the city and minimize the level of dissatisfaction on the part of local residents. The development of tourism programmes and products for visitors can help to create new urban spaces and new tourism experiences that can also shape a new urban style and raise local residents' satisfaction with their quality of life.

4. Economic and social consequences of tourism in Poznań and Wrocław according to local experts

In accordance with the principles of sustainable development, the management of urban tourism should be approached by taking into account various dimensions and should involve solutions that limit the negative effects of mass tourism/overtourism. In order to identify ways in which tourism affects socio-economic life and activities related to sustainable development in both cities, the authors conducted a qualitative study between January and April 2019, in the form of in-depth direct interviews with representatives of organisations and institutions involved in the development and promotion of tourism in Poznań and Wrocław and the respective metropolitan areas and provinces (representatives of tourism departments in the Governor's Office (province authorities) and city councils, as well as regional and local agencies of tourism organisations, associations of tour guides, the Society of Friends of Wrocław, the Dolnośląska Chamber of Tourism,

¹⁰ <https://www.airport-poznan.com.pl/pl/port-lotniczy/statystyki> [accessed: 9.04.2019]; <http://airport.wroclaw.pl/lotnisko/o-lotnisku/statystyki/ruch-pasazerski> [accessed: 9.04.2019]. It should be stressed that the figures describe passenger traffic excluding charter flights and general aviation and refer to arrivals and departures associated with various purposes, which, it can be assumed, include tourism.

the Poznan branch of the Polish Tourist and Sightseeing Society (PTTK)). All in all, the study authors interviewed 8 experts from Poznan and 7 from Wrocław, using semi-structured interviews based on a discussion guide.

The complex and heterogeneous nature of tourism (resulting from, among other things, different motivations for travelling, the exploration of different city parts, different timing and varying length of stay, various forms of organization and different consumer preferences with respect to tourism products) determines its mass character and its socio-economic dimension.

Tourism experts from Poznań believe that group/organized/business and fair-related tourism in the city exhibits typical characteristics of mass tourism, while they do not attribute such characteristics to individual/cultural tourism or do so only to a limited extent. In their opinion, business-related tourist traffic concentrates around the fair grounds and hotels located in the city centre. In contrast, cultural tourism concentrates in the vicinity of the Old Town owing to the attractiveness of this part of the city. A number of other city districts were also identified where tourist traffic can be observed in connection with tourist attractions that are located there. Both cultural and business tourism were described as seasonal. Periods of higher tourism demand coincide with the calendar of fair events and in the case of cultural tourism – the time from spring to autumn.

In the eyes of experts from Wrocław, tourism in the city has the characteristics of a mass phenomenon, with tourist traffic concentrating in the area of the Old Town. According to respondents, the intensity of tourism in Wrocław changes seasonally, with the highest demand in the period from April to October.

The existing state of the accommodation and other kinds of tourism infrastructure was considered to be beneficial for the development of mass tourism. Experts agreed that the short-term renting of apartments and rooms in central locations does not yet produce negative effects associated with overtourism and the supply of rented accommodation does not show signs of declining.

Respondents' answers concerning social effects of mass tourism, especially its impact on the level of satisfaction or dissatisfaction of local residents and the awareness of the problem of mass tourism as reflected by the number of complaints about resulting inconveniences, indicate that tourism is not perceived as a factor with a considerable effect on the quality of life. Local residents participate in making decisions concerning the development of tourism through public consultations, tourism design competitions, autonomous entrepreneurial activities. Poznań experts pointed out that only a small percentage of the city's population gets involved in the process of decision making concerning various aspects of tourism. This is undoubtedly connected with the fact that tourism plays a relatively small role in the overall economy of big cities, such as Poznan and Wrocław. In regions and cities where its function is dominant, residents' involvement in coping with the problems of tourism become stronger.

The following factors associated with the development of tourism were listed by the respondents as affecting the level of residents' satisfaction: economic benefits, revenues from tourism, employment opportunities, the development of language skills, organisation of cultural/sports events. The experts did not select factors such as getting to know other cultures and the development of recreational infrastructure. All of the factors mentioned above were indicated as contributing to the satisfaction of residents of Wrocław. The experts believed that residents in Poznań and Wrocław benefit from the development of tourism by participating in the sharing economy, i.e. offering apartments/houses for rent via booking websites. It is an area that is difficult to control and which (theoretically) can contribute to an excessive intensity of tourist traffic in the city. In the opinion of the experts, the development of the sports-recreational and cultural-entertainment infrastructure makes the tourism product more attractive and improves the quality of life for local residents.

As regards aspects of tourism in Poznań that contribute to residents' dissatisfaction, the respondents mentioned noise during parties and events and litter. Factors such as congestion, apartment rental prices, prices of goods and services were not listed in this context. The experts from Poznań pointed out that residents' attitudes towards tourism are determined by the type of tourism, destination, direct economic benefits derived by residents, which is why separate studies are required to investigate this subject. This ambiguity can also be observed in the views expressed on the same topic by the experts from Wrocław. When asked about which aspects of tourism are perceived as most inconvenient, some listed apartment rental prices, prices of goods and services and congestion, while classifying noise, congestion, pathology and litter as least inconvenient. Other experts regarded noise and litter as the biggest inconvenience, and rated the price increase associated with tourism as least inconvenient.

Another problem addressed during interviews with the experts were local strategies of tourism development in the city. The respondents agreed that the city's strategic documents contain a commitment to comply with the principles of sustainable development of tourism, that the city's urban planning documents identify special zones designated for the development of tourism and their organisations' strategic documents contain statements concerning the mission of tourism and vision for its development. In particular, in the case of each city, the documents referred to a harmonious development of tourism (preventing the concentration of tourist traffic), public transport, including a program of city bikes, protection of cultural heritage. The experts from Poznań indicated examples of special zones designated for the development of tourism in various categories addressed in the interview: 1) new recreational areas near lakes located within the city and initiatives undertaken by communes in the metropolitan area,

2) new tourist attractions, such as the Interactive Centre in Ostrów Tumski, city quests features items in the city and the metropolitan area, tourist trails focusing on the cultural heritage, 3) the category of hotels and conference facilities was classified as the domain of private enterprise. The respondents from Wrocław focused on zones designated for the development of new tourist attractions, particularly aimed at extending the city's tourism offering by introducing new products such as a "Historical Tram Line" (see Table 2).

The experts believed that the recreational infrastructure should be developed outside the city centre, in areas where the conditions are more appropriate, and thought that sports events should not be held in the city centre, which is a more suitable location for cultural events, although some experts from Wrocław thought they should be distributed around the city outside the centre. The ex-

Table 2. Respondents' opinions about mass tourism in Poznań and Wrocław

Question	Poznań	Wrocław
Is tourism a mass phenomenon?	3.14	4.14
Does tourism concentrate in the area of the Old Town?	4.57	4.28
Does tourism concentrate in other (not centrally located) districts?	2.86	3.00
Is the intensity of tourist traffic higher in certain periods?	4.25	4.14
Does tourist traffic contribute to residents' dissatisfaction?	2.25	1.83
Does tourist traffic contribute to residents' satisfaction?	3.50	3.70
Are residents aware of the problem of mass tourism?	2.00	2.42
Do residents complain about inconveniences related to tourism in certain parts of the city?	2.66	2.14
Do residents participate in making decisions concerning the development of tourism?	2.75	3.50
Do residents participate in the sharing economy (by offering apartments/houses for rent via booking websites)?	4.33	4.00
Do strategic documents of your organisation contain any statements concerning the mission of tourism and vision for its development?	4.00	3.83
Do strategic documents about the city's development contain any statements concerning compliance with the principles of sustainable development of tourism?	5.00	4.00
Do the city's urban planning documents identify any special zones designated for the development of tourism? If so, what zones are they?	4.33	3.00

Mean score calculated for each question on the basis of the following scale: 5 – strongly agree, 4 – agree, 3 – neither agree nor disagree, 2 – disagree, 1 – strongly disagree.

Source: author's own research.

perts also pointed out that accommodation facilities offering varying levels of services and prices should be developed in central locations of both cities, which is what tourists expect. This view was shared by the majority of experts from Poznań. In contrast, respondents from Wrocław tended to favour development of the accommodation infrastructure outside the city centre.

The general view was that tourism in both cities does not lead to the loss of assets that make them attractive for tourists; the respondents listed solutions that can help to prevent the concentration of tourist traffic, e.g. designing different tourist trails and avoiding certain inconveniences associated with excessive tourist traffic, creating opportunities for tourists to use alternative means of transport, such as bikes, scooters, electric vehicles, historical trams.

They expressed an opinion that, in general, tourism does not have a negative impact on residents' quality of life and their subjective experiences depend on individual relations with tourists.

With respect to the economic dimension of tourism, respondents believed it contributed to the growth of the municipal economy and job creation. Experts believe that companies involved in the provision of services for tourists in the city,

Table 3. Degree of agreement expressed by the respondents with statements concerning mass tourism in in Poznań and Wrocław

Opinion	Poznań	Wrocław
Tourism has a negative impact on residents' quality of life (noise, congestion, pathology).	1.37	1.57
No companies providing services for tourists in the city derive any economic benefits.	1.13	1.86
Tourism contributes to a rise in real estate prices in the city.	1.66	2.71
Mass tourism leads to the degradation of tourism assets that make it attractive.	1.66	1.43
The existing accommodation and other types of tourism infrastructure fosters the development of mass tourism in the city	3.80	3.58
The accommodation infrastructure should be developed in central areas of the city.	3.86	2.86
Sports events should be hosted in central areas of the city.	1.83	1.83
Cultural events should be hosted in central areas of the city.	4.66	3.57
The recreational infrastructure should be developed outside the central areas of the city.	4.86	3.16

Mean score calculated for each question on the basis of the following scale: 5 – strongly agree, 4 – agree, 3 – neither agree nor disagree, 2 – disagree, 1 – strongly disagree.

Source: author's own research.

which include companies in the accommodation, catering, transport and sightseeing sector, register positive economic results. This positive economic effect of tourism is also believed to be driven by initiatives aimed at creating new tourist attractions, the development of the catering industry (especially micro companies) and the growing number of bedspaces, including hotel investments (see Table 3).

With regard to promotional activities, one should note the importance of mass tourism for the city's public image. Effectiveness of these activities is improved by employing marketing communication and various tools for the diffusion of information. According to the interviewed experts, the creation of the public image of tourism in the city should vary depending on the target group, e.g. 1) Poznań – the business centre, 2) the attractiveness of the city for foreign tourists, 3) creating the perception of Poznan as a tourist destination in the minds of its residents. The experts from Wrocław believed that the public image of the city can be improved by slogans such as “Wrocław – the city of encounters” as well the fact that the city has won a number of competitions, e.g. the European Capital of Culture. The promotion of the city's public image is supported by the tools of interactive marketing, such as sharing opinions and photos showing the sights of Wrocław on social media.

5. Conclusion

Given the rapid development of tourism, brought about by a number of different factors, it is becoming important to be able to reliably predict and responsibly plan its development in urban destinations. Phenomena associated with tourism should be predicted on the basis of detailed and systematic analyses of economic, social and environmental spheres where tourism plays an important role or which are related to tourism. Such predictions can be particularly important for diagnosing and defining the future function of mass tourism in a given place, can facilitate the future management of tourism and the development of investment strategies, tourism programmes and solutions that comply with the principles of sustainable development.

Data about the tourism industry in both cities in the form of basic indicators, supplemented by the analysis of expert opinions indicate that tourism is a sector of the city's economy that has a tangible effect on economic processes underlying the development of the tourism infrastructure, tourist attractions and a rise in employment. A higher level of tourist traffic observed in the two cities, for example in connection with large exhibition, sports or cultural events, is not perceived as an inconvenience and is not assessed negatively.

The results of the study indicate that although the development of tourism in Poznań and Wrocław is relatively less intensive than elsewhere in Europe, its management is based on the growth paradigm but recognizes the necessity of convince residents that they can share in the socio-economic benefits from the development of tourism.

With respect to Poznań and Wrocław, it is therefore more appropriate to talk about overtourism which affects specific places and locations at a particular time as a result of an excessive number of tourists relative to their limited carrying capacity.

In summary, modern management of urban tourism, which produces effects that satisfy the tourism industry, residents and tourists, has to consider a number of aspects including: 1) detailed and reliable assessment of tourism resources of a given destination and the current and future possibilities of exploiting and protecting them, 2) inclusion of the local community in the process of decision making concerning the development of tourism in general, and the tourism sector in the city and region in particularly, 3) stimulation of research aimed at creating new ideas that can be implemented to enable the sustainable development of tourism, 4) development of sustainable marketing that promotes local tourism assets, highlighting their real possibilities and limitations.

References

- Biuletyn statystyczny województwa dolnośląskiego*, IV kwartał 2018 [Statistical bulletin of dolnośląskie voivodship IV quarter 2018], <https://wroclaw.stat.gov.pl/opracowania-biezace/komunikaty-i-biuletyny/inne-opracowania/biuletyn-statystyczny-województwa-dolnoslaskiego-iv-kwartal-2018-r-2,32.html> [accessed: 1.03.2019].
- Borzyszkowski J., 2018, Overtourism w turystyce kulturowej, *Turystyka Kulturowa*, 2: 134-150, <http://turystykakulturowa.org/ojs/index.php/tk/article/view/954> [accessed: 1.03.2019].
- Burdack J., 2018, Internationaler Städtetourismus in Deutschland, *Nationalatlas aktuell* 2(12), http://aktuell.nationalatlas.de/wp-content/uploads/18_02_Staedtetourismus.pdf [accessed: 28.03.2019].
- Deklaracja z Quito w sprawie zrównoważonych miast i osiedli ludzkich dla wszystkich, Habitat III, Quito, 2016, ONZ, <http://habitat3.org/wp-content/uploads/NUA-Polish.pdf> [accessed: 2.08.2019].
- Durydiwka M., 2014, Między tradycją a nowoczesnością. Wybrane aspekty przemian kulturowych pod wpływem turystyki na przykładzie regionów recepcyjnych, *Turystyka Kulturowa*, 10: 34-51, <http://turystykakulturowa.org/ojs/index.php/tk/article/view/504> [accessed: 2.08.2019].
- Gaworecki W., 1997, *Turystyka*, Warszawa: PWE, 312-314.

- Halik J., 2013, Turystyka w socjologicznej perspektywie, *Młoda Humanistyka*, 1(1): 1-15, <http://www.humanistyka.com/index.php/MH/article/view/15/4> [accessed: 13.08.2019].
- <http://airport.wroclaw.pl/lotnisko/o-lotnisku/statystyki/ruch-pasazerski> [accessed: 9.04.2019].
- <https://de.statista.com/statistik/daten/studie/527374/umfrage/anzahl-der-tourismusuebernachtungen-in-europa-nach-staedten/> [accessed: 12.03.2019].
- <https://en.calameo.com/read/0006740146113b6fd02fc?page=5> [accessed: 1.08.2019].
- <https://visitwroclaw.eu/top-10-atrakcje-wroclaw> [accessed: 28.03.2019].
- <https://www.airport-poznan.com.pl/pl/port-lotniczy/statystyki> [accessed: 9.04.2019].
- <https://www.europeancitiesmarketing.com/ecm-benchmarking-report/> [accessed: 1.08.2019].
- Kędziorek W., 2017, Ekonomiczne efekty międzynarodowej wymiany turystycznej na rozwój gospodarczy w skali globalnej i regionalnej, *Zeszyty Naukowe PWSZ w Płocku. Nauki Ekonomiczne*, 2(26): 9-27.
- Komorowski J., 2018, Współczesne problemy ekonomiczno-społeczne turystyki masowej w miastach, *Studia Periegetica*, 2(22): 13-31.
- Królikowska-Tomczak A., 2017, *Stan turystyki w Metropolii Poznań w latach 2016-2017. Raport na podstawie danych zebranych w ramach Poznańskiego Barometru Turystycznego*, [https://poznan.travel/uploaded/File/barometr/raport_poznan_turystyka_2016-2017_A3\(1\).pdf](https://poznan.travel/uploaded/File/barometr/raport_poznan_turystyka_2016-2017_A3(1).pdf) [accessed: 28.03.2019]
- Mańko K., Wolna-Samulak A., Stankiewicz M., 2012, Globalizacja rynku usług turystycznych, *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Usług*, 96: 325-336.
- Mika M., 2012, Turystyka jako czynnik przemian społecznych, in: W. Kurek (ed.), *Turystyka*, Warszawa: Wydawnictwo Naukowe PWN, 422-436.
- Milewski D., 2011, Mnożnik turystyczny, in: A. Panasiuk (ed.), *Ekonomika turystyki i rekreacji*, Warszawa: Wydawnictwo Naukowe PWN, 78-86.
- Pawlusiński R., 2012, Turystyka jako sektor gospodarki, in: W. Kurek (ed.), *Turystyka*, Warszawa: Wydawnictwo Naukowe PWN, 340-353.
- Peeters P. et al., 2018, Research for TRAN Committee – *Overtourism: impact and possible policy responses*, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, [https://www.europarl.europa.eu/RegData/etudes/STUD/2018/629184/IPOL_STU\(2018\)629184_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2018/629184/IPOL_STU(2018)629184_EN.pdf) [accessed: 1.08.2019].
- Posen #2015#2016. Bericht über die Stadt*, 2018, Posen: Wydawnictwo Miejskie Posenia.
- Poznań – biuletyn statystyczny*, IV kwartał 2018, Poznań Urząd Statystyczny w Poznaniu [Poznań – statistical bulletin IV quarter 2018, Statistical Office in Poznań], <https://poznan.stat.gov.pl/opracowania-biezace/komunikaty-i-biuletyny/inne-opracowania/poznan-biuletyn-statystyczny-iv-kwartal-2018,4,32.html> [accessed: 17.07.2019].
- Rocznik Statystyczny Poznania 2017* [Statistical Yearbook of Poznań City 2017], <http://poznan.stat.gov.pl/publikacje-i-foldery/roczniki-statystyczne/rocznik-statystyczny-poznania-2017,3,9.html> [accessed: 1.03.2019].

- Rocznik Statystyczny Województwa Wielkopolskiego 2018* [Statistical Yearbook of wielkopolskie voivodship], <http://poznan.stat.gov.pl/publikacje-i-foldery/roczniki-statystyczne/rocznik-statystyczny-województwa-wielkopolskiego-2018,2,14.html> [accessed: 7.03.2019].
- Rocznik Statystyczny Wrocławia 2016* [Statistical Yearbook of Wrocław City 2016], <http://wroclaw.stat.gov.pl/publikacje-i-foldery/roczniki-statystyczne/rocznik-statystyczny-wroclawia-2016,3,11.html> [accessed: 1.03.2019].
- Rocznik Statystyczny Wrocławia 2018* [Statistical Yearbook of Wrocław City 2018], <http://wroclaw.stat.gov.pl/publikacje-i-foldery/roczniki-statystyczne/rocznik-statystyczny-wroclawia-2018,3,12.html> [accessed: 7.03.2019].
- Städtereisen boomen weiter: Bangkok, London und Paris führen 2018 Global Destination Cites Index von Mastercard an*, <https://newsroom.mastercard.com/eu/de/press-releases/staedtereisen-boomen-weiter-bangkok-london-und-paris-fuehren-2018-global-destination-cities-index-von-mastercard-an/> [accessed: 11.03.2019].
- UNWTO Tourism Highlights 2018*, <https://www.e-unwto.org/doi/pdf/10.18111/9789284419876> [accessed: 30.07.2019].
- Urry J., 2007, *Spojrzenie turysty*, Warszawa: Wydawnictwo Naukowe PWN.
- Wodejko S., 1998, *Ekonomiczne zagadnienia turystyki*, Warszawa: Wyższa Szkoła Handlu i Prawa.
- Wrocław w liczbach*, 2017, Urząd Statystyczny we Wrocławiu [Wrocław in figures 2017, Statistical Office in Wrocław] <https://wroclaw.stat.gov.pl/publikacje-i-foldery/foldery/wroclaw-w-liczbach-2017,7,2.html> [accessed: 1.03.2019].
- www.lavanguardia.com/local/barcelona/2016/08/21 [accessed: 5.08.2019].

Ekonomiczne i społeczne konsekwencje turystyki masowej w zarządzaniu miastem na przykładzie Poznania i Wrocławia

Streszczenie. W artykule przedstawiono problematykę turystyki masowej w dużych miastach wobec dyskusji związanej z jej następstwami, w tym szczególnie zjawisk niekorzystnych dla jakości życia społeczności lokalnych. Zaprezentowane aspekty analizy stanowią przykład operacjonalizacji wskaźnikowego podejścia do oceny stanu turystyki masowej oraz wskazania jej ekonomicznych i społecznych konsekwencji w analizowanych miastach, Poznaniu i Wrocławiu. Wyniki analizy materiałów statystycznych i pogłębionego wywiadu bezpośredniego przeprowadzonego wśród lokalnych ekspertów z zakresu turystyki pozwoliły sformułować wniosek, że orientacja na turystykę w zarządzaniu w mieście może stać się czynnikiem stymulującym pozytywne efekty ekonomiczne, a dostrzeganie wieloaspektowości jej oddziaływania na życie społeczne – przyczynić się do tworzenia rozwiązań wpisujących się w koncepcję zrównoważonego rozwoju.

Słowa kluczowe: turystyka masowa w miastach, wskaźniki oceny turystyki masowej w miastach, ekonomiczno-społeczne konsekwencje turystyki masowej w miastach

HALYNA LABINSKA*

Influence of Agglomerations on the Development of Tourism in the Lviv Region

Abstract. The author proposes a method of studying the influence of agglomerations on the development of tourism. The influence of agglomerations on the development of tourism is illustrated by the case of the Lviv region and the use of correlation analysis. In addition, official statistics about the main indicator of the tourism industry by region and city are subjected to centographic analysis. The coincidence of weight centers confirms the exceptional influence of the Lviv agglomeration on the development of tourism in the region, which is illustrated with a cartographic visualization.

Keywords: agglomeration, tourism, research methodology

1. Introduction

Urbanization, as a complex social process, affects all aspects of society. The role of cities, especially large cities, in the life of Ukraine and its regions will only grow. The growing influence of cities on people's lives and their activities was noted in the early 20th century by the professor V. Kubiyovych [1927].

Mochnachuk and Shypovych identified three stages of urbanization in Ukraine during the second half of the 20th century: 1) urbanization as a process of urban growth; 2) suburbanization – erosion of urban nuclei, formation of agglomerations; 3) rurbanization – urbanization of rural settlements within urbanized areas [Mochnachuk, Shypovych 1972: 41-48]. The stage of rurbanization is

* Ivan Franko National University of Lviv (Ukraine), Department of Geography of Ukraine, e-mail: Labinska@ukr.net, orcid.org/0000-0002-9713-6291.

consistent with the classic definition of “agglomeration” in the context of European urbanism: a system that includes the city and its environs (Pierre Merlen and Françoise Shoe).

As a rule, an agglomeration in the form of an integral territorial socio-economic formation arises in the course of a functional and spatial transformation of a large city-nucleus into a significant urbanization zone as a result of absorbing adjacent settlements. Agglomerations have a high level of production diversification, significant concentration of capital and skilled labor, high efficiency of all systems and infrastructures.

These components all contribute to the emergence of the so-called agglomeration effect, which is the result of improved efficiency achieved by saving commuting time and transportation cost.

Agglomerations differ in population size, population density, number of constituent settlements, number of nuclei or centers.

In the resolution of Ukraine’s Cabinet of Ministers an agglomeration is defined as “a compact territorial collection of urban settlements, which are united by intensive economic, labor and cultural-everyday ties” [Osnovni napriamy zabezpechennia... 2000].

In most studies conducted in Ukraine, a group of interconnected settlements is treated as an agglomeration, if the population of the largest cities that are part of it is at least 100,000, and if at least 2 urban settlements are located within the area of influence, transport distance between both agglomeration settlements should not exceed 2 hours.

In Ukraine, for example, up to 30 million people ($\frac{3}{4}$ Ukraine’s population) live in agglomerations and conurbations; agglomerations account for 10% of the territory of Ukraine and generate 75% of the country’s GDP [Terytorialnyi rozvytok v Ukraini... 2012].

There are no clear criteria for delimiting agglomerations in Ukraine. The administrative boundaries of major cities in Ukraine are not fully consistent with the system of Territorial Units for Statistics (NUTS) and local administrative units (LAU). For example, an agglomeration (or a group of districts) in Ukraine could correspond to NUTS-3 level.

The tourism sector plays an increasingly important role in Ukrainian cities at the present stage. Large cities attract tourists, and tourism, with its multiplier effect, stimulates the overall development of the region.

The purpose of the article is to trace the impact of agglomerations on the development of tourism in the Lviv region using the research methodology proposed by the author. The method involves the use of mathematical methods, available statistics and a special program for mapping tourist indicators.

The article consists of three parts and a conclusion. The first part is devoted to a description of agglomerations in the Lviv region. The hospitality industry is

analyzed in terms of the indicator showing the changing number and distribution of tourists in the cities of the region. The second part presents results of the study. The third part is devoted to the interpretation of the research results.

2. Characteristics of agglomerations of Lviv region

The urbanization level of the Lviv region¹ is equal to 61%. A large part of the urban population lives in the city of Lviv (756 thousand people as of 1.01.2019) [HUSLO]. In terms of the urbanization indicator, the region is below the national average of 69%, but ahead of other oblasts in western Ukraine [Derzavna sluzba statystyky Ukrainy].

There is no consensus among scientists regarding the number of agglomerations in the Lviv region, except for the monocentric *Lviv agglomeration* [Shabliiy et al. 1996; Lozynskiy, Kostiuk, 2011; Malska, Hataliak 2018], which includes the city of Lviv, Vynnyky, Dubliany, Pustomyty, Zhovkva, Gorodok, Novoyavorivsk, Kamianka-Buzka, Mykolaiv; the towns of Briuchovychi, Rudne, Kulykiiv, Zapytiv, Novy Jarychiv, Ivano-Frankove, Shchyrets, Velykiy Liubin; districts Gorodotsky, Zhovkivsky, Kamianka-Buzky, Pustomytivsky, Yavorivsky. The agglomeration covers an area of 5 390 km². The population is 1,230 thousand, with a population density of 228 persons/km².

According to some researchers three other agglomerations can be distinguished in the Lviv region: Drohobych, Chervonograd and Stryi. The *Drohobych polycentric agglomeration* includes the towns of Drohobych, Boryslav, Truskavets, Stebnyk, Skhidnytsya and neighboring settlements of the Drohobych district. The agglomeration covers an area of 1365 km² and has a population of 163 thousand, with a density of 174 persons/km². The *Chervonograd agglomeration* includes the towns of Chervonograd, Sosnivka, Girnyk, Sokal, Velyki Mosty, Belz, some settlements of the Radekhiv and Zhovkva districts. It covers an area of 2296 km². Its population is 212 thousand; with a density of 92 persons/km². The *Stryi agglomeration* includes the towns of Stryi, Morshyn, Dashava and neighboring settlements of the Stryi district. It covers an area of 844 km² and has a population of 136 thousand, with a density of 160 persons/km². Some scientists also distinguish the Drohobych-Stryi conurbation.

The influence of the region's major cities on the life of the region's inhabitants is obvious. In particular, tourism activity, which is intensively developing in the region, is mostly confined to the largest cities. In 2017 the distribution of tourist activity across the cities in the Lviv region looked as follows: Lviv – 61%, Truska-

¹ It is one of 24 oblasts (provinces) of Ukraine.

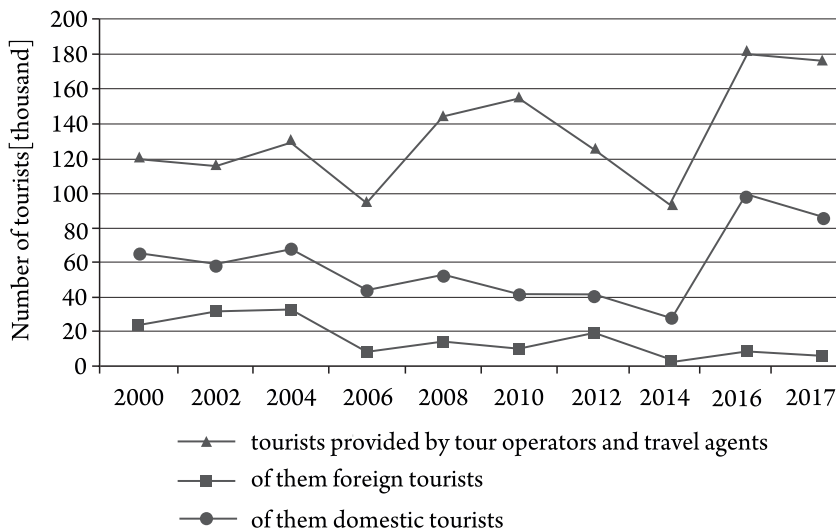
vets – 14%, Drohobych – 5%, Chervonograd – 3% and others – 17% [HUSLO]. As can be seen, tourism in the region is concentrated in the Lviv agglomeration [Malska, Hataliak 2018].

On the other hand, the development of tourism is transforming the region's economy, fosters innovative activity, facilitates the emergence of new territorial centers of tourism, and is helping to alleviate problems experienced by underdeveloped peripheral areas [Kotyk 2013; Programa rozvytku turyzmu... 2017].

Incidentally, the Soviet principle of counting foreigners is still used in Ukraine. According to V. Tsaruk, the director of the Tourism Development Center, the number of foreigners in Ukraine is calculated using data provided by the State Border Service. In Poland, for example, all hotels, hostels, etc. report the number of foreign visitors staying for at least one night. This approach usually yields more accurate statistics [Horban 2020].

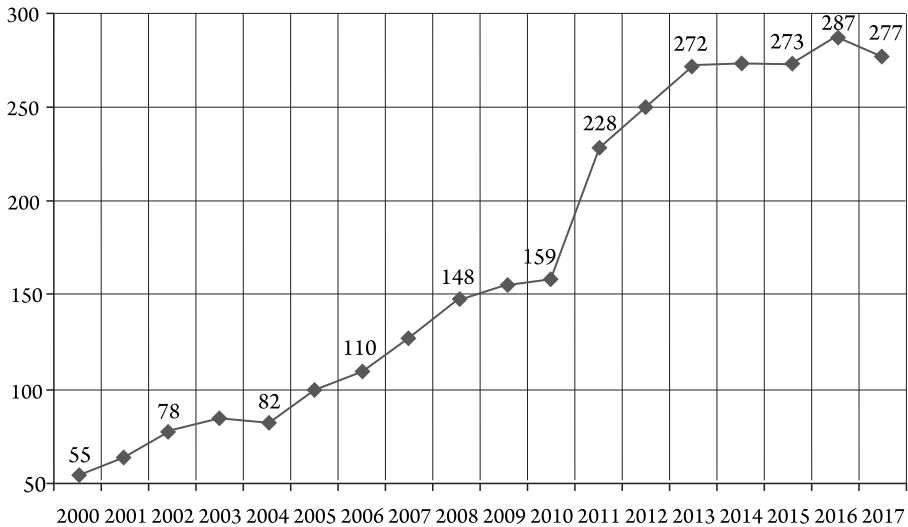
The tourism industry is directly associated with the activities of accommodation establishments. Costs of hotel services account for approximately 30% to 50% of the total cost of a typical tour. Statistics for 2017 and 2018 indicate that the share of the cost of accommodation in total costs of Ukrainian tourism enterprises increased to 75%. In 2017, 97% of tourist in Ukraine stayed in hotels and similar establishments, and in 2018, only 75% (the share of the private sector increased) [Turystychna diialnist v Ukraini u 2018 r.].

Fig. 1. Changes in the number of tourists in the Lviv region in the period 2000-2017



Source: Turystychna diialnist ta kolektyvni zaklady rozmishchuvannia u Lvivskiy oblasti u 2017 r.

Fig. 2. The number of accommodation establishments in the Lviv region



Source: Turystychna diialnist ta kolektyvni zaklady rozmishchuvannia u Lvivskiy oblasti u 2017 r.

Studies show that tourists rate the quality of service at a hotel 4 times as high as the price, and 1.2 times as high as the quality of the tourist product itself.

The growing share of the urban population in Ukraine, which is mainly due to migration from villages to cities and interregional migration, is likely to boost the demand for accommodation services. Given the increasing migration activity of Ukrainians (Fig. 1) (partly necessitated by hostilities in eastern Ukraine) [Derzavna sluzba statystyky Ukrainy], the number of potential hotel guests is increasing. Given income levels of most Ukrainian tourists, even the demand for cheap hotel rooms is relatively low and only a small percentage of Ukrainians use expensive accommodation facilities.

The demand can be expected to rise in the large cities and in developed recreational and tourist areas. Some urban dwellers are employed in accommodation establishments, while others are potential consumers of accommodation services.

From 2000 to 2017, the number of accommodation establishments in the Lviv region increased fivefold (Fig. 2). The most rapid growth was recorded in 2010-2011 before the Euro 2012 *Championship*. In 2017, hotels were the largest group (58%), youth hostels and mountain shelters accounted for 22%, and motels – 14% [Turystychna diialnist ta kolektyvni zaklady rozmishchuvannia u Lvivskiy oblasti u 2017 r.].

3. Research methodology and results

The intensity of the relationship between the indicators is calculated using formula (1) for the Pearson correlation coefficient. For $r_{kL} > 0$, the ratio between the indicators is directly proportional; when $r_{kL} < 0$ – the ratio is inversely proportional; at $r_{kL} = 0$ – there is no correlation. The value the coefficient can range from -1 to 1 . The closer to “1” (-1) it is, the greater the correlation (positive or negative) [Hrytsevych 2013; Shabliiy 1994].

Two indicators were selected to track the impact of agglomerations on the development of tourism in the region: the number of visitors/tourists in the Lviv region and the number of people employed in the economy of the Lviv region (Table 1).

$$r_{kL} = \frac{\sum_{i=1}^n (x_{ik} - \bar{x}_k)(x_{iL} - \bar{x}_L)}{\sqrt{\sum_{i=1}^n (x_{ik} - \bar{x}_k)^2 (x_{iL} - \bar{x}_L)^2}} \quad (1)$$

where:

- r_{kL} – Pearson correlation coefficient,
- x_{ik} – the value of the first indicator, which varies across cities,
- x_{iL} – the value of the second indicator, which varies across cities,
- \bar{x}_k i \bar{x}_L – arithmetic means of the indicators.

Table 1. Correlation coefficient between the indicators

Big cities of Lviv region	Number of visitors/ tourists in the Lviv region in 2017	Number of employees in the economy in the Lviv region in 2017
Lviv	446,044	232,067
Boryslav	142,452	5,293
Drohobych	8,536	16,350
Morshyn	7,238	2,885
Sambir	1,984	6,919
Stryi	8,002	11,708
Truskavets	75,141	8,091
Chervonograd	6,130	13,552
Correlation coefficient	0.9375 – very high dependency	

Source: Rynok praci u Lvivskiy oblasti u 2017 r.: 46; Turystychna diialnist ta kolectyvni zaklady rozmishchuvannya u Lvivskiy oblasti u 2017 r.: 32.

The value of the correlation coefficient in the Lviv region as a whole (not only in big cities) is also very high – 0.9312. It can be interpreted as evidence of the high mutual influence of both indicators: an increase in the number of visitors is associated with an increase in the level of employment in the regional economy and vice versa: tourists tend to choose areas where the services are better developed.

The use of centrophraphic analysis makes it possible to identify and interpret the centers of gravity of socio-economic phenomena. A center of gravity is characterized by geographical coordinates. If the phenomenon is uniformly distributed, its center of gravity coincides with the territory's center of gravity. When gravity centers of two phenomena are located in close proximity, it can be assumed that the two phenomena are linked [Hrytsevych 2013; Shablii 1994].

The following indicators were used in the analysis: the number of tourist accommodation establishments (including legal entities and individuals) and population size (including urban, rural).

The formulas for calculating the center of gravity coordinates:

$$X = \frac{\sum_{i=1}^M p_i x_i}{P}, Y = \frac{\sum_{i=1}^M p_i y_i}{P} \quad (2),$$

where, in the first case:

$P = \sum_{i=1}^M p_i$, M – number of administrative units, p_i – number of legal entities/individuals of accommodation establishments in the i -th administrative unit, (x_i, y_i) – the coordinates of the i -th administrative unit.

in the second case:

$P = \sum_{i=1}^M p_i$, M – number of administrative units, p_i – urban/rural population of the i -th administrative unit, (x_i, y_i) – the coordinates of the i -th administrative unit.

Explanation for Fig. 3:

– Geographic center of gravity for accommodation establishments: $49^{\circ}36'$, $23^{\circ}47'$, corresponds to the coordinates of Grimne village in the Gorodok district (**marker 1**),

– Geographic center of gravity for accommodation establishments – legal entities: $49^{\circ}39'$, $23^{\circ}50'$, corresponds to the coordinates of Shchyrets town in the Pustomyty district (**marker 2**),

– Geographic center of gravity for accommodation establishments – individuals: $49^{\circ}33'$, $23^{\circ}44'$ near Grimne village in the Gorodok district (**marker 3**),

– Geographic center of gravity for the population of Lviv region: $49^{\circ}45'$, $23^{\circ}55'$, corresponds to the coordinates of Navaria village in the Pustomyty district (**marker 4**),

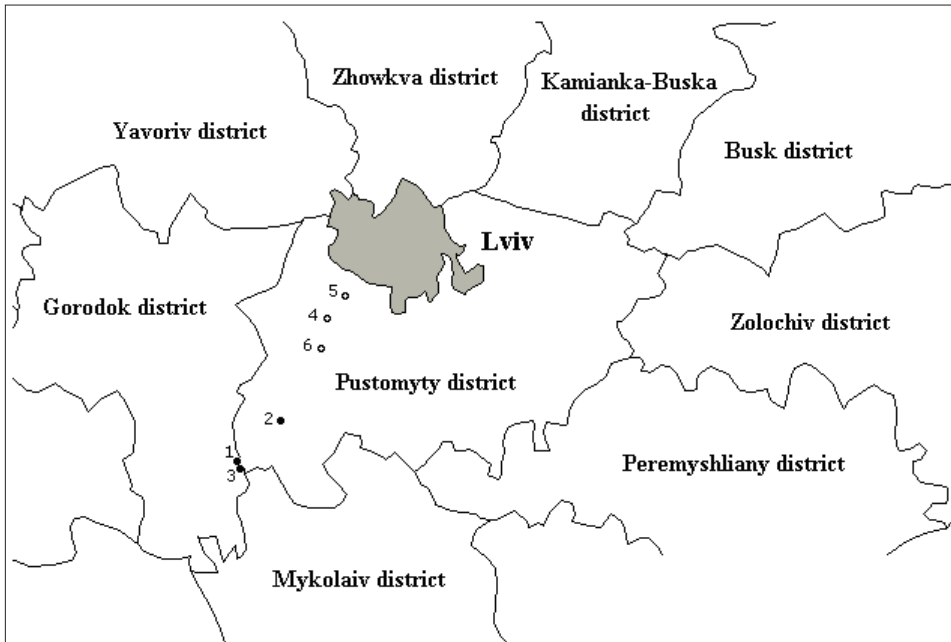


Fig. 3. The result of the centrophographic analysis

Source: Author's map.

- Geographic center of gravity for the urban population: $49^{\circ}46'$, $23^{\circ}57'$, corresponds to the coordinates of Sokilnyky village in the Pustomyty district (**marker 5**),
- Geographic center of gravity for the rural population: $49^{\circ}42'$, $23^{\circ}52'$, corresponds to the coordinates of Pustomyty city (**marker 6**).

Conclusions from the centrophographic analysis:

1. The geographic center of gravity for the establishment indicator is located southwest of the geographical center of gravity for the population indicator.
2. There are two reasons for this: the shape of the area extending from the northeast to the southwest; there are more establishments in the Carpathian region than in the northeastern regions, where tourism is much less developed.
3. However, within the region, the centers of gravity for both indicators are characterized by territorial proximity. Therefore, there is an obvious interaction between the geography of the population and the distribution of establishments.

The distribution of accommodation establishments by city and district across the Lviv region is consistent with the results of the centrophographic analysis: 32% of establishments (every third) are located within the area of influence of the Lviv agglomeration; 23% of accommodation establishments are concentrated in cities

of the Drohobych agglomeration: Truskavets and Boryslav; 7% of accommodation establishments are located in the Skole district and 33% are spread in the rest of the territory [Turystychna diialnist ta kolektyvni zaklady rozmishchuvannia u Lvivskiy oblasti u 2017 r.]. Most specialized accommodation facilities (sanatoriums and others) are concentrated in the town of Truskavets (33%), which is a well-known balneological resort. The resort experienced a considerable development in 2000-2010, when the growth in the number of establishments was at the level of 1700% [Hanych, Labinska 2013]. In addition to Truskavets, specialized accommodation establishments in the Lviv region are mainly located in the districts of Skole district (13%), Drohobych (12%), and in the town of Morshyn (8%) [Turystychna diialnist ta kolektyvni zaklady rozmishchuvannia u Lvivskiy oblasti u 2017 r.].

Hotels often serve as supporting elements of the city's planning structure. Town-planning considerations are often associated with restrictions on the number of floors in hotels, which affect their amount of available space. Other factors that limit the construction of hotels in city centers include the constant growing land prices, the difficulty of organizing construction (difficult access, lack of parking spaces for transport, etc.). The location of hotels within the city space has an important effect on their operation.

The most desirable location for a hotel is in the city center, which means convenient access to all areas of the city. The historical center of a city is the place where its main architectural and historical monuments are usually located, which is convenient for tourists, since all tourist attractions are within walking distance.

Increasingly, hotels are located in areas near the city center. There is a lot more land available for construction, the price of land is lower, there is less congestion and less noise pollution. This type of accommodation is quite common. However, transport accessibility is somewhat worse.

Staying in hotels located in residential areas has its advantages, too: there are free parking spaces for passenger and sightseeing buses and for cars.

Hotels located on the outskirts of the city are intended mainly for motorized tourists. As a rule, such hotels are located at the entrance to the city along highways. Convenient access to the thoroughfares and good visibility of the building are the key features. It is more difficult to get to the city center from hotels located on the outskirts of the city. When one analyses the map in Fig. 4, one can conclude that the distribution of tourists in the Lviv region is consistent with this type hotel localization.

There is one general principle: the closer to the center a hotel is located, the more expensive it is. This is reflected by the indicator "average length of stay in hotels and similar establishments in 2017" (Fig. 4), which was created using the *Surfer software* package. As can be seen, tourists tended to stay in hotels located in the eastern districts of the Lviv region.

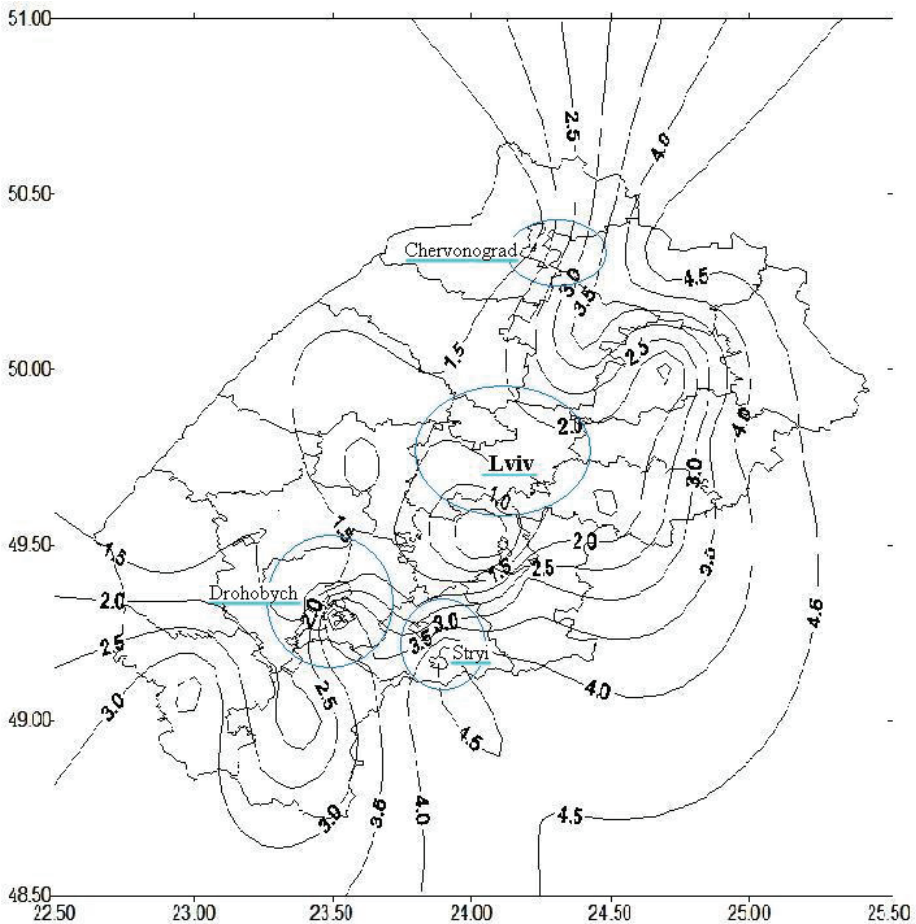


Fig. 4. A contour map showing isolines connect areas with the same average length of stay in hotels and similar establishments in 2017. The axes represent geographic coordinates: X – degrees of latitude, Y – degrees of longitude

Source: Author's map.

This pattern can even be observed in places where health tourism is located. In such areas, there is a dominance of private forms of accommodation (rented rooms), where the pricing is more flexible.

4. Conclusions

1. The task of developing a methodology for the study of the impact of agglomerations on the development of tourism remains relevant. The methods used in this study included methods from human geography: correlation analysis, cen-

trographic analysis, visualization of the distribution of indicators in space, beyond the level of administrative units.

2. When available statistics are not sufficient for an in-depth analysis, interdisciplinary research methods should be used: mathematical, cartographic, sociological, used in combination as the case may require.

3. Urbanization and agglomeration growth in Ukraine, particularly in the Lviv region, is consistent with global trends. In the case of international comparisons, one is faced with the problem of non-equivalence of administrative units and the lack of correspondence between Ukrainian and international statistics.

4. Agglomerations clearly influence the development of tourism and tourism determines changes in agglomerations, which is confirmed by the correlation results. It is estimated that the arrival of every 1,000 tourists leads to the creation of 40 stable job (such estimates are based on official Ukrainian standards for tourist services).

5. Within the Lviv region, the Lviv agglomeration is the main center of influence, as evidenced by the results of centrophobic analysis. The Drohobych polycentric agglomeration, which specializes in wellness tourism, or the Sokal and Stryi agglomerations, affect the development of tourism to a much smaller extent than the agglomeration of Lviv. A slight shift of the center of gravity southwest of Lviv indicates an increasing role of tourism in the southern part of the region.

6. The location of agglomerations has an obvious influence on the development of tourism – “*genius loci*”, the size of agglomerations, the availability of natural and tourist resources, the development of infrastructure and the availability of skilled labor.

7. Other relevant aspects include the condition, structure, geography, problems and prospects of accommodation establishments, since these are the features of accommodation that tourists pay most attention. Based on the analysis of the maps, there is a need for more accommodation services in the eastern part of the region, which is less economically developed compared to the western and central most urbanized parts. The most notable factor in this case is the lower price.

8. In general, the development of tourism in Ukrainian agglomerations follows international patterns, but has its territorial peculiarities.

References

- Derzavna sluzba statystyky Ukrainy (DSSU), <http://www.ukrstat.gov.ua/> [accessed: 1.12.2019].
- DSTU 4269: 2003, Posluhy turystychni. Klasyfikaciia hoteliv [Tekst], Kyiv: Derzspozyvstandart Ukrainy, 2004.

- Hanych N., Labinska H., 2013, Geografia zakladiv hotelneho typu u Lvivskiy oblasti, in: *Geografichna nauka i praktyka: vyklyky epochy, Materialy Miznarodnoi naukovo konferencii*, Vol. 3, Lviv: Vydavnytvo Lvivskoho universytetu, 261-266.
- Horban Y., 2020, *Do rechi, w turyzmi Ukraina ne pase zadnich*, <https://www.ukrinform.ua/rubric-society/2664756-do-rci-v-turizmi-ukraina-ne-pase-zadnih.html> [accessed: 1.12.2019].
- Hrytsevych V., 2013, *Matematychni metody v suspilniy geografii*, <https://www.academia.edu/29889187/> [accessed: 1.12.2019].
- HUSLO (Holovne upravlinnia statystyky u Lvivskiy oblasti), https://lv.ukrstat.gov.ua/ukr/si/inf_2009.php?ind_page=si [accessed: 1.12.2019].
- Kotyk L., 2013, Rol turyzmu u transformacii hospodarskoho kompleksu Lvivskoi oblasti, *Visnyk Lvivskoho universytetu. Seriya: Geografia*, 43: 206-123.
- Kubiyovych V., 1927, Z antropogeografii Novoho Sancha, *Naukovi praci*, Paryz–Lviv, reprinted: 1996, vol. 1: 286-506.
- Lozynskiy R., Kostiuk I., 2011, Suchasni mezhi Lvivskoyi miskoyi aglomeracii, *Naukovi zapysky Ternopilskogo nacionalnogo pedagogichnogo universytetu im. Volodymyra Gnatyuka*, Seriya: *Geografia*, 2: 55-60.
- Malska M., Hataliak O., 2018, Turysm Lvivskoi miskoi aglomeracii, *Economica mista ta urbanistyka*, in: *Materialy Miznarodnoi naukovo-practychnoi Internet-konferencii*, Kyiv: Vydavnytvo Kyivskoho universytetu, 152-155.
- Mochnachuk S., Shypovych E., 1972. *Zminy chyselnosti ta rozmishchennia naselennia URSS u period miz vsesoiuznymy perepysamy 15.1.1959 ta 15.1.1970*, Kyiv: Vydavnytvo Kyivskoho universytetu.
- Natalenko N. (ed.), 2017, *Agglomeracii: mizhnarodnyi dosvid, tendencii, vysnovky dla Ukrainy. Analitychna zapyska*, Kyiv: Instytut gromadianskogo suspilstva.
- Osnovni napriamy zabezpechennia kompleksnoho rozvytku malych monofunkcionalnych mist, 2000, Postanova Kabinetu Ministriw Ukrainy wid 17 bereznia 2000 r., No. 521, <https://zakon.rada.gov.ua/laws/show/521-2000-%D0%BF> [accessed: 1.12.2019].
- Programa rozvytku turyzmu, kurortiv i rekreacii u Lvivskiy oblasti na 2018-2020 roky, 2017, Lvivska oblasna Rada, https://loda.gov.ua/upload/users_files/32/upload/Programa%20rozvYtku%20turYzmu%2C%20kurortiv%20i%20rekreacii%20u%20L.o.%20na%202018-2020%20rokY.pdf [accessed: 5.12.2017].
- Rynek praci u Lvivskiy oblasti u 2017 r., *Holovne upravlinnia statystyky u Lvivskiy oblasti (HUSLO)*, <https://www.lv.ukrstat.gov.ua/ukr/publ/2018/ZB1820180101.pdf> [accessed: 1.12.2019].
- Shabliy O., 1994, *Matematychni metody w socialno-ekonomichniy geografii*, Lviv: Svit.
- Shabliy O., Mucha B., Huryn A., Zinkevych M., 1996, *Rozmishchennia naselennia Lvivskoi oblasti*, Geografia: Lvivska oblast, https://geoknigi.com/book_view.php?id=42 [accessed: 1.12.2019].
- Terytorialnyi rozvytok v Ukraini: rozvytok aglomeraciy ta subregioniv, 2012, Projekt "Localni investycii ta nacionalna konkurentospromoznist" (USAID LINK), Kyiv.
- Turystychna diialnist ta kolectyvni zaklady rozmishchuvannia u Lvivskiy oblasti u 2017 r., *Holovne upravlinnia statystyky u Lvivskiy oblasti (HUSLO)*, <https://www.lv.ukrstat.gov.ua/ukr/publ/2018/ZB2120180101.pdf> [accessed: 1.12.2019].

Turystyczna diialnist v Ukraini u 2018 r., *Derzavna sluzba statystyky Ukrainy (DSSU)*, http://www.ukrstat.gov.ua/operativ/operativ2019/tyr/tyr_dil/arch_tyr_dil.htm [accessed: 1.12.2019].

Wpływ aglomeracji na rozwój turystyki w obwodzie lwowskim

Streszczenie. Artykuł przedstawia metodę badania wpływu aglomeracji na rozwój turystyki na przykładzie obwodu lwowskiego i na podstawie analizy korelacyjnej. Autorka wykorzystuje oficjalne statystyki na temat głównego wskaźnika działalności turystycznej na poziomie obwodów i miast i poddaje je analizie centrograficznej. Zbieżność ośrodków ciężkości potwierdza wyjątkowy wpływ aglomeracji Lwowa na rozwój turystyki w całym obwodzie, co ilustruje wizualizacja kartograficzna.

Słowa kluczowe: aglomeracja, turystyka, metodologia badań

OLHA LIUBITSEVA*, IRYNA KOCHETKOVA**

Spatiotemporal Distribution of Recreational Activities of People Living in the Kyiv Agglomeration

Abstract. The article examines the development of recreational activities in the Kyiv agglomeration (metropolitan area) since the 1960s as exemplified by cottage development. The authors use methods of statistical and cartographic analysis and synthesis to take stock of and evaluate the spatial distribution of recreation activities over the reference period. The current state of the recreational use of the area is based on field research conducted by the authors. The article identifies stages of development and the effect of the basic patterns of the spatial distribution of recreational activity at each stage as well as areas of possible development.

Keywords: recreational activity, suburban recreational nature management, Kyiv agglomeration (Kyiv urban agglomeration)

1. Introduction

The study addresses lifestyle changes of the population of developed countries at the post-industrial (informational) stage of social development, which is manifested by the growing amount of free time and changing ways of its use. Activities associated with a person's free time are referred to as recreational/amateur activity. Recreational activities can be classified depending on purpose (recreation and entertainment, rehabilitation, treatment), form (active, passive, amateur, organized), frequency (daily, weekly, annual), place (seaside, resort and balneological,

* Taras Shevchenko National University of Kyiv (Ukraine), Department of Tourism & Regional Studies, e-mail: loa13@ukr.net, orcid.org/0000-0002-8508-9395.

** Taras Shevchenko National University of Kyiv (Ukraine), Department of Geography of Ukraine, e-mail: kiv_univ@ukr.net, orcid.org/0000-0001-5342-7444.

urban, suburban, mountain, foreign) etc. The development of civilization brings about changes in the standards of living, nature of work as well as the content and forms of recreational activity. At each stage of development, a certain stereotype of recreational activity emerges, which is adopted by the system of recreational nature management. Recreational Nature Management (RNM) is a holistic system of relations between humans (society) and the natural environment, which develops in the process of research, development, use, transformation and reproduction of natural resources to meet social and individual recreational needs [Yakovenko 2003: 13].

Thus, under the conditions of “acceleration of time” and “compression of space”, so characteristic of the present stage, there is a growing body of research (sociological, geographical, economic, cultural and other) that focuses on meeting the recreational needs of people through spatial-temporal distribution of recreational nature management in various forms of territorial settlement. One form of territorial structure of human settlement is agglomeration, which is created through labor, production, technological, socio-cultural and recreational links of different frequency and intensity between settlements with different population density and functional structure.

The above considerations explain the relevance of the study of spatiotemporal forms of recreational nature management, which are formed in the process of recreational activity of the population, representing certain stereotypes of recreational behavior, especially in the area of influence exerted by large urban agglomerations around metropolitan cities (e.g. the agglomeration of Kyiv).

The research problem discussed in this article is relatively narrow, but of an interdisciplinary nature, both theoretical and methodological, and involves such “classical” sciences as geography (population and settlement geography, recreational geography, tourism geography, behavioral geography), economics, sociology, city planning and the latest interdisciplinary disciplines (recreation study, tourism study, balneology, geo-economics, etc.).

The issue of recreational activity in the late 19th – early 20th centuries began to be addressed by geography as part of a new area of study called tourism geography [Lyubitseva 2015: 801-808].

The Ukrainian school of recreational geography and tourism geography is based on the theoretical and methodological framework laid out in the works of Soviet researchers, first of all, Prof. V.S. Preobrazhensky, who identified the object-subject essence of recreational geography in the 1970-1980s, which was further developed by M. Krachylo, O. Ihnatenko (Chernivtsi University), O. Beidyk (Kyiv University). Now in Ukraine, the recreational activity is being studied by I. Yakovenko, N. Fomenko, O. Beidyk, I. Smal, etc. Geographers Yu. Pitiurenko, O. Hladkyi and O. Denysenk have dedicated their works to the study of agglomeration processes.

Economic and sociological studies of cities and agglomerations mostly investigate issues of sustainable development [Averkyna 2015], economic and legal [Bohachov et al. 2015], socio-demographic [Siroych 2009], management [Yalovyv 2010] aspects of functioning, land use [Zinchenko 2012] and the use of green areas in urban and suburban areas [Petrenko 2003; Schipperijn 2010]. The issues of city and agglomeration planning, taking into account the recreational function, are covered in the works of urban planners [Rusanova 2015]. Despite the considerable amount of research on agglomeration, recreational activity and tourism, there are relatively few works dedicated to the processes of recreation development in metropolitan areas. These issues are multidimensional, interdisciplinary and should be aimed at optimizing recreational nature management within urban agglomeration.

The purpose of this article is to characterise aspects of recreational activity of people living in the area of influence of the largest agglomeration in Ukraine. According to the Globalization and World Cities Research Network founded by P. Taylor, Kyiv is classified as a Beta level city¹ (“important world cities that are instrumental in linking their region or state into the world economy”) or as an emerging city [Hladkyi, Ishchuk 2014: 236], and the processes of its metropolization at the present stage are analyzed in detail in O. Denysenko’s monograph [Denysenko 2012: 126-152], where the author proves that the capital of Ukraine meets the criteria of a regional metropolis and is the basis of the metropolitan sub-network influencing Eastern Europe [Denysenko 2012: 148]. A more relevant problem is recreational nature management in the growing metropolitan area, of Kyiv. To achieve this goal, the authors of this article formulated the following objectives: 1) justify the choice of the study area; 2) Substantiate the object and scope of the study and theoretical and methodological framework of this study, in particular, suburban recreational nature management; 3) Determine the stages of spatiotemporal development of suburban recreational nature management in the area of the Kyiv agglomeration and identify inherent territorial patterns in order to predict the effect of these trends.

The main methods used in this study are mapping using Google Earth, supplemented by the methods of field research and statistical and sociological analysis.

Google Earth data since 1983 were used as the data base. Information about suburban (dacha) settlements in the area of the Kyiv agglomeration was obtained from this source. A detailed study of the housing development, planning structure, building designs and infrastructure served as the basis for determining the time of the main housing development. This primary material was broken down into sectors that correspond to cardinal directions and major transport routes of international importance leading from Kyiv. These are also the main routes con-

¹ The GaWC city classification for 2018.

necting Kyiv and the suburbs. They are poly-highways, i.e. directions that offer several types of transport: for the most part it is suburban electric railway and highways. The information was also classified by time spent on public transportation. Thus, two zones were determined: a thirty-kilometre zone (30-minute commute) and a sixty-kilometre zone (60-minute commute) with Kyiv located in the centre.

This preliminary information was supplemented with extra details from a sample survey. In Kyiv's thirty-kilometre zone of influence, the following destinations were visited: in the northern direction – Novi Petrivtsi village and dacha settlements on the coast of the Kiev (Kyiv) Reservoir; in the north-western direction – Bucha town, Vorzel town; in the western direction – the villages of Chaiky, Hurivshchyna; in the south-western direction – Kruhlyk village, Hlevakha town; in the southern direction – Pliuty village, Kozyn town; in the south-eastern direction – Hora village; in the north-eastern direction – Kniazhychi village. In the sixty-kilometre zone of influence of Kyiv, the below destinations were surveyed: in the northern direction – Dymmer town, in the north-western direction – Borodianka town, Malyn town; in the western direction – the villages of Kopyliv, Stavyshche; in the south-western direction – Doslidnytske town, Salyvonky village; in the southern direction – Ukrainka, Rzhyschiv towns; in the south-eastern direction – Baryshivka town, in the north-eastern direction – Brovary. Information on the time of the core housing development, further development of the settlement was clarified. During the field research, some residents of suburban settlements were interviewed about the reasons for obtaining a suburban land plot, development time, intensity of use, some personal data, in particular, membership in a particular social class. The collected information was taken into account in further statistical processing.

Cartographic, sociological, statistical information collected during the field research was summarized and mapped. Further cartographic analysis was used to identify the characteristics of suburban nature management, determine its patterns and trends in the geospatial arrangement of the Kyiv agglomeration.

2. Suburban recreational nature management as a separate form of nature management

The object of this study is suburban recreational nature management. It can be defined as *a form of recreational nature management combining urban mentality with the rural way of life*. It is associated with the attractiveness of country or a purchase of real estate for recreational purposes or for the sake of health improvement (including moderate physical agricultural activity) located in an environmentally

pristine and aesthetically pleasing area, which enables owners to engage in various recreational pursuits. This recreational motivation is what makes it possible to classify this type of activity as a recreational amateur activity, where recreation is combined with some agricultural activities (growing vegetables and fruit, taking care of the building, etc.). Additional motivating factors include the possibility of obtaining eco-friendly food products or producing them more cheaply through one's own work, which brings satisfaction. However, for most respondents, the recreational motivation plays the main role. Another situation that should also be considered is when the ownership of a dacha (cottage) and its management is not voluntary but a kind of obligation, when the cottage has been inherited and maintained as a family tradition.

Suburban recreational nature management (SRNM) is characterized by its cyclic nature associated with the natural rhythm and social component of urban lifestyle (social status of the second homer, which enables them to plan their free time in one way or another; the ratio of working days, free days and holidays, the duration of an annual vacation leave and how it is spent, etc.). In general, the rhythm of a dacha lifestyle fits into the overall rhythm of the recreational process, where one can identify weekly (weekends), periodic (holidays), annual (vacation leaves) cycles. Suburban recreational nature management is characterized by a clear natural rhythm (a longer warm season and episodic use in the winter), a special pace (slow, with occasional physical activity) and recreational activities (i.e. taking care of the garden, house, yard), that are the source of positive emotions from communing with nature, enjoying the fruits of one's own labour.

The authors propose the term *suburban (dacha) recreational nature management* to refer to this activity, which originated in the former Soviet Union and Ukraine in the second half of the 20th century, and which has acquired new features during the post-Soviet period of independence and economic restructuring, partly typical of advanced economies.

In defining the concept, we use the term “dacha”, which was most fully explained by the famous Russian philologist S.I. Ozhegov in the *Explanatory Dictionary of the Russian Language*², where “dacha” is defined as a suburban house of an urban dweller, which is usually used for summer vacations and is located in a suburban area, often near the forest. The word itself is derived from the verb “дать” [dat’] – “to give” and means something that is given, in this case, a plot of land outside the city for recreational purposes. The concept of a “dacha”, i.e. of a plot of land outside the city in a picturesque area given to an urban dweller for the purpose of building a house and recreation in the summer emerged back in the 18th century as a form of recreation. Subsequently, especially during the Industrial Revolution in the second half of the 19th century, when the real es-

² <https://slovarozhegova.ru/word.php?wordid=6020> [accessed: 1.12.2019].

tate market was created, a plot of land in the suburbs could be purchased for the purpose of building a dacha, rather than just received as a gift. At the same time, a new type of business emerged – the rental of summer houses. Back then, both cottages and land in the suburban area started to be used for this purpose. This led to the development of dacha suburbs around cities. The Soviet era saw the revival of the tradition of giving state-owned dachas (cottages owned by the state or its agencies) “in recognition for services rendered to the Fatherland” for temporary use to families occupying higher positions in the Communist Party apparatus.

In the early stages, the recreational needs of urban dwellers were met through the construction of dachas in suburban areas and recreational activity became the pioneering type of nature management, which was the expression for urban dwellers’ need for rest. And recreational development was followed by the development of infrastructure, especially the transport infrastructure, and other types of nature management (industrial, residential), which gradually transformed suburban recreational areas into developed urban areas, which led to their inclusion in city planning and changes of city planning strategies.

This process intensified in the postwar period, after the reconstruction of destroyed cities and industry, which gave impetus to urbanization processes. Since the 1960s, industrial enterprises, other institutions and agencies have begun to allocate land plots in the suburbs for the purpose of subsistence farming in free time. Land plots were allocated to union members waiting in the queue following recommendations of the administration. The area of such plots did not exceed 0.06 hectares and had to be used for farming and gardening – the construction of permanent buildings was prohibited; however, owners were allowed to erect temporary, typically wooden, houses. Thus, a certain type of dacha household management developed in Soviet times, which involved the urban way of life with elements of traditional subsistence farming. It cannot be classified as homestead management – an inherent part of rural life – because of the type of occupants and their motivation: they were urban dwellers, more or less aware of the rural way of life and farming, which they sought to combine with familiar urban amenities; their motivation was versatile, ranging from the desire to reduce the cost of food products, some of which were homegrown on the plot, to spending free time in the environmentally pristine area in the summer (without any agricultural activities). Thus, the modern picture of suburban nature management in the post-Soviet countries is based on the presence of historically formed suburban areas in the area of influence of large cities in combination with suburban settlements formed in the second half of the 20th century as subsistence farms. Given the specific way in which they emerged and how they function, the authors propose that this type of nature management should be referred to as suburban (dacha) recreational nature management.

Suburban recreational nature management involves several processes: 1) as regards recreation, it is multifunctional, including all forms of recreational nature management: resource consumption, resource use, use of the environment [Yakovenko 2003: 14]³; 2). With respect to farming, it is a kind of homestead management, in a limited form, focused mainly on horticulture combined with poultry farming, beekeeping, and, if appropriate conditions exist, fish farming; 3) with respect to the agglomeration, it is characterized by proximity to the main transport routes (railways, highways); 4) In terms of planning and architecture, settlements and homesteads share similar architectural features: most settlements are based on a grid plan; when it comes to homestead planning, traditional approaches are mixed with urban needs, for example, a larger area is reserved for flower beds, a smaller area is reserved for auxiliary premises, etc.

Thus, suburban recreational nature management combines a number of recreational activities, both passive and active ones: from a variety of agricultural pursuits (for example, gardening, horticulture, taking care of the house, yard) to sports and wellness activities (swimming, fishing, picking berries and mushrooms, cycling, riding all-terrain vehicles, in winter – skiing, snowmobiling, etc.).

Suburban recreational nature management is a type of recreational and tourist use of land in the process of recreational and tourist activity for the purpose of health improvement, entertainment and social activities, which involve the use of natural recreational and historical and cultural resources, tourist event destinations and resorts.

At the same time, it should be noted that the Soviet heritage in the area of suburban recreational nature management does not reflect the social stratification of the population, as is the case in developed countries with a developed system of “second homes” – a suburban house of a middle-class owner used for temporary residence in free time solely for recreational purposes. The fact of owning a dacha is not a sign of belonging to the middle class, because it is the result of the Soviet system of distribution. However, this sphere is also affected by the processes of public restructuring, which are manifested by changes in the type of housing development (number of floors, styles, decorative elements, landscaping), infrastructure, security requirements and landscaping of the area; all these changes raise maintenance costs and, in a certain way, stimulate the process of social stratification among residents of suburban settlements.

³ According to Dr. I. Yakovenko: 1) recreational resource consumption refers to the use of balneological, biotic, information resources existing in a given area; 2) recreational resource use refers to the use of climatic, water, landscape resources; 3) recreational use of the environment refers to the use of the area for tourism infrastructure, entertainment, etc.

3. Stages of development and spatial arrangement of suburban recreational nature management in the Kyiv agglomeration

In the metropolitan area of large cities (especially capitals), the processes of suburban recreation are particularly pronounced and are further intensified by specific factors. The Kyiv agglomeration was chosen as the area of study. It has a number of specific features: a) functions of a capital, where the focus has shifted from production to services, which, in territorial terms, is manifested by the relocation of production facilities to the suburban area, the development of new industrial production sites, the reorientation of urban areas to perform functions determined by globalization; b) monocentricity with a clearly defined effect of “attracting” infrastructure and concentration of the main types of production and non-production activities along it; c) the agglomeration effect, which is manifested, on the one hand, by the concentration of new functions in the city and, on the other hand, by the expansion of the city as a result of absorbing suburban areas; d) suburbanization, manifested by the outflow of urban population into the suburban area, including the development of cottage settlements in the metropolitan area.

The boundaries of the Kyiv agglomeration were determined in a number of works by both geographers, such as [Ishchuk, Hladkyi 2005] and urban planners⁴. Officially, the limits of the Kyiv agglomeration have not been defined. For purposes of the study, the authors used the following public document as the basis: Master Plan of Kyiv⁵, which reflects not only the current situation but also the directions of future development of the area aimed at optimizing the connections between the capital and the suburban area.

What are the typical processes of metropolitan agglomeration? First of all, one should mention suburbanization processes, which are manifested by: a) active development of cities and rural settlements within the area of influence of Kyiv (the towns of Vyshneve, Vyshhorod, Irpin, Boryspil, Brovary, Vasylkiv, Fastiv, Makariv); b) development of cottage settlements and townhouses in areas located between the official boundaries of the city of Kyiv and boundaries of the surrounding settlements; c) development of suburban settlements, (growing size and changes in the planning structure), which sometimes merge into continuous suburban recreational lanes (for example, Koncha Zaspa); d) functional reorientation of rural settlements to suburban settlements. This happens, on the one hand, as a result of lower prices for new housing, and, on the other hand, thanks

⁴ <https://kga.gov.ua/generalnij-plan/genplan2020> [accessed: 1.12.2019].

⁵ <https://kga.gov.ua/generalnij-plan/genplan2020> [accessed: 1.12.2019].

to better possibilities of developing suburban areas, enabled by the development of transport and other infrastructure and the increasing number of car owners; this in turn enables middle-class citizens to improve their living conditions and quality of life by resettlement. Secondly, part of the population, mostly belonging to the middle class, develop a second home lifestyle by buying cottages in the suburban area while keeping an apartment in Kyiv; they are only interested in recreational activities and do not engage in any agricultural activities. Thirdly, a large share of the urban population have owned dachas in suburban settlements since Soviet times. Fourthly, the purchase of suburban real estate in rural areas beyond the influence of Kyiv after the Chernobyl disaster has accelerated; which has resulted in the expansion of the area with recreational links along the main transport routes and affected the population structure of rural settlements, where a decline in the number of permanent residents is offset by the rising number of dacha owners, who move there in the summer. The fifth category includes people who are first generation urban dwellers with strong ties to their “birthplaces” or inherited properties in their native village, which are used as dachas, but with greater emphasis on agricultural activities and the use of traditional ethnic technologies or as subsistence farms.

The modern borders of Kyiv were also formed in the course of pioneering recreational activity, when adjacent forest areas were used primarily for recreation. Along with infrastructural development, which was also driven by suburban development, adjacent forests were transformed into parks and suburban areas turned into residential areas, and the city limits were moved to the boundaries of the former recreational zones. Similar processes are also observed in the Kyiv agglomeration and in metropolitan areas in general.

Based on the information about the time of suburban recreational development, the area and nature of development, as well as infrastructural support, three stages of suburban recreational development could be identified:

- the first stage (in the Soviet era) from the 1960s to the 1980s – the allocation of land plots measuring up to 0.06 hectares by enterprises and agencies to their employees free of charge for the purpose of gardening, without any permanent buildings, with limited infrastructural support;
- the second (transitional) stage (1990s-2010s) – emergence of free market relations enabling the purchase of suburban real estate (land plots, houses) for temporary and permanent use not restricted by law (as own housing, for renting, for production, for recreational purposes, in particular for the construction of hotel and restaurant recreation facilities, etc.);
- the third (modern) stage (after 2010 or before the second economic crisis), associated with the revolutionary events and hostilities in the country, is characterized by more intensive suburbanization processes after a period of stagnation and the expansion of suburban development beyond the agglomeration area (Fig. 1).

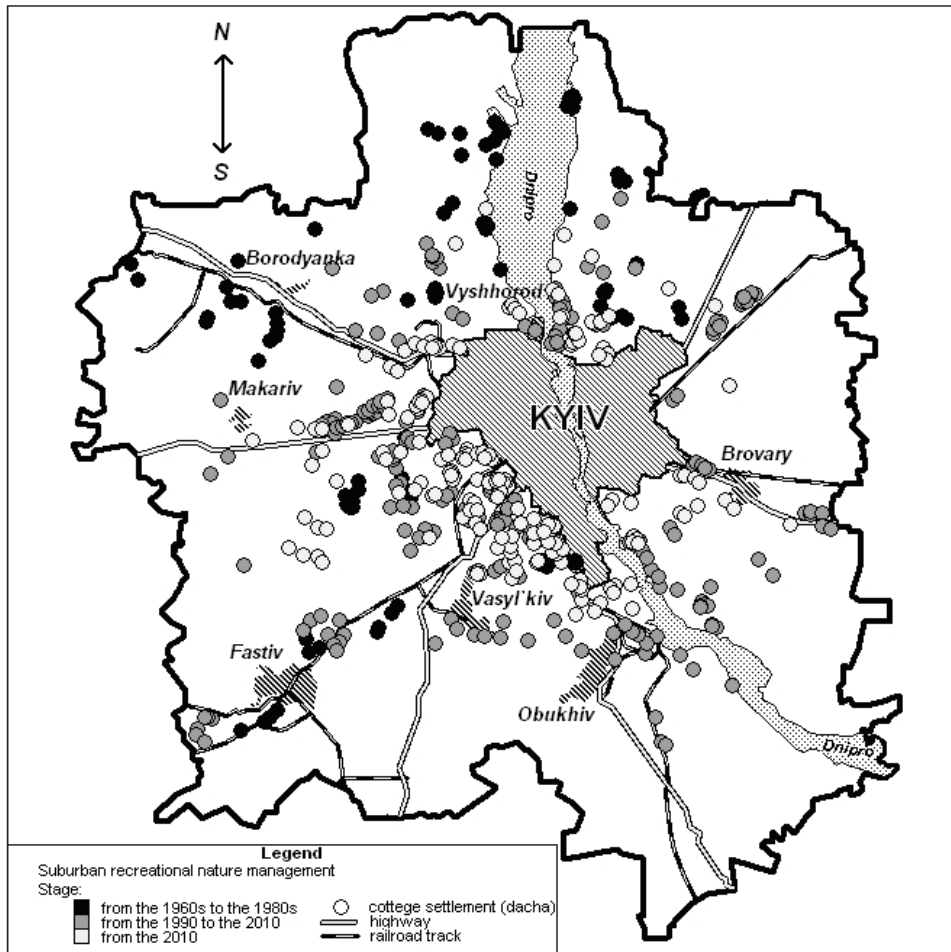


Fig. 1. Spatiotemporal distribution of recreational activities of people living in the Kyiv agglomeration

Source: own research.

Each of these stages corresponds to a certain socio-economic situation, which is manifested by the predominant effect of certain factors, which ultimately determine the nature of the geospatial distribution of suburban recreational development of the Kyiv agglomeration. The first stage was dominated by planning and organizational commitment of the cottage development process, and its spatial distribution was determined by the principles of optimizing the use of non-agricultural land, the presence of transport connections in the suburban area with a focus on suburban electric transport and public

road transport (regular buses that connected the capital with district centers). Therefore, suburban areas were allocated by enterprises and agencies within a commuting distance of 60-minute by electric transport from the city of Kyiv and within a 5-kilometer walking distance from the main transport routes in areas adjacent to villages or towns. This resulted in a star-shaped pattern of suburban recreational development.

The second stage is characterized by fluctuations in the standards and quality of life of the population, associated with the systematic economic crises of the late 20th and the early 21st century, which prompted many people to invest in real estate. The presence of the real estate market and the opportunity to purchase non-agricultural land resulted in the consolidation of suburban recreational developments along the main transport routes and in rural settlements of the suburban (30 km) zone of Kyiv. The main criteria for the purchase of suburban real estate included the price, environmental friendliness, picturesque terrain, the possibility of further construction of a homestead and the infrastructure of the settlement. Thus, the star-shaped spatial pattern of suburban development started to resemble a circle within a 30-minute commuting distance by road. At this stage, the integration of recreational settlements (dachas, cottages) with existing rural settlements was intensified as a result of increasing density. This process brought about changes in the architecture of newly constructed buildings, such as a bigger number of floors, decorations of the yard and the surrounding area. This was accompanied by the development of infrastructure to meet the needs of urban consumers: utilities, street lighting, water supply and sewerage, gas supply, garbage sorting and removal, etc.), road transport, information and telecommunications infrastructure (ensuring modern communication, operation of gadgets), etc.

During the third stage, more priority was given to cost and infrastructural criteria, which resulted in a further consolidation of the suburban development, its growing proximity to the borders of Kyiv, the transformation of suburban recreational nature management to cottage nature management (second homes) and accelerated suburbanization of undeveloped land between settlements, the formation of belts of urban development with residential complexes, the construction of residential complexes in rural settlements (e.g., villages of Kriukivshchyna, Chabany, Chaiky, and Myla) and towns (e.g. Hlevakha, Kotsiubynske). This suburban sprawl was further exacerbated by the concentration of housing developments for recreational and residential use. *Dacha* settlements have turned into suburban settlements, sometimes spreading into the territory of the city (Osokorky in Kyiv). Thus, the process of suburbanization was marked by redevelopment of *dacha* settlements and the growing density of suburban development.

4. Conclusion

The authors have identified the specific characteristics of suburban recreational natural management in order to justify its treatment as a separate scientific category, which requires more detailed research. The authors argue that this form of the recreational use of a country house emerged in the specific conditions of the Soviet regime.

At that time, members of population that achieved a certain level of success in the manufacturing industry were given plots of for gardening, which was seen as an improvement in their living conditions and standard of living. Such bonuses were common until the collapse of the Soviet Union and the formation of land relations in Ukraine. This led to the establishment of suburban settlements around the big cities and establishment of such a form of recreation as suburban recreation.

Suburban recreation combines recreation in the natural environment and subsistence farming. Subsistence farming mostly involves growing vegetables, potato, berries, and fruit trees. It also involves the construction of a house, out-buildings and their maintenance. In some cases, when a dacha is used throughout the warm period of the year, its residents are engaged in breeding poultry, fish, and beekeeping.

The study of life and nature management in suburban settlements has convinced the authors that it should be treated as a separate kind of recreational natural management. This is why they propose the following definition: suburban recreational nature management is a form of recreational nature management based on the urban mentality and recreational motivation in combination with the rural way of life.

It has been demonstrated that suburban recreational development within the limits of the Kyiv agglomeration is constantly under way. Based on the analysis of cartographic and field data, three stages of suburban development were identified spanning the period from the second half of the 20th century to the beginning of the 21st century:

1. The first (Soviet) stage (1960s - 1980s), which was characterised by the use of allocated land plots to erect temporary structures for gardening, as an additional means of raising the standard of living.

2. The second (transitional) stage (1990s-2010s), which was marked by the following trends:

- a) erection of permanent buildings on land plots;
- b) the use of dachas for permanent residence – when multiple generations no longer want to live under one roof and the older generation moves to a dacha;
- c) use of dachas for permanent residence in the summer;

- d) expansion of suburban settlement areas as a result of individual construction;
- e) expansion of suburban settlement areas as a result of cottage construction by specialised construction companies;
- f) the first signs of social stratification manifested by the specialization of suburban villages in the construction of different cottages depending on customers' income levels and living standards. „Elite cottage developments” and cottage developments for the middle class began to appear. The former were mainly located in the thirty-kilometer zone, the latter – in the sixty-kilometer zone on non-agricultural lands. Another phenomenon characteristic of this stage is the use of rural areas inherited from parents by urban dwellers in the first and second generations as summer residences (dachas).

3. The third (modern) stage, which is characterised by the acceleration of trends that began at the second stage. In this period, the processes of suburbanization are more clearly manifested. More and more dachas are being used for permanent rather than merely seasonal residence, while apartments in the city – only for temporary residence. The war between Russia and Ukraine and the economic crisis have slowed down the construction of cottages, but dacha and cottage settlements continue to be built and become the main residence for urban dwellers.

Each of the stages was dominated by the influence of specific factors which shaped the geospatial distribution of suburban recreational nature management that can be described as star-shaped, concentrated, compacted, respectively.

References

- Averkyna M.F., 2015, *Zabezpechennya stiykoho rozvytku mist ta ahlomeratsiy: teoriya, metodolohiya, praktyka*, Luts'k: RVV Luts. NTU.
- Bohachov S.V. et al., 2015, *Ekonomiko-pravovi problemy rozvytku velykykh mist ta ahlomeratsiyi v Ukraini*, Kharkiv: NTMT.
- Denysenko O.O., 2012, *Protsesy metropolizatsiyi: svitohospodars'kyy aspekt*, Kyiv: Instytut heohrafiyi NAN Ukrainy.
- Hladkyi O.V., Ishchuk S.I., 2014, *Heohrafiya mist. Heourbanistyka*, Kyiv: Palyvoda A.V. <https://kga.gov.ua/generalnij-plan/genplan2020> [accessed: 1.12.2019].
- <https://slovarozhegova.ru/word.php?wordid=6020> [accessed: 1.12.2019].
- Ishchuk S.I., Hladkyi O.V., 2005, *Kyivs'ka hospodars'ka ahlomeratsiya: dosvid rehional'noho menezhmentu*, Kyiv: VHL “Obriyi”.
- Lyubitseva O.A., 2015, Razvitie geografii turizma v Ukraine, in: *Turizm v epokhata na transformatsiya. Sbornik s dokladi ot yubilei'na mezhdunarodna nauchna konferentsiya, posvetena na 50-godishninata ot sūzdavaneto na spetsialnost “Turizm” v Ikonomicheski univērsitet*, Varna: Nauka i ikonomika.

- Petrenko I.M., 2003, *Ekoloho-ekonomichni osnovy formuvannya i vykorystannya rekreatsinykh terytoriy v umovakh mis'kykh ahlomeratsiy*, Kyiv: NDI sotsial'no-ekonomichnykh problem mista.
- Rusanova I.R., 2015, *Formuvannya funktsional'no-planuval'noyi struktury monotsentrychnykh mis'kykh ahlomeratsiy 60-80-ykh rokiv KHKH stolittya (na prykladi L'vivs'koyi ahlomeratsiyi)*, L'viv: Rastr-7.
- Schipperijn, J., 2010, *Use of urban green space*, Frederiksberg: Princo Aalborg.
- Siroych Z.S., 2009, *Demohrafichni ta sotsial'no-ekonomichni problemy rozvytku mis'kykh ahlomeratsiy*, Kyiv: NAN Ukrainy, Instytut demohrafiyi ta sotsial'nykh doslidzhen'.
- Yakovenko I.M., 2003, *Rekreatsionnoye prirodopol'zovaniye: metodologiya i metodika issledovaniy*, Simferopol': Tavriya.
- Yalovyv V.B., 2010, *Osoblyvosti zdiysnennya mistsevoho samovryaduvannya v stolychniy ahlomeratsiyi*, Kyiv: Nats. akad. derzh. upr. pry Prezydentovi Ukrainy.
- Zinchenko T.Ye., 2012, *Ekonomichni zasady zemlekorystuvannya mis'kykh ahlomeratsiy: teoriya, metodolohiya, praktyka*, Zhytomyr: Ruta.

Rekreacyjne wykorzystanie ziemi przez mieszkańców aglomeracji Kijowa w układzie czasowo-przestrzennym

Streszczenie. Celem artykułu jest opisanie rekreacyjnej działalności mieszkańców na terenie aglomeracji Kijowa (obszarze metropolitalnym) od lat 60. ubiegłego wieku na przykładzie rozwoju budownictwa działkowego. Korzystając z metod analizy statystycznej i kartograficznej, autorki dokonały inwentaryzacji i oceny układu przestrzennego działalności rekreacyjnej ludności w tym okresie. Obecny stan wykorzystania terenów podmiejskich dla celów rekreacyjnych został ustalony na podstawie autorskich badań terenowych. Uzyskane wyniki pozwoliły zidentyfikować trzy etapy oraz charakterystyczne wzorce rozwoju rekreacyjnego wykorzystania terenów podmiejskich.

Słowa kluczowe: działalność rekreacyjna, rekreacyjne wykorzystanie terenów podmiejskich, aglomeracja Kijowa

JAKUB RYŚNIK*, PIOTR GIBAS**

Identification of Urban Sports Zones as a Potential Product of Sports Tourism Using Spatial Dispersion Indicators

Abstract. The purpose of this article is to identify urban sports zones (also known as sports cities) as a potential product of urban or sports tourism in Poland using the spatial dispersion indicator of residential buildings in relation to sports infrastructure buildings. In the study orthodromic distances (the shortest distances in Euclidean space) between over 7 million residential buildings and 5.4 thousands sports facilities were calculated using centroids of buildings data included in the Topographic Object Data Bank (BDOT10k). These orthodromic distances were then used to calculate the dispersion coefficient in order to identify concentration zones of sports infrastructure buildings. The outcome of the study was the distribution of sports infrastructure buildings in Poland along with concentration zones where communes were treated as functional units. The findings can be used to identify areas that could serve as sports cities, which are defined as varied, separate, large areas, whose development is associated with sport and recreation.

Keywords: sports tourism, spatial dispersion, BDOT10k, sports city, sports zones, urban tourism

1. Introduction

The challenge faced in city development is to create an attractive space for residents and visitors who often come as tourists. The continuous improvement of services available in cities leads to the creation of functionally specialised spaces. A city with competitive functional spaces may become a destination for residents

* The Jerzy Kukuczka Academy of Physical Education in Katowice (Poland), Faculty of Physical Education, e-mail: j.ryśnik@awf.katowice.pl, orcid.org/0000-0001-5994-2922.

** University of Economics in Katowice (Poland), College of Economics, e-mail: piotr.gibas@ue.katowice.pl, orcid.org/0000-0003-4322-4592.

pursuing recreational activities or in proximity tourism [see Soria, Llurdés Coit 2013]. Another growing phenomenon is urban tourism¹ in its various forms.

The practice of recreational or high-performance sports is also an example of activity which could benefit from the existence of specialized city space. Diverse participation in sport is a growing phenomenon in postmodern societies [Malchorowicz-Moško 2015: 55-66]. According to Rzegocińska-Tyżuk [2012: 146-147], sports facilities are the factor of great importance in space creation by uniting people around common values represented by sport. To meet this requirement, urban space is being enriched with sports facilities. The challenge for urban organisms is to develop the attractiveness of such zones and to make them available for both city residents and outsiders.

Sports tourism is an ambiguous concept. UN WTO defines sports tourism as “type of tourism activity which refers to the travel experience of the tourist who either observes as a spectator or actively participates in a sporting event generally involving commercial and non-commercial activities of a competitive nature” [World Tourism Organization 2019: 54]. According to Gibson, who provided a review of the sports tourism literature [Gibson 1998], sports tourism includes three domains: active sports tourism (people travelling to take part in sports activities), sports event tourism (people travelling to watch sports events) and nostalgia sports tourism (visiting sports museums, famous sports venues). According to Weed and Bull [2009 as cited in Hadzik 2014], sports tourism is defined as all forms of active or passive participation in sport, both professional and amateur, for recreational or commercial purposes that require travel outside the place of residence and work. Standeven and DeKnop [1999: 12] define sports tourism as “all forms of active and passive involvement in sporting activity, participated in casually or in an organized way to non-commercial or business/commercial reasons that necessitate travel away from home and work locality”. The concept of sports tourism is also thoroughly reviewed by Hinch and Higham [2004], who define it as “sport-based travel away from the home environment for a limited time, where sport is characterized by unique rule sets, competition related to physical prowess and a playful nature.”

Kurtzman [2005] indicates the following positive effects that sports tourism may induce in the city:

- media coverage,
- employment (short-term),

¹ According to UNWTO, urban tourism is “a type of tourism activity which takes place in an urban space with its inherent attributes characterized by non-agricultural based economy such as administration, manufacturing, trade and services and by being nodal points of transport. Urban/city destinations offer a broad and heterogeneous range of cultural, architectural, technological, social and natural experiences and products for leisure and business” [World Tourism Organization 2019: 48; <https://www.unwto.org/urban-tourism>].

- shapes the city's image,
- tax benefits,
- development of infrastructure,
- economic impact,
- direct expenses,
- development of hotel accommodation,
- development of entertainment places.
- overall growth in the tourism sector,
- internationalization of the city and its business relations.

Development of specialized sports zones requires an appropriate spatial management policy and investments in sports infrastructure. Therefore, the creation or expansion of urban sports is a capital-intensive process burdened with financial risk. On the other hand, Smith points to the risk of creating a “sport-anchored tourist bubble”, isolated from the rest of the city, which meets the needs of visitors but not those of ordinary residents of the city [Smith 2010: 394].

In view of those limitations, the location of urban sports zones should be carefully chosen. The problem concerns effectiveness of investments from the public and private sector. The public sector is responsible for urban spatial management and effective public investments in the sports infrastructure. An assessment of the potential of specific locations is also desirable in the case of market entities intending to develop their business in the segment of recreational and sports services.

As each investment activity in this area should be preceded by an analysis of a given location's attractiveness, the main research problem is to identify places which could be considered attractive urban sports zones. This problem requires a theoretical basis since a clear definition of such a zone and criteria of its delineation are required. To cope with this, the authors of this article define the notion of a sports city as a separated, large area of space where buildings are associated with sport and recreation, and due to their complexity, are called sports-city [Berbeka 2013: 13].

From the practical point of view, this problem is of interest to entities that make decisions about public or the private investments and look for ways of evaluating their effectiveness depending on the location chosen.

The main purpose of this article is to define urban zones of sports cities and identify locations of such zones as a potential product of sports tourism in Poland using the spatial dispersion indicator of residential buildings in relation to sports infrastructure buildings. For the purpose of identifying potential sports city zones the authors propose using an objective measure of concentration and dispersion of sports infrastructure buildings obtained from the centroid database of buildings included in the Topographic Object Data Bank (Pol. *Bank Danych Obiektów Topograficznych* BDOT10k), updated in 2015.

The analysis of spatial concentration of sports infrastructure buildings makes it possible to identify areas within spatial units, including cities, that have the potential to function as “sports-cities.”

The authors believe that results obtained in this way may prove helpful when analysing the attractiveness of a given space for practicing sport, and also when determining tourist attractiveness for the purpose of urban and sports tourism.

The novelty of the study is associated with the use of orthodromic distances² between apartment buildings and sports infrastructure buildings. So far in the literature of the subject there has been no comprehensive study involving the calculation of dispersion coefficients for these distances or any attempts to use such coefficients to determine areas of concentration of a given function in space. The article fills this research gap.

2. Literature review

2.1. The notion of a sports city

Different names are used in the literature to refer to places for practising sports in the city. For example, the concept of a sport city is used in the following three different ways [Pye, Cuskelly, Toohey 2016: 375] depending on the situation: (1) creating a temporary sports attraction, (2) allocating part of the city for sporting activities, (3) creating a brand of the entire city.

Other names include “sport hub”, “international sports village”, “sports zone”, “national cities of sport” [Pye, Cuskelly, Toohey 2016: 375]. Pye et al. define the city of sport as a city that uses sport visibly in public policy, in developing infrastructure, in creating its image and brand. [Pye, Toohey, Cuskelly 2015]. Analysing the value of sport-city zones Smith explains their significance as “physical sports-city zones – concentrated sites of sports facilities that are developed as merely one part of a city” [Smith 2010: 386]. J. Berbeka uses the concept of “sport cities” referring to the theory of M. Sorkin regarding “theme parks” [Sorkin 1992] and defines them as separated, large areas of space in which the buildings are associated with sport and recreation, and because of their complexity, are called sports-city [Berbeka 2013: 5].

² Also known as the great-circle distance, is the shortest distance between two points on the surface of a sphere. The name is derived by combining two Greek words *orthos* – straight and *dromos* – line, road [Szyptko, Hyla 2007].

2.2. Components and types of sport cities

Sport appears in urban space either in the simplest form, following the appearance of a single sports facility or in the form of complexes of facilities with various functions, combining sport with entertainment and trade [Berbeka 2013: 10-11].

One example of a place in Poland that brings together a large number of functionally complementary sports infrastructure facilities is the area around the Malta Lake, which is the location of the largest recreation and sports complex in the Poznań agglomeration, featuring cross-country tracks, bike paths, a ski slope, an ice rink, a summer toboggan run, hotels and restaurants [Motek Kossowski, Bogacka 2010]. Since 2011, Poznań residents have been able to visit Termy Maltańskie, the most modern and largest water sports and recreational complex in Poland, which boasts an Olympic-size swimming pool.

Sports zones may feature various sports and sport-related facilities. Based on examples mentioned by Berbeka [2013: 10-13] the following list of sports and recreational facilities can be found in a sport city:

- a single major sports facility (e.g. a tennis court, ice rink, football arena),
- minor facilities related to the same sport discipline or designed for different disciplines that broaden the possible forms of engaging clients' free time at the site,
- additional infrastructure in the vicinity of sports facilities (catering, retail outlets, hotels),
- sports museums as a tourist attraction that meets the needs in the field of nostalgia sports tourism,
- other facilities functionally supporting the initial sport function (e.g. a hospital specialising in the treatment and rehabilitation of athletes, educational units specialising in sports education).

Smith [2010: 386] indicates that the sports-focused specialization of certain urban zones has a long history, as exemplified by Olympia in Ancient Greece (around 700 BC) and nineteenth-century British cities. He also tracks the process of their evolution from places that cater for the needs of local residents only to zones that also attract outsiders (tourists and new residents). Smith [2010: 387] distinguishes certain types of sport zones based on how they were created:

- sport zones created spontaneously as concentrations of activities of a given type in an organic (bottom-up) manner,
- zones created as a result of promotional activities of the city/district aimed at attracting e.g. a tourist and the creation of proper image of sport city/zone,
- zones resulting from the process of planned development of a specific space/district aimed at achieving the target theme (e.g. sport theme),
- zones created by redevelopment of places or infrastructure created in the past for the purpose of sporting events.

Smith presents a set of contemporary examples of places that can be regarded as spatially specialized sport zones. He describes, among others [Smith 2010: 388-395]:

- an area designated as part of urban space co-created by firms or media institutions (i.e. ESPN Wide World of Sports Complex; ESPN Zones in New York, Washington, Baltimore and Chicago, Nike Towns),
- a commercial sports centre, often located outside of the urban area, considered to be a supra-local attraction (i.e. La Manga club in Spain),
- a complex, whose creation was inspired by a great sports event (Olympic Village in the Olympic Park in Munich transformed into a recreation centre),
- a place created from scratch in a comprehensive way to generate tourism demand (The SportCity in Manchester, International Sport Village in Cardiff, The Aspire Zone in Doha in Qatar, Sports City in Dubai).

2.3. Functions and effects of sport cities

While individual sports facilities tend to attract local residents, for whom accessibility (short distance) to the facility is an important factor, sport facilities complexes may acquire a supra-local importance and attract users from more distant areas. They can cause an increase in tourism demand, improve the tourism potential of the city and become linked with other elements of the urban tourism product in a given agglomeration. [Harrison-Hill, Chalip 2005 as cited in Berbeka 2013: 15]. At least, these outcomes are expected by creators or investors involved in the development of such places.

Smith [2010] points out that the clustering of sports facilities can also have positive effects on local producers of sports services who facilitate access to a wider stream of consumers, specialized knowledge and qualified workforce. This view is in line with Brown, O'Connor and J. & Cohen [2000 as cited in Smith 2010], who compares specialized districts to industrial districts of so called Third Italy [Becattini 1990]. Entities that operate in such places derive benefits from the positive effects of geographical and sectoral agglomeration, such as external economics described by Marshall [1920 as cited Alberti 2002: 17].

Because of their attractiveness, sport cities may:

- attract major sports events (and also demand from sports tourism),
- attract athletes looking for training facilities,
- attract city residents looking for places to engage in active recreation.

The city's ability to attract sport participants is determined by the following factors [Smith 2010: 407]:

- the comprehensive character of the sports offering (variety and multi-functionality of facilities),

- the comprehensive character of services that support sports activity (accommodation, SPA facilities, commercial, health, educational and entertainment functions).
- the degree of integration of a sports city with existing “traditional” tourist attractions (e.g. local urban tourism, which can create an additional synergistic effect).

There is an important discussion in the literature concerning the question of whether the construction of sports infrastructure and sport city zones creation is an effective tool for the development or revitalization of the city and its space. Smith points to the danger of creating an artificial place, a kind of “sport-anchored tourist bubble”, isolated from the rest of the city, which, while providing entertainment and recreation for visitors, does not necessarily bring benefits to ordinary residents of the city [Smith 2010: 394].

Friedman, Andrews and Silk [2004] describe the exact mechanism of such an unfortunate series of events related to the revitalization processes of Baltimore, where large amounts of public money spent on developing exceptional sports and recreation infrastructure did not contribute to improving the living conditions of its residents. Chapin [2004], who also described the case of Baltimore, argues that investments in large sports facilities have no economic justification, but admits that they are an effective tool for the regeneration of urban districts. Austrian and Rosentraub [2002] share this view and provide evidence showing that focusing on the development of the sport and tourism sector as a tool of urban regeneration actually restores some aspects of economic development to these places. However, they still believe that two problems remain: (1) the total cost of such policies and (2) the cost of lost opportunities resulting from focusing on one path of development. Turner and Rosenbaum also describe the process of redeveloping urban districts in crisis cities through the development of sports infrastructure and they point to the gap between the costs and benefits for the city and residents [Turner, Rosentraub 2002]. Similar conclusions are drawn by Coates and Humphreys [2003] who, after critically reviewing the debate in the literature on the role of professional sport in the processes of economic revitalization of cities (with a professional sports team and infrastructure), state that economists have not yet found evidence for a positive relationship.

To sum up, creating “city of sport” complexes often requires relatively large investments that are prone to various risks. Decisions concerning their implementation must be preceded by a comprehensive (economic and social) analysis and have a strategic nature [Berbeka 2013: 20].

Mason [2016] formulates a similar assessment. In his view, the decision to use the sports infrastructure as the core of downtown development processes should be based on the assumption that the most attractive and competitive cities are those that carefully integrate sport and entertainment facilities as part of

broader development initiatives and which use other unique features that these cities already have.

Development strategies in this area should be combined into packages to create a synergy effect in order to allow cities and their stakeholders to prosper and gain a competitive advantage.

2.4. Identification of the potential of sport districts/zones in the literature

No previous studies of the distribution of sports zones in territorial units and of their attractiveness have not been carried out using the tools proposed by the authors of this article.

Of course, the sport infrastructure in Poland has been the subject of research. Studies in this regard have been reviewed by, among others, Kopacki and Bogacka [2017]. They highlighted examples of stocktaking and descriptive studies, as well as those regarding various specific aspects such as finances, functionality, renovation needs for specific types of sports facilities [MSiT 2015a, 2015b, 2016a, 2016b].

From the point of view of the problem addressed in this article, studies involving spatial analysis of the sport infrastructure are particularly relevant. A number of studies can be listed in which analysis focuses on the distribution of objects in communes [MSiT 2015b] or in particular provinces [Chudy 2012, 2013]. Similar examples include a study of sports infrastructure in the Poznań agglomeration by Motek, Kossowski and Bogacka [2010] or the work of Mamcarczyk [2018] where the problem is analysed at the level of provinces (first-tier units) and communes (third-tier units) in the district of Wadowice (second-tier unit). The results were expressed in terms of infrastructure indicators per unit of administrative division. They cannot be used to make conclusions about the existence of specialized sports zones at commune level.

Other studies in which a single city is the unit of analysis include the work of Turczyn regarding Łódź [Turczyn 2003] and the study by Kowalski concerning Cracow [Kowalski 2011]. Both authors tried to identify the existing infrastructure and assess its availability to local residents. However, their studies are not based on objective indicators, but on the authors' subjective assessments in which they attempted to determine whether sports facilities evenly complement the residential function of the city space. A different approach to the analysis of the distribution of sports infrastructure in urban space is taken by Łobodzińska and Kowalski. Their study offers a historical view of how sport functioned in the urban space of Cracow, Łódź and Wrocław during the socialist period [Łobodzińska, Kowalski 2015]. Their analysis is also based on a subject-

tive assessment of the distribution of sports activity but the authors recognise the existence of axes or cores of concentration of the sports infrastructure.

There are analyses devoted to the availability of the sports infrastructure. Cieplik and Sołtysik [2012] analyse transport accessibility of recreation areas in Wrocław; Wiśniewski [2016] examine spatial accessibility of water parks in Łódzkie province; Kopacki, Bogacka [2017] present characteristics and transport accessibility of selected academic sports halls in Poznań using data from a transport application [jakdojade.pl].

Studies of the sports infrastructure in cities are also present in the world literature. They focus on the sport or recreational potential of entire cities, which enable comparisons between various urban centres [cf. Liu et al. 2019].

Nonetheless, the literature lacks studies devoted to the distribution of the sports infrastructure in non-aggregated space into administrative units, especially ones that rely on objective methods of economic and spatial analysis. This kind of approach may provide better possibilities of identifying specialized sports and recreation zones within specific spatial units, which cannot be identified at higher (i.e. commune) level.

Economic and spatial analyses based on the shortest Euclidean distances have a long tradition. They were already used at the beginnings of the 20th century by J. Czekanowski for purposes of taxonomic analysis or as the basis for the deduction conducted by the research team consisting of K. Florek, J. Łukaszewicz, J. Perkal, H. Steinhaus and S. Zubrzycki [Heffner, Gibas 2007]. At the beginning of the 1970s, B. Kostrubiec developed the Shortest Dendrite Method (Pol. *minimalne drzewo rozpinające* – MDR) based on the Euclidean distance [Kostrubiec 1972], which in the English literature is known as the minimum spanning tree (MST) method and, according to R. L. Graham and P. Hell [1985], is associated with such surnames as Borůvka, Kruskal and Prim. This method has grown in importance after its application in the graph theory, carried out by R. N Mantegni in 1999 [cited in Sharif, Djauhari 2016], and consequently in the GIS software as part of network analysis. It should be noted that spatial measures based on the shortest distance are also used in urban pattern dispersion tests [Reis, Silva, Pinho 2016; Herold, Couclelis, Clark 2003; Gibas 2017; Gibas, Heffner 2018a].

3. The research method

The empirical part of the article describes the process of identifying sport zones in Poland using the spatial dispersion indicator of residential buildings in relation to sports infrastructure buildings.

In order to perform this process the following hypotheses were formulated:

H1. A sport zone as a product of urban tourism (sports tourism) is an area characterized by high values of indicators measuring the concentration of recreation and sports infrastructure.

The attractiveness of areas for performing sports activities could be measured in terms of the concentration of sports infrastructure facilities present in a given area. The measure of concentration shows the density of sports facilities within the sport zone in comparison to the neighbouring area.

H2. A sport zone as a product of urban tourism is characterized by relatively low distances between sport facilities and residential buildings.

The second hypothesis addresses problematic sport zones which are sometimes created in a more artificial manner and are relatively isolated from areas where the majority of the city's inhabitants live. Both public and private entities should attempt to achieve a maximum engagement of local residents in the sport zone. Therefore, the proximity between sport facilities in the sport zone and residential buildings is a desirable feature.

To verify the hypotheses, the authors used objective measures of concentration and dispersion of sports infrastructure buildings obtained from the analysis of the centroid database of buildings included in the Topographic Object Data Bank (Pol. *Bank Danych Obiektów Topograficznych* BDOT10k).

The calculations were based on centroids over 14.7 million buildings that constitute one of the layers of the Topographic Object Data Bank (BDOT10k³) according to the 2015 update. Centroids were determined using the QGIS software (ver. 2.14.3 Essen⁴). The area of the whole country was analysed at the level of communes (based on the National Administrative Border Register). It should be noted that the distribution of buildings in Poland is based on the functional classification of communes proposed by P. Śleszyński and T. Komornicki [2016].

The basic analytical procedure was aimed at determining orthodromic distances (shortest Euclidean distances) between over 7 million apartment buildings and 5.4 thousand buildings used for sport-related purposes (sports halls, sports clubs, gyms, swimming pools, shooting ranges, riding schools, indoor tennis courts). Orthodromic distances between centroids (point representations) of buildings were used to determine the dispersion coefficients [see among others: Reis, Silva, Pinho

³ The structure of the database is described in the following source: *Opis bazy danych topograficznych i ogólnogeograficznych oraz standardy techniczne tworzenia map. Załącznik do rozporządzenia Ministra Spraw Wewnętrznych i Administracji z 17 listopada 2011 r. w sprawie bazy danych obiektów topograficznych oraz bazy danych ogólnogeograficznych, a także standardowych opracowań kartograficznych*, t. I, Dz.U. załącznik do nru 279, poz. 1642 27 grudnia 2011 r., more information on how this database was created: Olszewski, Gotlib (eds.) 2013.

⁴ Possibilities of using GIS to assess retail locations are analysed by Murad [2015].

2016; Herold, Couclelis, Clark 2003; Gibas, Heffner 2018b] defined as the arithmetic mean of the shortest Euclidean distances.

Locations of sports facilities were also subjected to the procedure of nuclear density estimation (KDE), with a 10-fold radius change (from 1 km to 10 km to 1 km). The results of this procedure were used to objectively identify concentration zones of sports infrastructure buildings and describe the relationship with estimation coefficients using linear and exponential regression functions.

A peripheral location in this study refers to the population of a given commune living in a place located further away from sports facilities than the typical orthodromic distance, defined as the average distance plus its standard deviation. Unfortunately, the available Polish statistical and official data cannot be made available for formal reasons, which is why the study uses a model of population distribution developed by P. Gibas in the Department of Spatial and Environmental Economics of the University of Economics in Katowice. The model is based on the estimated gross internal area and location of residential buildings as well as population statistics as at December 31, 2015. The resulting model estimates the number of inhabitants living in individual buildings. The average value of the model error (underestimation) is 2 people with a median of 0 and a standard deviation of 33 people. For 25% of municipalities in Poland, the underestimation is up to 14 people, while in the case of another 25% the overestimation exceeds 12 people. The maximum underestimation is 366 people, while the maximum overestimation of the number of people living in a given commune is 568. The modal overestimation for communes is 2 people. The model parameters were therefore considered sufficiently good to be used as the basis for further calculations.

4. Results

According to the Topographic Object Data Bank (BDOT10k), in 2015 there were 5.4 thousand buildings used for sport-related purposes (0.04 percent of all buildings) in Poland. The biggest group included sports halls (1.6 thousand – 30.31% of all sports facilities), followed by sports clubs (1.4 thousand – 26.26%), gyms (1. thousand – 18.56%) and swimming pools (0.7 thousand – 12.24%). The share of other types of sports facilities was below 2.5 percent, of which the most numerous were shooting ranges (113 – 2.09%), riding schools (87 – 1.61%) and tennis courts (86 – 1.59%). Other types of buildings used for sport-related purposes included, for example, entertainment halls (140 – 2.59%) and secondary schools (37 – 0.69%).

Sports buildings in the dataset are most often located in urban cores of functional areas of provincial capital cities (type A) (1.2 thousand – 21.87%). A rela-

Table 1. Descriptive statistics of distances between sport buildings in communes by functional category

Functional category	Number of buildings	Percentage of sport buildings	Average distance between sport buildings in meters (dispersion factor)	A standard deviation of the distance in meters
A – cores of functional areas of provincial capital cities	1181	21.87	2361.97	10 868.54
B – external zones of functional areas of provincial capital cities	705	13.06	1021.44	1 296.39
C – cores of functional areas of sub-regional cities	644	11.93	1630.17	2 327.39
D – external zones of sub-regional cities functional areas.	355	6.57	931.23	1 191.55
E – functional areas of medium-sized towns including smaller towns with special functions, e.g. tourist centres and resorts.	674	12.48	1328.07	1 539.92
F – communes with a developed transport function	207	3.83	1012.02	1 907.49
G – communes with well-developed non-agricultural functions (tourism and surface mining industry)	345	6.39	1241.83	1 595.89
H – communes with a well-developed agricultural function.	365	6.76	822.26	857.44
I – communes with a moderately developed agricultural function	677	12.54	865.07	887.23
J – communes with relatively extensive areas designated for purposes of forestry or nature protection	247	4.57	897.32	994.68

Source: own elaboration based on the functional classification by Śleszyński and Komornicki [2016].

tively large percentage of these buildings (over 10%) can also be found in external zones of urban functional areas of provincial capital cities (type B) (0.7 thousand -13.06%), in cities – multifunctional centres (type E) (0.7 thousand – 12.48%) and cores of functional areas of sub-regional cities⁵ (type C) (0.6 thousand – 11.93%). With regard to rural communes, most sports facilities are located in

⁵ A detailed definition of this category can be found in Śleszyński and Komornicki [2016].

communes with a moderately developed agriculture (type I), (0.7 thousand – 12.54%) (see Table 1).

Moving on to distances between residential buildings and buildings used for sport purposes, the average distance is slightly above 5 km, with a standard deviation of 3.5 km. The median distance is 4 km, with a quarter of municipalities where the median distance is less than 2.6 km, and three quarters, where it is less than 6.9 km.

In terms of distance from residential building, sports facilities in large cities (Warsaw, Cracow, Wrocław, Poznań to name a few) are most easily accessible. Analysing the spatial distribution of distances, it is noteworthy that lower ranges of variability (distances below the average) can be found over a much larger territory than upper ranges of variability (distances above the average). Communes for which the distances are below the average are located, among others, in significant areas of Śląskie, Małopolskie, Świętokrzyskie and Podkarpackie (with relatively few exceptions). Large or very large distances between residential and sports buildings are found in municipalities located in areas along the borders between Zachodniopomorskie and Pomorskie, as well as Mazowieckie, Podlaskie and Lubelskie (see Fig. 1).

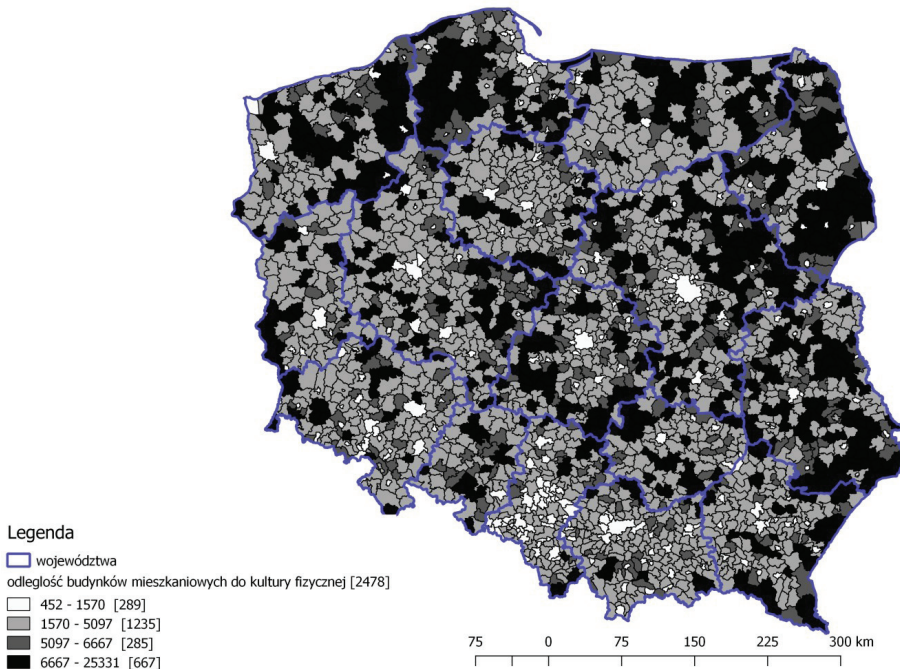


Fig. 1. Distance intervals (in meters) between residential buildings and sports facilities in communes (lower limit – upper limit [number of communes])

Source: own elaboration.

The smallest average distances between residential and sports buildings exist inside cores of functional areas of provincial capital cities (type A) with an average distance of 1.2 km (standard deviation of approx. 1 km); distances between both types of buildings inside cores of functional areas of sub-regional cities (type C) are on average equal to 1.3 km (standard deviation of about 1 km), in multifunctional centres (type E) the average distance is 1.8 km (with standard deviation of 1.9 km). The longest distance were recorded in communes with a well-developed agricultural function (type H) (the dispersion factor of 6.1 km, with standard deviation of 4.2 km) and communes of type J – 6 km and 4.6 km, respectively (see Table 2).

Given that the number of sports buildings located in rural areas is relatively small and they are mostly concentrated in large cities, the analysis of shortest distances between sports and residential buildings revealed that 1,067 Polish communes are not affected by the problem of a peripheral location in relation to sports buildings. In the remaining communes, the median orthodromic distance between residential and sports buildings was up to 2.2 km, with a maximum of 18.9 km.

Across all those communes including peripheral locations (1412), on average, 31.59% of the population lives in areas where the orthodromic distance to sports buildings is bigger than the typical one (with the standard deviation of 33.34%). The median share of the population living in peripheral locations is 15.63%, while the first quartile is just 3.62%. For three-quarters of communes, the percentage of population living in buildings located at least at a typical distance⁶ from sports buildings is below 58.06, although there are some communes where 100% of the population lives in peripheral locations.

When analysing peripheral locations associated with access to sports buildings, attention should, first of all, be paid to provinces or parts thereof least affected by this problem. These include Śląskie, Małopolskie and Dolnośląskie, but also to significant parts of Podkarpackie, Świętokrzyskie, Wielkopolskie, Kujawsko-Pomorskie, Łódzkie and Mazowieckie. This, of course, is related to sports buildings located in the cores of metropolitan (less often regional) cities. An interesting spatial distribution is also characteristic of communes whose percentage is above the value of the third quartile. These communes are located mainly in the central and eastern part of Zachodniopomorskie and in the western and central part of Pomorskie. Another belt of such areas extends from the northern part of the Warmińsko-mazurskie, through the eastern part of Podlaskie and Mazowieckie to the eastern outskirts of Lubelskie and Podkarpackie. However, it should be noted that in most cases, these strips are interrupted by communes

⁶ The average distance plus its standard deviation.

Table 2. Descriptive statistics of distances between residential and sports buildings across communes by functional category

Functional category	Minimum distance between sport buildings in meters	Maximum distance between sport buildings in meters	Average distance between sport buildings in meters (dispersion factor)	Standard deviation of the distance in meters
A – cores of functional areas of provincial capital cities	4.48	11 648.20	1260.15	1021.80
B – external zones of functional areas of provincial capital cities	5.12	20 620.10	3044.18	2534.38
C – cores of functional areas of sub-regional cities	7.65	8612.59	1322.12	1027.44
D – external zones of sub-regional cities functional areas.	12.82	20 289.60	3498.16	2477.35
E – functional areas of medium-sized towns including smaller towns with special functions. e.g. tourist centres and resorts.	8.39	14 043.50	1839.61	1944.93
F – communes with a developed transport function	11.45	25 789.20	4708.60	3862.43
G – communes with well-developed non-agricultural functions (tourism and surface mining industry)	11.51	26 505.60	5001.34	4118.77
H – communes with a well-developed agricultural function.	5.04	27 520.10	6131.32	4166.51
I – communes with a moderately developed agricultural function	10.65	24 756.70	5577.84	3841.45
J – communes with relatively extensive areas designated for purposes of forestry or nature protection	13.30	24 860.00	6064.73	4576.59

Source: own elaboration.

with a lower percentage of residents living in peripheral locations in relation to sports buildings. (see Fig. 2).

Returning to the issue of spatial concentration of sports facilities, interesting insights can be drawn from the analysis of kernel density indicators calculated for areas with a radius of 5 km (see Fig. 3). The map complements the previous analyses showing places within cities and rural areas that are characterized by a significant saturation of sports facilities. Major metropolitan agglomerations

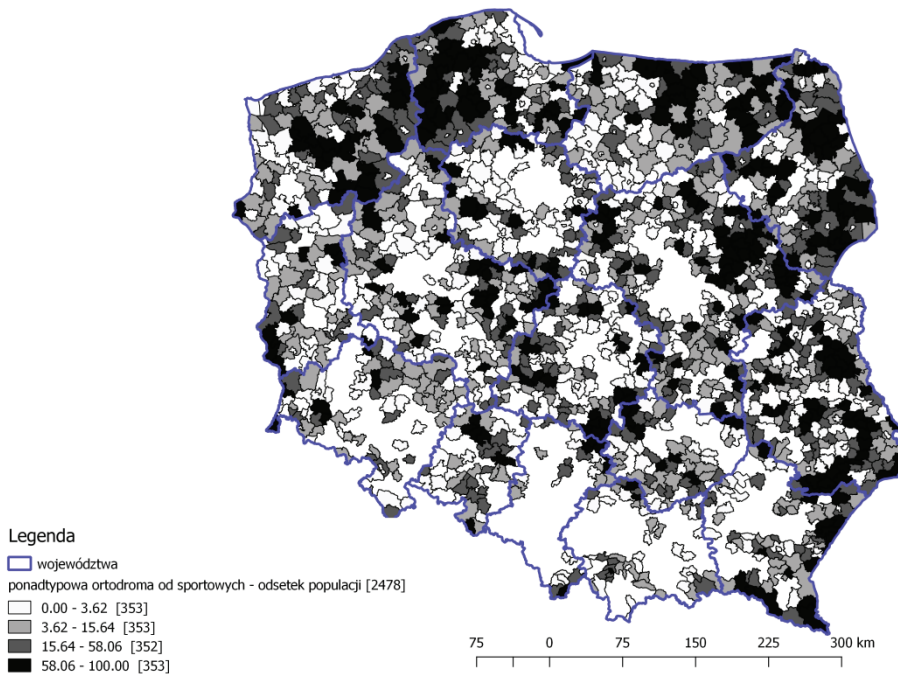


Fig. 2. Quartiles of communes grouped by range of the population share living in areas with non-typical distances from sports buildings (lower limit – upper limit [number of communes in the quartile])

Source: own elaboration.

(red and orange) stand out, but areas located in smaller communes (blue and green) are also visible.

On the basis of the statistical parameters of linear and exponential regression estimators it can be concluded that the cores of functional areas of provincial capital cities have the highest spatial concentration of sports buildings (type A – mean linear estimator of 0.88264 and mean exponential estimator of 0.0200). Linear estimators also indicate the density of sports buildings within cores of functional areas of sub-regional cities (type C: average estimator = 0.7529), external zones of functional areas of provincial capital cities (type B: average estimator = 0.7414), external zones of functional areas of sub-regional cities (type D: average estimator = 0.7279) and other multi-functional cities (type E: average estimator = 0.7008). Interestingly, cities with multifunctional areas and cores of functional urban areas of subregional cities are also characterised by larger than average values of exponential estimators of the kernel density function (for type C, it is 0.0186 and for type E – 0.0175), which means that sport zones are located mainly in cities (see Table 3 and 4).

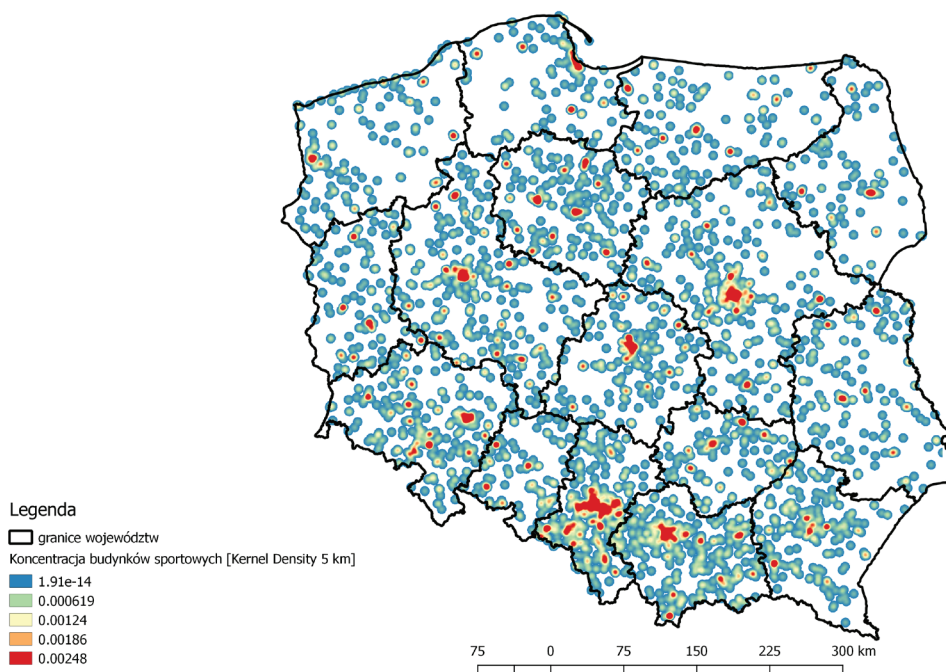


Fig. 3. Concentration of sports buildings in areas with a radius of 5 kilometres (KDE – kernel density estimation)

Source: own elaboration.

Values of the average linear estimator of the kernel density function for communes were divided into the following classes using the Jenks optimization method: dark purple – 72 communes (0.8051 to 0.9345), purple – 168 communes (0.74760 to 0.8051), light purple – 274 communes (0.7006 to 0.7460), light green – 408 communes (0.6592 to 0.7006) and dark green – 559 communes (0.613 to 0.6592). The average estimator can also be used to identify communes with the biggest change in kernel density indicators, given their exact location determined by the granularity of estimation (see Fig. 4).

5. Conclusions

The main purpose of this article was to define the concept of an urban sport city zone and to identify such zones as a potential product of sports tourism in Poland using the spatial dispersion indicator of residential buildings in relation to sports

Table 3. Statistical parameters of the linear regression estimator of the kernel density function (KDE)

Functional category	Minimum estimator	Maximum estimator	Average estimator	Standard deviation of the estimator
A – cores of functional areas of provincial capital cities	0.6313	1.0209	0.8264	0.0673
B – external zones of functional areas of provincial capital cities	0.6313	0.9605	0.7414	0.0681
C – cores of functional areas of sub-regional cities	0.6313	0.9294	0.7529	0.0544
D – external zones of sub-regional cities functional areas.	0.6313	0.9154	0.7279	0.0664
E – functional areas of medium-sized towns including smaller towns with special functions. e.g. tourist centres and resorts.	0.6313	0.9886	0.7008	0.0469
F – communes with a developed transport function	0.6313	0.8581	0.6960	0.0533
G – communes with well-developed non-agricultural functions (tourism and surface mining industry)	0.6313	0.8588	0.6824	0.0445
H – communes with a well-developed agricultural function.	0.6313	0.8778	0.6708	0.0428
I – communes with a moderately developed agricultural function	0.6313	0.9228	0.6829	0.0500
J – communes with relatively extensive areas designated for purposes of forestry or nature protection	0.6313	0.8440	0.6787	0.0480

Source: own elaboration.

infrastructure buildings. The analytical part of the article shows the distribution of sports infrastructure buildings in Poland (across communes classified by functional category) and also it indicates concentration zones at commune and intra-commune level.

The authors believe that the proposed research method and its results could help to identify sport-city zones in urban spaces and to evaluate their ability to attract residents and visitors (also tourists). The objective indicators could be used to determine whether there are places/zones/complexes that could be categorised as “sport cities” or whether there is an infrastructural potential for the

Table 4. Statistical parameters of the exponential regression estimator of the kernel density function (KDE)

Functional category	Minimum estimator	Maximum estimator	Average estimator	Standard deviation of the estimator
A – cores of functional areas of provincial capital cities	0.0021	0.0999	0.0200	0.0173
B – external zones of functional areas of provincial capital cities	0.0024	0.0658	0.0115	0.0113
C – cores of functional areas of sub-regional cities	0.0024	0.0691	0.0186	0.0132
D – external zones of sub-regional cities functional areas.	0.0025	0.0404	0.0088	0.0072
E – functional areas of medium-sized towns including smaller towns with special functions. e.g. tourist centres and resorts.	0.0032	0.0608	0.0175	0.0115
F – communes with a developed transport function	0.0028	0.0493	0.0084	0.0058
G – communes with well-developed non-agricultural functions (tourism and surface mining industry)	0.0029	0.0710	0.0120	0.0130
H – communes with a well-developed agricultural function.	0.0032	0.0598	0.0096	0.0100
I – communes with a moderately developed agricultural function	0.0031	0.0531	0.0085	0.0067
J – communes with relatively extensive areas designated for purposes of forestry or nature protection	0.0028	0.0364	0.0080	0.0060

Source: own elaboration.

existence of such places. The method could also help to identify places where the development of a sports-city is promising and the investment in sports and sport-related infrastructure is justified.

The proposed research method could prove helpful for both private and private sector entities to make investment decisions. It is based on two assumptions (hypotheses).

According to the first hypothesis (H1), a sports zone as a product of urban tourism (sports tourism) is an area which is characterized by high values of the concentration indicators of recreation and sports infrastructure.

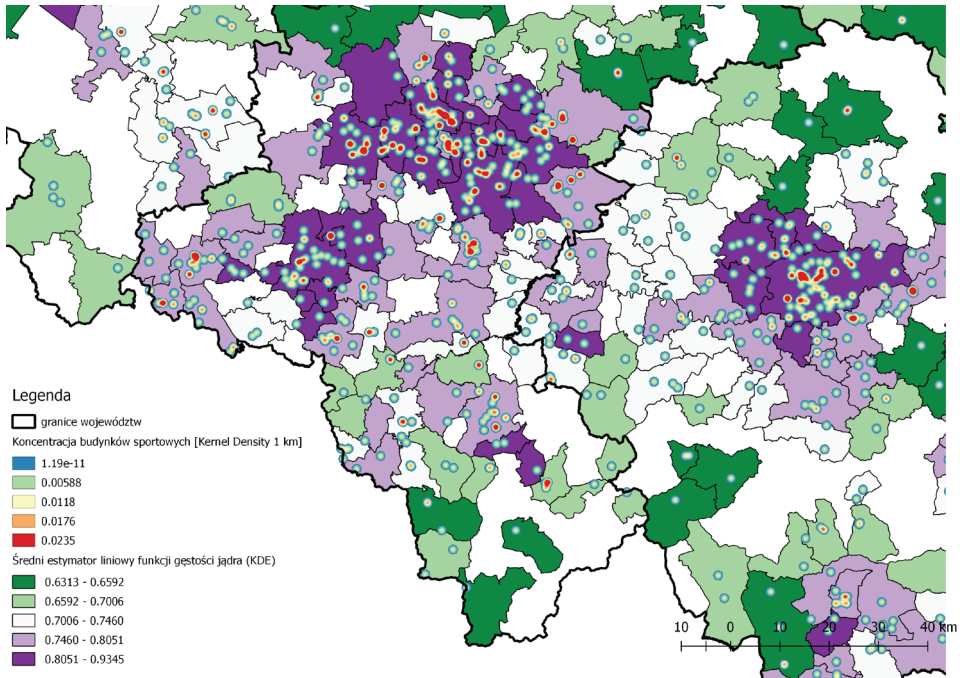


Fig. 4. Concentration of sports buildings in areas with a radius of 1 km (KDE – kernel density estimation) superimposed on the average linear estimator of the kernel density function

Source: own elaboration.

To verify this hypothesis, locations of sports buildings were analysed using kernel density estimation (KDE) to objectively identify concentration zones of sports infrastructure buildings. The measure shows the concentration of sports building inside sport zones in comparison to the neighbourhood. The results obtained from the analysis could be used in different ways by the public and the private sector. Insights for the public sector could help to:

- evaluate communes in terms of the presence of sports infrastructure,
- evaluate different variants of investment strategies in sport facilities and spatial management,
- identify sport zones/sports cities defined as concentrations of sport infrastructure that is already present at the site (in a commune or part of a commune),
- identify sport zones which have the potential to attract both type of visitors (residents performing proximity tourism) and visitors from outside (sports tourism),
- identify underdeveloped places lacking sports infrastructure.

Insights from concentration analysis for the private sector could help to:

- evaluate locations in terms of the intensity of competition (especially when the first mover strategy is considered),
- evaluate locations in terms of the presence of desirable critical mass of different sport and recreational facilities which could make the site attractive not only for local residents but also for other visitors (this information could be used to evaluate the investment in complementary sport or recreational facilities and probability of business success).

Dispersion coefficients were used to validate the second hypothesis (H2): “A sports zone as a product of urban tourism should be characterized by relatively low distances between sport facilities and the residential buildings”. The results obtained from the analysis could be used in different ways by the public and the private sector. Insights for the public sector could help to:

- estimate the number of local residents living close to a certain sport zone site (existing or planned),
- evaluate potential engagement of local residents in activities in the sport zone and therefore the potential utility of the sport zone for the local community,
- evaluate the risk of creating problematic sport zones which are sometimes created as artificial places that are isolated from local residents.

Information about dispersion coefficients could be useful for the private sector because:

- it gives an indication of potential local demand for planned commercial service points,
- it can be used to evaluate and compare possible locations of service points taking into account the number of local residents living in the vicinity.

Encouraging local residents to take advantage of the sport zone should be the goal for both the public and the private entities. This is why they should be interested in evaluating the proximity between sport facilities in the sport zone and local residential buildings.

In conclusion, the above analysis may help to detect sport zones using just one criterion: the indicator of spatial dispersion and selected quantitative methods. The analysis is a preliminary detection of potential locations of sport zones. It could help to identify places which have the potential to attract visitors performing sports tourism. More accurate research, using additional criteria (e.g. the use of qualitative research) may improve the accuracy of the analysis.

The results of the study could provide valuable input for sport service providers and their consumers in the process of making spatial decisions. They can also contribute to the understanding of spatial behaviour of local actors involved in the creation of the sports services market and those affected by the external effects (both positive and negative) generated by the sports infrastructure.

The proposed method could be improved by exploiting detailed information about buildings, which could be used to differentiate them in terms of their significance. This information about the “weight” of the building (e.g. through the use of qualitative research) would enrich the analysis by providing more rational grounds for choosing locations and for consumer decisions.

References

- Alberti F., 2002, *Industrial districts. Inter-firm networks, entrepreneurial agency and institutions*, Milano: Edizioni Angelo Guerini e Associati Spa.
- Austrian Z., Rosentraub M.S., 2002, Cities, Sports, and Economic Change: A Retrospective Assessment, *Journal of Urban Affairs*, 24(5): 549-563.
- Becattini G., 1990, The Marshallian industrial district as a socio-economic notion, in: F. Pyke, G. Becattini, W. Sengenberger (eds.), *Industrial Districts and Inter – Firm Co-operation in Italy*, Geneva: International Institute for Labour Studies.
- Berbeka J., 2013, Ewolucja form i roli obiektów sportowych w turystyce miejskiej, *Studia Ekonomiczne / Uniwersytet Ekonomiczny w Katowicach*, 147: 9-20.
- Brown A., O’Connor J., Cohen S., 2000, Local music policies within a global music industry: Cultural quarters in Manchester and Sheffield, *Geoforum*, 3(1): 437-451.
- Chapin T.S., 2004, Sports Facilities as Urban Redevelopment Catalysts: Baltimore’s Camden Yards and Cleveland’s Gateway, *Journal of the American Planning Association*, 70(2): 193-209.
- Chudy W., 2012, Zagospodarowanie polskiej wsi w infrastrukturę sportową, *Infrastruktura i Ekologia Terenów Wiejskich*, 2(1): 143-150.
- Chudy W., 2013, Infrastruktura sportowo-rekreacyjna warunkiem rozwoju aktywności ruchowej społeczeństwa na przykładzie województwa małopolskiego i śląskiego, *Infrastruktura i Ekologia Terenów Wiejskich*, 3(1), 195-204.
- Cieplik J., Sołtysik M., 2012, Próba oceny dostępności komunikacyjnej wybranych obiektów kultury materialnej i terenów rekreacyjnych Wrocławia dla mieszkańców obszarów podmiejskich, Sosnowiec, *Prace Komisji Krajobrazu Kulturowego*, 18: 32-43.
- Coates D., Humphreys B.R., 2003, Professional Sports Facilities, Franchises and Urban Economic Development, *Public Finance and Management*, 3(3): 335-357.
- Friedman M.T., Andrews D.L., Silk M., 2004, Sport and the Façade of Redevelopment in the Postindustrial City, *Sociology of Sport Journal*, 21(2): 119-139.
- Gibas P. (ed.), 2017, *Analiza zmian i prognoza przyrostu zabudowy mieszkaniowej na obszarze Polski do 2020 roku*, Poznań: Bogucki Wydawnictwo Naukowe.
- Gibas P., Heffner K., 2018a, Rozproszenie zabudowy mieszkaniowej a dostępność do usług rynkowych i publicznych, *Biuletyn KPZK PAN*, 272: 303-315.
- Gibas P., Heffner K., 2018b, Społeczne i ekonomiczne koszty bezładu przestrzeni – osadnictwo obszarów wiejskich, in: A. Kowalewski, T. Markowski, P. Śleszyński (ed.), *Koszty chaosu przestrzennego*, Warszawa: Komitet Przestrzennego Zagospodarowania Kraju Polskiej Akademii Nauk, 163-195.

- Gibson H.J., 1998, Sports tourism: A Critical Analysis of Research, *Sport Management Review*, 1(1):45-76.
- Graham R.L., Hell P., 1985, On the history of the minimum spanning tree problem, *Annals of the History of Computing*, 7: 43-57.
- Hadzik A., 2014, *Turystyka sportowa ze szczególnym uwzględnieniem międzynarodowych widowisk sportowych*, Katowice: Wydawnictwo Akademii Wychowania Fizycznego im. Jerzego Kukuczki w Katowicach.
- Harrison-Hill T., Chalip L., 2005, Marketing Sports tourism: Creating Synergy Between Sport and Destination, *Sport in Society*, 2: 302-320.
- Heffner K., Gibas P., 2007, *Analiza ekonomiczno-przestrzenna*, Katowice: Wydawnictwo Akademii Ekonomicznej im. Karola Adamięckiego w Katowicach.
- Herold M., Couclelis H., Clark K.C., 2005, The role of spatial metrics in the analysis and modeling of urban land use change, *Computers, Environment and Urban Systems*, 29(4): 369-399.
- Hinch T., Higham J.E.S., 2004, *Sports tourism Development*, Clevedon – Buffalo – Toronto – Sydney: Channel View Publications.
- Kopacki I., Bogacka E., 2017, Charakterystyka i dostępność komunikacyjna wybranych akademickich hal sportowych w Poznaniu, *Biuletyn KPZK PAN*, 266: 159-178.
- Kostrubiec B., 1972, *Analiza zjawisk koncentracji w sieci osadniczej. Problemy metodyczne*, Wrocław: Zakład Narodowy im. Ossolińskich. Wydawnictwo PAN.
- Kowalski Ł., 2011, Inwestycje sportowe w Krakowie, *Barometr Rozwoju Małopolski*, 49(149): 1-7.
- Kurtzman J., 2005, Economic impact: sports tourism and the cityw, *Journal of Sports Tourism*, 10(1): 47-71.
- Liu Y., Wang L., Wu Q., Han S., 2019, Evaluation Model and Empirical Study of Sports and Leisure City in China, *Journal of Shenyang Institute of Physical Education*, 38(3): 30-38.
- Łobodzińska A., Kowalski Ł., 2015, Walka o rząd dusz? Sport w przestrzeni miasta socjalistycznego (na przykładzie Krakowa, Łodzi i Wrocławia, in: M. Pirveli, K. Nędzka-Sikoniewska (eds.), *Miasto (post)socjalistyczne Przestrzeń władzy*, t. 2, Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 31-46.
- Malchorowicz-Moško E., 2015, Fenomen turystyki sportowej na tle tendencji charakterystycznych dla epoki postmodernizmu, in: M. Kazimierzczak (ed.), *Turystyka sportowa społeczno-kulturowy potencjał i perspektywy rozwoju*, Poznań: Akademia Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu.
- Mamcarczyk M., 2018, Analiza poziomu infrastruktury sportowej w ujęciu lokalnym i regionalnym, *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, 1(973): 97-111.
- Marshall A., 1920, *Principles of economics*, 8th ed., London: Macmillan and Co.
- Mason D.S., 2016, Sport Facilities, Urban Infrastructure, and Quality of Life: Rationalizing Arena-Anchored Development in North American Cities, *Sport & Entertainment Review*, 2: 63-69.
- Motek P., Kossowski T., Bogacka E., 2010, *Sport w aglomeracji poznańskiej*, Poznań: Bogucki Wydawnictwo Naukowe.
- MSiT (Ministerstwo Sportu i Turystyki), 2015a, *Pływalnie kryte w Polsce. Inwentaryzacja bazy sportowej*, Warszawa.

- MSiT (Ministerstwo Sportu i Turystyki), 2015b, *Braki w infrastrukturze – sale gimnastyczne. Zestawienie gmin, na terenie których nie znajduje się przynajmniej jedna pełnowymiarowa sala gimnastyczna/hala sportowa*, Warszawa.
- MSiT (Ministerstwo Sportu i Turystyki), 2016a, *Inwentaryzacja klubów wioślarskich w Polsce. Inwentaryzacja bazy sportowej*, Warszawa.
- MSiT (Ministerstwo Sportu i Turystyki), 2016b, *Duże hale sportowo-widowiskowe w Polsce. Inwentaryzacja bazy sportowej*, Warszawa.
- Murad A.A., 2015, Using GIS for Retail Location Assessment at Jeddah City, *International Journal of Advanced Computer Science and Applications (ijacsa)*, 6(7), doi.org/10.14569/IJACSA.2015.060718.
- Olszewski D., Gotlib D. (eds.), 2013, *Rola bazy danych obiektów topograficznych w tworzeniu infrastruktury informacji przestrzennej w Polsce*, Warszawa Główny Urząd Geodezji i Kartografii.
- Opis bazy danych topograficznych i ogólnogeograficznych oraz standardy techniczne tworzenia map. Załącznik do rozporządzenia Ministra Spraw Wewnętrznych i Administracji z 17 listopada 2011 r. w sprawie bazy danych obiektów topograficznych oraz bazy danych ogólnogeograficznych, a także standardowych opracowań kartograficznych*, t. I, Dz.U. załącznik do nru 279, poz. 1642 27 grudnia 2011 r.
- Pye P.N., Cuskelly G., Toohey K., 2016, Social benefits and the planning of the East Manchester Sportcity, *Managing Sport and Leisure*, 21(6): 375-398.
- Pye P.N., Toohey K., Cuskelly G., 2015, The social benefits in sport city planning: A conceptual framework, *Sport in Society*, 18(10): 1199-1221.
- Reis J., Silva E., Pinho P., 2016, Spatial Metrics to Study Urban Patterns in Growing and Shrinking Cities, *Urban Geography*, 37(2): 246-271.
- Rzegocińska-Tyżuk B., 2012, Sport w krajobrazie miasta – wybrane zagadnienia roli i kompozycji, *Czasopismo Techniczne*, 1(1): 145-156.
- Sharif S., Djauhari M.A., 2016, Minimum Spanning Tree and Centrality Measure, in: S. Sharif, S.S.S. Yahaya, A. Saaban (eds.), *Scientific Investigation on Univariate Quantitative Methods*, UUM Sintok, Kedah: Malaysia Universiti Utara Malaysia Press, 58-67.
- Smith A., 2010, The Development of “Sports-City” Zones and Their Potential Value as Tourism Resources for Urban Areas, *European Planning Studies*, 18(3): 385-410.
- Soria I.D., Llurdés Coit J.C., 2013, Thoughts about Proximity Tourism as a Strategy for Local Development, *Cuadernos de Turismo*, 32: 303-305.
- Sorkin M., 1992, *Variations on a Theme Park: The New American City and the End of Public Space*, New York: Noonday.
- Standeven J., DeKnop P., 1999, *Sports tourism*, Champaign: Human Kinetics.
- Szytko J., Hyla P., 2007, The method of using a GPS device for distance assigning, *Transport Problems*, 2: 17-23.
- Śleszyński P., Komornicki T., 2016, Klasyfikacja gmin Polski na potrzeby monitoringu zagospodarowania przestrzennego, *Przegląd Geograficzny*, 88(4): 469-488.
- Turczyn M., 2003, Obiekty sportowe w przestrzeni Łodzi, in: T. Marszał (ed.), *Zagospodarowanie przestrzeni miejskiej Łodzi*, Warszawa: Komitet Przestrzennego Zagospodarowania Kraju Polskiej Akademii Nauk.
- Turner R.S., Rosentraub M.S., 2002, Tourism, sports and the centrality of cities, *Journal of Urban Affairs*, 24(5): 487-492

- Weed M., Bull, C., 2009, *Sports tourism: Participants, policy & providers*, Oxford: Elsevier.
- Wiśniewski S., 2016, Dostępność przestrzenna parków wodnych w województwie łódzkim, *Problemy Rozwoju Miast*, 3: 75-84.
- World Tourism Organization, 2019, *UNWTO Tourism Definitions*, UNWTO, Madrid, <https://doi.org/10.18111/9789284420858>.

Identyfikacja miejskich stref sportu jako potencjalnego produktu turystyki sportowej przy użyciu metody wskaźników dyspersji przestrzennej

Streszczenie. Celem artykułu jest zidentyfikowanie miejskich stref sportu (nazywanych w literaturze miastami sportu) jako potencjalnego produktu turystyki miejskiej lub turystyki sportowej z wykorzystaniem wskaźnika rozproszenia przestrzennego budynków mieszkalnych w odniesieniu do budynków infrastruktury sportowej w Polsce. Ortodromy (najkrótsze odległości euklidesowe) między budynkami mieszkalnymi (ponad 7 mln budynków) i budynkami związanymi z funkcją kultury fizycznej (5,4 tys.) zostały obliczone z wykorzystaniem centroidów wyznaczonych przy użyciu danych budynków zawartych w banku danych obiektu topograficznego (BDOT10k). Ortodromy posłużyły do określenia współczynnika dyspersji, który pozwala na wskazanie stref koncentracji budynków infrastruktury sportowej. W rezultacie zaprezentowano dystrybucję budynków infrastruktury sportowej w Polsce oraz ustalono strefy koncentracji budynków infrastruktury sportowej (przy użyciu gmin jako bloku funkcjonalnego). Pozwala to odróżnić obszary mające potencjał, aby być miastem sportu, to jest złożonym, oddzielnym, dużym obszarem przestrzeni, którego rozwój jest związany ze sportem i rekreacją.

Słowa kluczowe: turystyka sportowa, rozproszenie przestrzenne, BDOT10k, miasto sportu, strefy sportowe, turystyka miejska

MARIA ZAMELSKA*, BEATA KACZOR**

Tourist and Recreational Activity of Senior Residents of Wrocław¹

Abstract. The aim of the study described in this article was to identify the main factors determining tourist and recreational activity of senior residents of Wrocław in the Wrocław Metropolis. The target population was defined as people aged 50 and older, following the publications of Statistics Poland and governmental documents. The study addressed spatial, socio-economic and demographic conditions of tourist and recreational activity of senior citizens. In order to verify the research hypothesis, the authors conducted a personal interview survey among 326 senior inhabitants of Wrocław. The authors hypothesised that tourist and recreational activity of senior residents of Wrocław in the tourist and recreation areas of Wrocław Metropolis was motivated by their desire to improve health through physical activity and learn about nature and culture. The study results confirm the main hypothesis. It was found that the key factors motivating people aged 50+ to take up tourist and recreational activity are the need to relax outdoors, including various forms of physical recreation and the desire to learn about nature and culture. The most frequently visited tourist and recreation area of Wrocław Metropolis turned out to be the Odra River Valley in the area of Wrocław and Wrocław city parks (mainly for one-day recreational activities) and the Barycz River Valley in the area of Żmigród indicated primarily as a destination for weekend trips.

Keywords: Wrocław Metropolis, tourist and recreational activity, people aged 50+

* WSB University in Poznań (Poland), Faculty of Finance and Banking, e-mail: maria.zamelska@wsb.poznan.pl, orcid.org/0000-0002-6117-5539.

** Poznań University of Physical Education (Poland), Faculty of Tourism and Recreation, e-mail: kaczor@awf.poznan.pl, orcid.org/0000-0002-7646-2450.

¹ The article is based on results of a study conducted in 2018 as part of a research project entitled „Similarities and differences of tourism and recreation in metropolitan areas of Poland” at WSB University in Poznań, which was financed from statutory research funds of the Ministry of Science and Higher Education. The article presents only some of the results of the study conducted by the authors, concerning tourism and recreational activity of senior residents of Wrocław and is the first in a series of articles on the subject.

1. Introduction

There are multiple aspects that need to be addressed when investigating tourist and recreational activity of senior citizens. Given the complex nature of the phenomenon, which varies over time and space, it is difficult to obtain a clear overall picture, especially when one wants to account for subjective experiences of individuals in this respect. Advanced population ageing observed in the Polish society will transform all major spheres of social life [Woźniak 2019: 208]. The growing number of people who live to an ever older age poses a challenge for individuals, families, communities and the state, also with regard to tourist and recreational activity.

The aim of the study described in this article was to identify the main factors determining tourist and recreational activity of senior residents of Wrocław in Wrocław Metropolis. The following specific tasks had to be completed to achieve this aim:

- from a theoretical and empirical point of view, identify the structure, characteristics and factors motivating tourist and recreational activity of senior residents of Wrocław,
- to gain knowledge about tourist and recreational areas which are of interest to senior residents of Wrocław.

The study focused on Wrocław residents aged 50 and older. This definition of senior residents (the so called “silver head” generation) was selected because it is used in publications of by Statistics Poland and in government documents². People in this age group are characterised by specific needs, expectations and a certain value system [Śniadek 2007].

The object of the study was to examine senior residents’ participation in tourist and recreation activity in 2018 and their plans regarding such activities for 2019. In particular, the authors were interested in activities undertaken within the city itself as well as those pursued in tourist and recreation areas located within the borders of Wrocław Metropolis, which are traditionally regarded as places of recreation. Wrocław Metropolis is a diverse territory in terms of administrative division, settlement structure, spatial and functional characteristics, with a number of different natural habitats and many places of interest for tourists [Korenik 2009]. It is part of a number of physiogeographic regions with various landforms, offering opportunities for diverse forms of tourist activities. It also fea-

² Some of these documents are: *Program Solidarność Pokoleń. Działania dla zwiększenia aktywności zawodowej osób w wieku 50+* 2013; *Założenia Długofalowej Polityki Senioralnej w Polsce na lata 2014-2020*; *Program Solidarność Pokoleń. Działania dla zwiększenia aktywności zawodowej osób w wieku 50+. Dokument implementacyjny* 2012.

tures a well-developed hydrographic network. On the basis of a literature review and participant observation, the authors identified the following tourist and recreational areas located within Wrocław Metropolis which can be and are actually used for recreational purposes: The Odra River Valley in the area of Oława, The Odra River Valley in the area of Wrocław, The Odra River Valley from Wrocław to Brzeg Dolny, The Odra River Landscape Park (planned), The Bystrzyca River Valley, The Bystrzyca River Valley Landscape Park, The Ślęza Mountain Ridge, The Barycz River Valley in the area of Żmigród and Milicz as well forests and parks of Wrocław (e.g. Szczytnicki, Południowy, Zachodni, Wschodni, Staromiejski, Grabiszyński).

The concept of a metropolis emerged as a result of designating a metropolitan area defined by OECD³ as a functional urban area inhabited by at least 500,000 people. This term can also be applied to an urban agglomeration with a densely built-up urban core together with functionally linked neighbouring administrative units. The scale and intensity of metropolisation processes observed in Europe has called for new institutional solutions to manage metropolitan areas. One such tool in EU cohesion policy are Integrated Territorial Investments, which support functional urban areas of large cities, also in Poland.

Attempts at introducing such solutions to create metropolitan areas in the system of local government in Poland have been made for several years. Between 2007 and 2015 five draft laws were proposed to regulate the status of metropolitan areas [Kaczmarek 2018: 282].

2. Literature review

The number of elderly people all over the world is growing, causing a change in the population structure characterised by an increasing share of the post working-age population. By 2020 the elderly population in Poland will grow at an annual rate of 200 thousand, while by 2030, 29% of the population is projected to be above the age of 60 [Górna 2015; *Działania dla zwiększenia aktywności zawodowej osób w wieku 50+. Dokument implementacyjny*, 2012]. In this situation, the population of Poland can be described as demographically old⁴. Old age is becoming a kind of “social novelty”, since never before in history has such a large proportion of the population lived to such an old age [Halicka 2000]. Currently observed changes are the result of the so called demographic transitions, which are associated with a decline in mortality, advancements in medicine, new mod-

³ OECD – Organisation for Economic Cooperation and Development, which Poland joined on 22 November 1996.

⁴ According to the literature, a population is defined as demographically old if the share of people aged 60+ exceeds 12%, and that of people aged 65+ is higher than 8% [Sitek et al. 2013].

els of the family, as well as changes in lifestyle, worldviews, politics and migration patterns [Woźniak 2016]. Everyone will have to face the effects of aging sooner or later; it is a natural, inevitable and irreversible process but also a valuable part of human life, which offers new opportunities and poses new challenges. This is why the problems of elderly people are among the most relevant topics addressed nowadays.

It is therefore worth learning more about typical characteristics of modern-day senior citizens. The word “senior”, derived from the Latin *senex*, means “older” [Kopaliński 2007]. The problem of establishing the threshold of old age presents a number of challenges. In different contexts, different age thresholds are used to classify people as senior citizens. Most frequently, it depends on the aspect that is taken into consideration: it can be economic (the end of economic activity, retirement), social (being a grandparent), cultural (traditions, customs), health-related (activity limitations) [Górna 2015]. According to WHO, the cut-off point for the elderly population is the age of 60; in the USA, it is 65; in some surveys, this threshold is set at 55 or 70 [Piekarska, Piekarski 2017]. Social groups of seniors (50+) define seniors as people with considerable life experience who still want to develop their knowledge and skills⁵.

Given their needs and a larger amount of free time, elderly people are increasingly getting involved in tourism and recreational activity. Modern-day senior citizens are aware of their needs, get involved in various activities and are more active. For them, old age, despite many limitations associated with it, is an opportunity to engage in tourist and recreational activity.

Population aging has been studied among others by Mitreğa [2002] and Woźniak [2016, 2019]. As people get older, the role of physical and mental activity becomes increasingly important. This activity can involve performing some useful work or pursuing personal interests. Each form of activity benefits the capacity of the body and the mind, improves self-esteem, the physical and mental health, prevents a sense of emptiness and loneliness, gives joy and satisfaction [Kamiński 1980; Park 2007; Banach, Orlińska 2013]. Every form of activity can be a way to experience old age with dignity and improve one’s quality of life. Studies of tourist and recreational activity in Poland have met with a lot of interest from scientists. The subject has been examined among others by Bąk [2010], Graja-Zwolińska, Spychała [2012], Hołowiecka and Grzelak-Kostulska [2013], Miszczak [2010], Ociepka, Pytel [2016], Skorupa, Bogacz [2015], Zawadka [2016]. Some studies focus on selected groups of elderly people, such as students of Third Age Universities (U3A) [Dubińska 2015; Śniadek, Górka 2016; Bac 2014]. Other authors investigate the involvement of local government authorities and travel agencies in the developing the tourist sector to meet

⁵ www.mrs.poznan.pl/czytelnia-wirtualna/ [accessed: 15.07.2019].

the needs of senior citizens [Zielińska-Szczepkowska, Żróbek-Różańska 2014; Mokras-Grabowska 2010; Tucki, Skowronek 2012].

With respect to the study and identification of tourist and recreational activity of senior residents of Wrocław, particular mention should be made of the studies conducted by researchers from the Department of Recreation and Tourism at the University School of Physical Education in Wrocław, on ways in which Poles spend their free time and their pursuit of physical recreation and tourism. Questionnaire surveys conducted from 1997, especially between 1998 and 2000 (in cooperation with researchers from the University of Wrocław and the then Academy of Economics in Wrocław) among residents of Wrocław (including a group of elderly respondents). These studies helped to identify the role of environmental, socio-demographic and economic factors that affect leisure behaviour of Wrocław residents [Wyrzykowski 1997, 2000]. The studies were resumed after nearly 20 years (2016-2017) by a research team from the Department of Tourism and Recreation of the University of Business in Wrocław using almost the same methodology [Toczek-Werner, Marak, Wyrzykowski 2018]. The studies show, among other things, changes that have occurred with respect to the amount of leisure time available to senior residents of Wrocław and ways of using it. The findings indicate that Polish seniors already constitute a promising segment of the tourist and recreation market and their activity in this area should be the subject of systematic research.

Economic transformations that can be observed in Europe in the last decades are reflected in the spatial structure of cities and metropolitan areas. In Poland, metropolisation processes are relatively “young”. The Spatial Planning and Land Development Act of 27 March 2003⁶ defines a metropolitan area as an area comprised of a „large city” core and its functional surroundings. The *National Spatial Development Concept*⁷ identifies nine metropolitan areas consisting of so-called large cities with rapidly developing neighbouring communes— one of which is the region of Wrocław⁸. A functional urban area was designated in

⁶ Ustawa z dnia 27 marca 2003 r. o planowaniu i zagospodarowaniu przestrzennym, Dz. U. z 2018 r. poz. 1945 [The Spatial Planning and Land Development Act of 27 March 2003, Journal of Laws of 2018, item 1945 as amended].

⁷ Uchwała nr 239 Rady Ministrów z dnia 13 grudnia 2011 r. w sprawie przyjęcia koncepcji Przestrzennego Zagospodarowania Kraju 2030, M.P. z 2012 r., poz. 252 [Resolution no. 239 of the Council of Ministers made on 13 December 2011 about the approval of the Spatial Planning and Land Development 2030, the Official Journal of the Republic of Poland “Monitor Polski” of 2012, item 252]. The document is an annex to the resolution.

⁸ Wrocław Metropolis has a number of well-developed characteristics, such as: human resources, occupational activity of the population, qualified labour force, considerable scientific and educational (with long-standing traditions), a significant influx of investors. Other particularly relevant features of this region are its proximity to the western border, transport accessibility and the beauty and tourist attractiveness of the city [Korenik 2009].

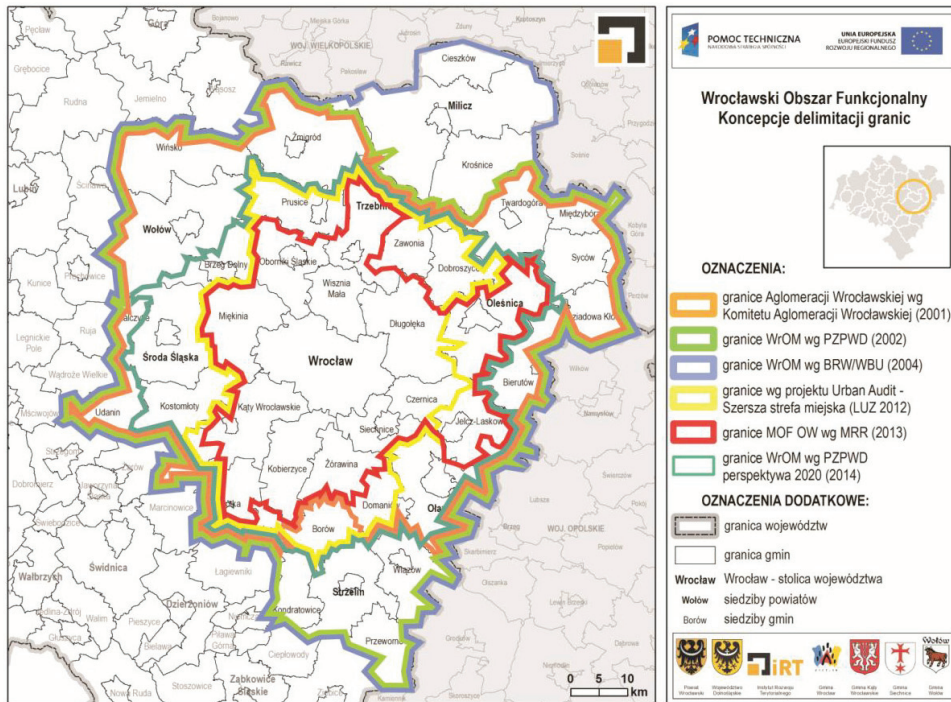


Fig. 1. Wrocław Functional Area. A delimitation concept

Source: former Provincial Urban Planning Bureau in Wrocław, currently the Institute for Territorial Development of Wrocław, www.irt.wroc.pl [accessed: 28.07.2019].

the Wrocław region [Śleszyński 2013], including a substantial area surrounding the city (Fig. 1) as well as the area of Wrocław Agglomeration, comprising communes interested in cooperation as part of the Agency for the Development of Wrocław Agglomeration⁹. In 2018 the Wrocław Development Bureau approved a *Study of the conditions and directions for the spatial development of Wrocław* [Studium uwarunkowań i kierunków... 2018], in which neighbouring communes, surrounding the city are referred to as Wrocław Functional Area (comprising 3 urban communes, 9 urban-rural communes and 15 rural communes). A draft of the Wrocław Metropolitan Association Act was prepared and sent to the Parliament [Projekt ustawy... 2018].

⁹ The Agency, created in 2006, to promote metropolitan cooperation as a joint venture involving the city of Wrocław and the neighbouring communes which make up a considerable part of the metropolitan area. The Agency specialises in attracting and cooperating with national and foreign investors interested in investments located in the metropolitan area and creating high quality jobs [Agencja Rozwoju Aglomeracji Wrocławskiej, www.araw.pl, accessed: 28.06.2019].

Given the terminological confusion, the area containing tourist-recreational areas identified for the purpose of this study, will therefore be referred to as Wrocław Metropolis, which approximately coincides with the territory of Wrocław Metropolitan Area (Fig. 1) [Korenik 2009].

3. Data and research methodology

The aim of the study was to examine factors affecting tourist and recreational activity of Wrocław inhabitants aged 50 and older within the boundaries of the metropolis. Two research questions were formulated:

- what are the main factors that motivate senior citizens to take up tourist and recreational activity?
- which of the proposed tourist and recreational areas located within Wrocław Metropolis are the main places of recreation, both for one-day visits and for longer stays (2-5 days)?

With regard to the above questions, the following research hypotheses were formulated:

- tourist and recreational activity of senior residents is mainly motivated by their desire to improve health through physical activity and learn about nature and culture,
- Wrocław Metropolis comprises areas that are frequently visited by senior residents and which were identified as the main tourist and recreational areas,
- senior citizens have a relatively large amount of time, which they spend pursuing tourist and recreational activities.

To verify the research hypotheses, the authors used methods of statistical analysis to process survey data collected during personal interviews using a questionnaire made up of two parts containing open-ended, partially open-ended and closed-ended questions.

The first part contained questions about duration of recreation trips, needs, motivation, amount of free time, destinations and amounts of money spent and the level of satisfaction with tourist and recreational activities. The second part referred to tourist and recreational areas in Wrocław Metropolis and types of free time activities. The questionnaire contained a section with questions about the socio-demographic profile of respondents.

The actual survey was preceded by a pilot survey (July 2018), which was used to test the measurement tool on a random sample of respondents and enabled the authors to make necessary modifications to make sure that the final questionnaire was complete and easy to understand. The survey was conducted in previously identified recreational areas of Wrocław, among students of the Third Age Uni-

versity and in Seniors' Clubs. The sample included 700 Wrocław residents¹⁰. After checking the collected data for completeness, 692 questionnaires were accepted for further analysis. The data were entered into a spreadsheet and processed using the SPSS software package. Senior residents aged 50+ accounted for 47% of all respondents. The results were presented in the forms of tables and figures.

The present article contains only the part of results concerning the needs, preferences and places of tourist and recreational activities reported by senior residents (aged 50+) of Wrocław, undertaken within the boundaries of Wrocław Metropolis.

4. Characteristics of the sample

In the period between September 2018 and January 2019 we conducted a personal interview survey on a sample of 692 residents of Wrocław who were engaged in tourist and recreational activities within the boundaries of Wrocław Metropolis. 47% of the respondents were senior citizens.

Over half (57%) of senior respondents were women. The most numerous group (31%), in terms of age, were people aged 70-74, followed by 60-64-year-olds, and 65-69-year-olds (19% each). The groups of people aged 55-59 and 50-54 were smaller (15% and 13% respectively). More than a half (51%) of senior respondents had secondary vocational education, 30% – higher and 18% – secondary education. Most seniors in the sample were either married (71%) or living as cohabiting couples (7%), while the remaining group (22%) were single. Half of them lived in two-person households. The most frequently reported form of spending free time was with family and friends (44% and 27% respectively) or alone (14%). Over half of the senior respondents no longer worked (56%). The rest continued to work, mainly in the private sector (21%) or in public administration (15%). Respondents evaluated their financial situation as good or average (46% and 38% respectively), reporting a monthly household income of PLN 2-4 thousand (41%), 4-6 thousand (33%); one in six respondents declared a monthly income of up to PLN 8 thousand.

5. Factors affecting tourist and recreational activities of senior residents of Wrocław

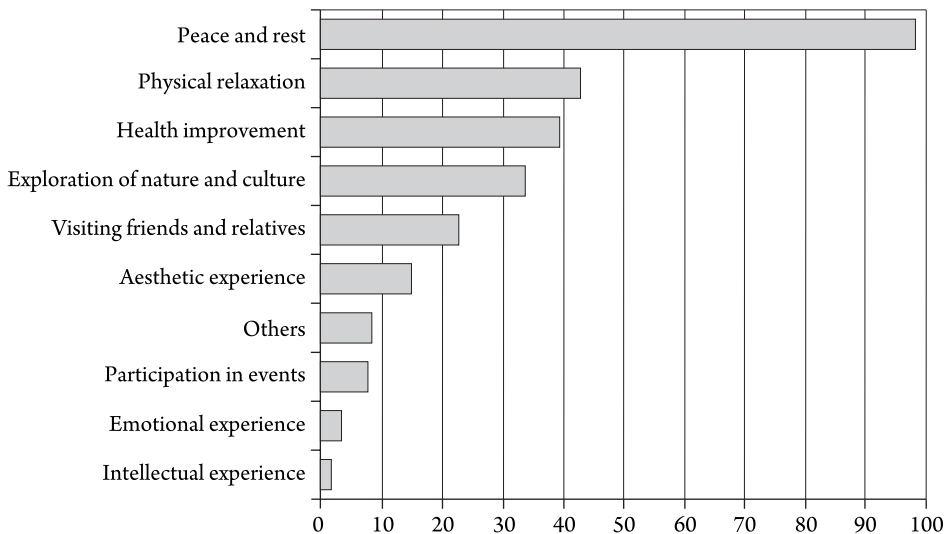
One of the main objectives of the study was to determine the level of respondents' participation in any form of tourist and recreational activity in Wrocław Metropolis and to analyse demographic, social, economic and environmental factors

¹⁰ The sample selection was made taking into account the number, sex and age structure of Wrocław residents.

that influence this participation. One of the factors identified in the survey was the need to participate in tourist and recreational activities. Respondents could indicate three of the nine possible options.

What mainly motivates people aged 50+ to leave their homes is the search for peace and rest (98%) and, much less frequently, the desire to engage in physical recreation outdoors and the hope of health improvement (43% and 40% respectively). Other important factors mentioned by respondents include knowledge development through the exploration of nature and culture of the surrounding area (34%) and spending time with friends and family (23%) (Chart 1).

Chart 1. Needs of senior respondents, residents of Wrocław, regarding participation in tourist and recreational activities (%), $n = 326$



Source: author's own research.

The search for quiet, peaceful places of recreation is relatively less important for people aged 60-69 than for the other age groups. Over half of respondents aged 50-54 regarded the need of physical recreation as important. This need is also important for people aged 60-64, that is those right before retirement (only 25%). This can be due to the social perception of the aging process and combined with the desire to continue vocational activity or the necessity to reorganise one's lifestyle. In other age groups, one in every two or three respondents is aware of the need for physical activity.

It is worth noting that for the senior respondents the desire to improve their health was an important factor, which motivated over half of them to take part in tourism and recreational activity (for people aged 60-64 and 70-74). For other

age groups, this factor is less frequently mentioned. The desire to explore the nature and culture of Wrocław Metropolis is what motivates respondents to spend their free time in various places located in the metropolis and does not vary much across the different age groups (ranging from 26% to 37%).

The traditional way of spending free time in the company of family members, relatives or friends [Czerniawska 2002; Koprowiak, Nowak 2007; Jakubowska, Raciniewska, Rogowski 2009; Winiarski 2011; Dubas 2016] was reported relatively more frequently by people age 50-54 (33%) than by respondents in other age groups (17-26%) (Table 1).

One of the aspects considered in the analysis was the amount of free time spent on satisfying higher level needs. Elderly people tend to have much more free time. The study found that the amount of free time (25 or more hours per week) increases considerably only after reaching the age of 65 (56% of people aged 65-69, 94% of people aged 70-74, 80% of those aged 75 or older). Most younger respondents (62%), aged 50-54, reported spending only a few hours per week engaged in activity recreation (Chart 2).

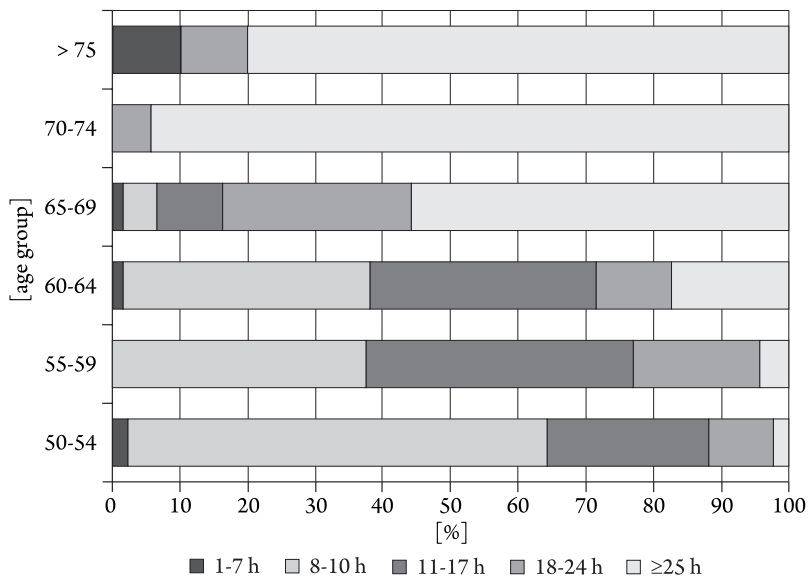
Despite having a relatively large amount of free time, most respondents showed a preference for one-day recreation activities, regardless of age. For the oldest seniors, short trips, without an overnight stay were, in fact, the only option. In eight respondents reported taking longer 2-4 day tourist-recreational trips. Weekend trips were relatively more popular with people aged 50-59 (21% of 50-54-year-olds and 10% of 55-59-year-olds). Longer trips (5 or more days) were generally a rare option, regardless of age (Chart 3).

Table 1. Needs that motivate senior residents of Wrocław to engage in tourism and recreational activity (by age group, %), $n = 326$

Needs	Total	50-54	55-59	60-64	65-69	70-74	> 75
Peace and rest	98.2	97.6	100.0	95.2	96.7	100.0	100.0
Physical relaxation	42.6	57.1	41.7	25.4	42.6	48.0	40.0
Aesthetic experience	14.7	7.1	10.4	22.2	21.3	11.8	10.0
Intellectual experience	1.5	2.4	2.1	1.6	1.6	1.0	0.0
Emotional experience	3.1	0.0	4.2	1.6	6.6	2.9	0.0
Exploration of nature and culture	33.7	26.2	35.4	27.0	36.1	37.3	50.0
Health improvement	39.6	11.9	25.0	50.8	34.4	56.9	10.0
Visiting friends and relatives	22.7	33.3	16.7	23.8	26.2	17.6	30.0
Participation in events	7.7	0.0	8.3	4.8	4.9	11.8	30.0
Other	8.3	2.4	8.3	12.7	8.2	6.9	20.0

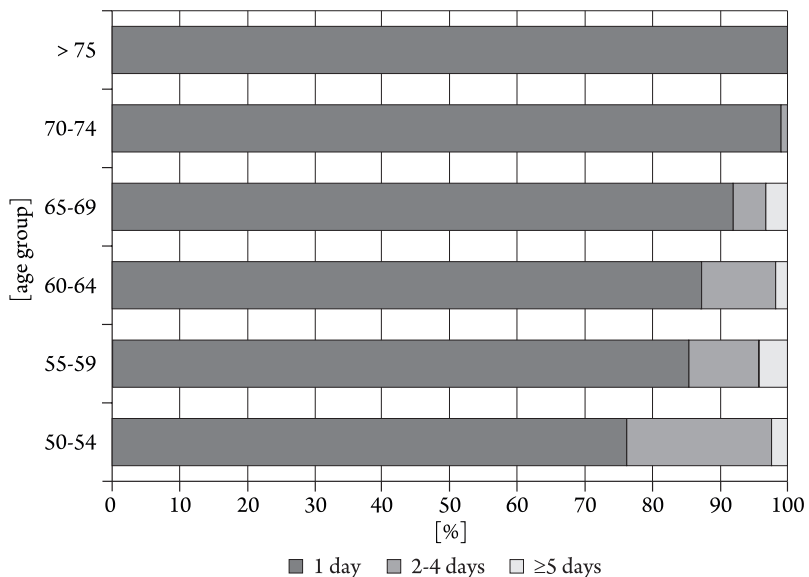
Source: author's own research.

Chart 2. The amount of free time per week reported by senior residents of Wrocław, in 2018 (by age group, %), $n = 326$



Source: author's own research.

Chart 3. Duration of recreation trips taken by senior inhabitants of Wrocław to places situated in Wrocław Metropolis, in 2018 (by age group, %), $n = 326$



Source: author's own research.

Table 2. The structure of approximate expenses incurred by senior residents of Wrocław on tourist-recreation trips to places situated in Wrocław Metropolis in 2018 (by age group, %), $n = 326$

Expenses (PLN)	Age						
	total	50-54	55-59	60-64	65-69	70-74	>75
0-100	29.4	38.1	31.3	34.9	24.6	25.5	20.0
101-300	31.9	28.6	33.3	33.3	39.3	26.5	40.0
301-600	13.2	19.0	8.3	9.5	8.2	17.6	20.0
≥ 600	25.5	14.3	27.1	22.2	27.9	30.4	20.0

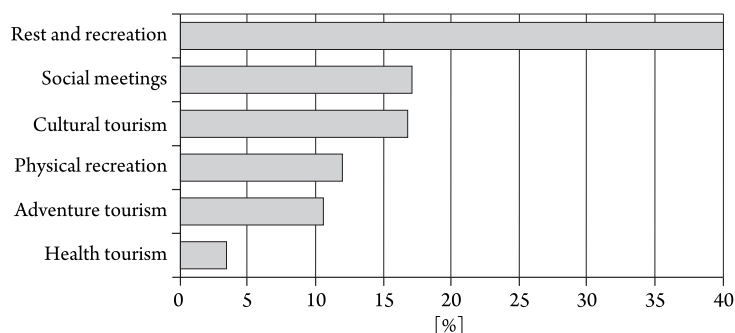
Source: author's own research.

Tourist and recreational activity involves expenses, which is why respondents were asked to indicate approximately the amount of money spent to finance their tourist and recreational activities in Wrocław Metropolis in 2018. Most respondents (61.3%) reported a relatively small amount of money (up to PLN 300). It is worth noting that nearly a third reported a very small amount (up to PLN 100). This may be due to the fact that respondents did not include certain costs associated with tourism (e.g. food, the cost of fuel when travelling by car, etc.). That said, one in four seniors reported expenses exceeding PLN 600 (Table 2).

6. Tourist and recreational activity of senior residents of Wrocław in Wrocław Metropolis

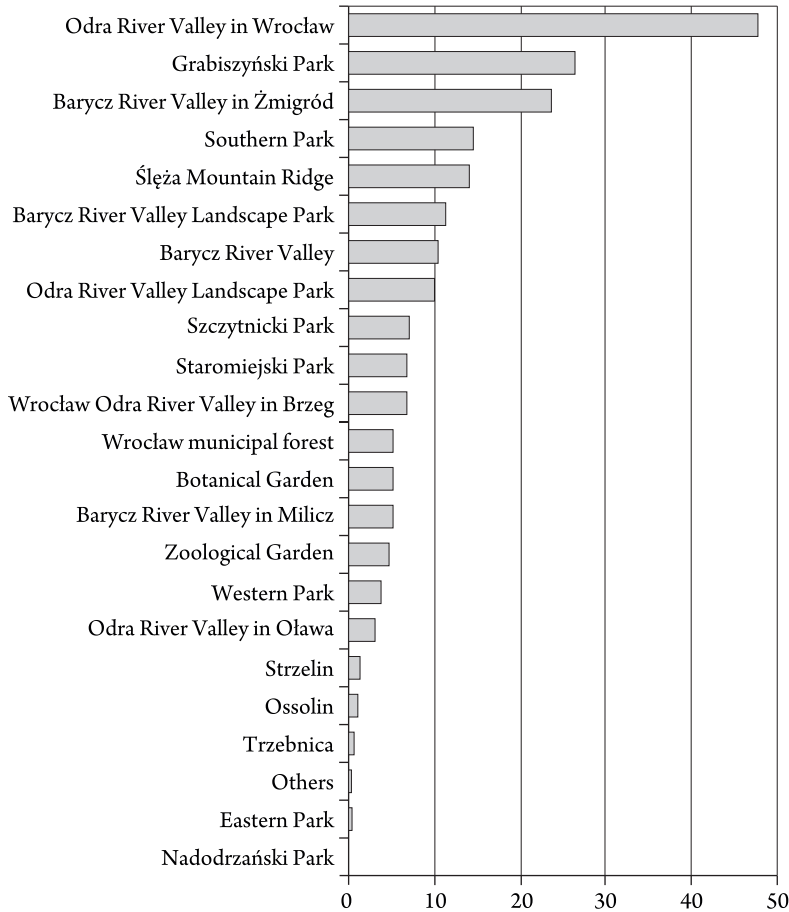
Various forms of tourist and recreational activity pursued by senior respondents in Wrocław Metropolis are consistent with previously indicated interests and

Chart 4. Selected forms of tourism and recreation pursued by senior residents of Wrocław in Wrocław Metropolis in 2018, $n = 834$ (percentage of indications)



Source: author's own research.

Chart 5. Tourist-recreational areas in Wrocław Metropolis mentioned by senior residents of Wrocław as places of tourist and recreational activity in 2018 (%), $n = 326$



Source: author's own research.

needs. The most popular form of activity (40%) reported by Wrocław residents aged 50+ is walking outdoors. For approximately one in five persons the main motivation to leave home is the desire to explore nature and culture and spend time with friends and family. Active forms of physical recreation were indicated much less frequently (12%). The same was true in the case of adventure tourism (11%). Relatively the least popular form of tourism was that motivated by the desire to improve one's health (only 3%) (Chart 4). The most likely reason for such a low result is the perception of health-related tourism as a separate category, associated with stays at health resorts.

Senior respondents expressed a clear preference for the most accessible, well-known and recognized places of recreation in Wrocław Metropolis. The most frequently place (45%) visited by senior residents of Wrocław is the Wrocław Odra River Valley, situated within the city borders (the vicinity of the Old Town), which is the most popular destination for Wrocław residents seeking to spend their free time. Fewer respondents indicated going to Grabiszyński Park, a relatively well developed recreational space featuring such facilities as a health path and numerous walking and bike routes (26%). One in four respondents reported visiting the Żmigród Barycz River Valley as a place of tourist and recreation trips, despite its location at the edge of Wrocław Metropolis.

Another place of recreation identified in the study is the Southern Park, which is one of the most beautiful urban parks, situated in the city district of Krzyki, which was mentioned by 14% of respondents and the Ślęza Mountain Ridge, a popular place of recreation in the southern part of the metropolis (14%).

The other areas located along the river valleys as well as city parks and recreation areas were visited less frequently (reported by less than 11% of respondents) (Chart 5).

7. Summary

It was found that senior residents of Wrocław interviewed in the survey took part in various types of tourist and recreational activity in Wrocław Metropolis. The target group varies in terms of age, education, financial resources, occupational activity and amount of free time, which, as reported by respondents, increases only after the age 65. The collected data reveal the respondents' willingness and need to spend time outdoors, actively and in the company of family and friends.

As regards the needs of senior respondents with respect to tourism and recreation, the most important factor motivating their activity was the search for peace and rest. Other important needs include physical recreation, health improvement and exploration of nature and culture. It should be noted that active tourism and recreation, in the physical and intellectual sphere, is motivated by the desire to improve one's health (for one in three respondents). It seems that senior citizens increasingly associate tourism and recreation with better health and quality of life.

In preparation for the survey, the authors identified tourist and recreational areas in Wrocław Metropolis. The survey findings confirmed the validity of the selection, which coincided with the places reported by respondents, who know and visit them to spend their free time. Most senior respondents look for rest and opportunities to spend their leisure around the city centre, in the boulevards along the Odra river banks, in the beautiful city parks and in the area of the Żmigród

Barycz River Valley, the Ślęza Mountain Ridge, the Bystrzyca River Valley, the Bystrzyca River Valley Landscape Park and the Odra River Landscape Park.

The results of the study confirm all the hypotheses put forward in the article and provide answers to the two research questions. The main factor motivating tourist and recreational activity of persons aged 50+ is the need to rest outdoors by pursuing various forms of physical recreation and exploring nature and culture. The Wrocław Odra River Valley and Wrocław city parks were found to be the most frequently visited tourist and recreational areas in Wrocław Metropolis mainly for one-day recreation activity; the Żmigród Barycz River Valley was the preferred destination for weekend trips. Tourist and recreational activity of senior residents of Wrocław requires further in-depth studies and analyses, especially from the perspective of the quality of life, the level of satisfaction from these activities and related expectations, taking into account spatial, socio-economic, cultural and health-related aspects of this phenomenon.

References

- Bac T., 2014, Aktywność osób starszych – działania Wszechnicy Edukacyjnej, in: A. Szczurek-Boruta, B. Chojnacka-Synaszko (eds.), *Człowiek w przestrzeni lokalnej – dobre praktyki wspierania rozwoju, aktywizacji i integracji społecznej osób starszych*, Toruń: Wydawnictwo Adam Marszałek, 72-75.
- Banach M., Orlińska M., 2013, Formy aktywności wolnoczasowej ludzi starszych, in: M. Banach, T.W. Gierat (eds.), *Formy spędzania czasu wolnego*, Kraków: Wydawnictwo Scriptum, 75-106.
- Bąk I., 2010, Statystyczna charakterystyka aktywności turystycznej emerytów i rencistów w Polsce w 2005 roku, *Folia Pomerane Universitatis Technologiae Stetinensis, Oeconomica*, 280(59), 5-12.
- Czerniawska O., 2002, Starość wczoraj, dziś i jutro, in: W. Wnuk (ed.), *Ludzie starsi w trzecim tysiącleciu. Szanse – nadzieje – potrzeby*, Wrocław: Uniwersytet Trzeciego Wieku w Uniwersytecie Wrocławskim, 12-13.
- Dubas E., 2016, Refleksje nad starością. Obiektywny i subiektywny wymiar starości – wprowadzenie w debatę, in: E. Dubas, M. Muszyński (eds.), *Refleksje nad starością. Obiektywny i subiektywny wymiar starości*, vol. 1, Łódź: Wyd. Uniwersytetu Łódzkiego, 13-22.
- Dubińska A., 2015, Aktywność fizyczna i turystyczna wśród uczestników Uniwersytetów Trzeciego Wieku na przykładzie Krakowa, *Przedsiębiorczość – Edukacja. Entrepreneurship – Education*, vol. 11, s. 351-361, p-e.up.krakow.pl/article/download/2758/2432 [accessed: 20.07.2019].
- Górna J., 2015, Preferencje i aktywność turystyczna Polaków w wieku 50+, *Prace Naukowe Akademii im. Jana Długosza w Częstochowie, Kultura Fizyczna*, vol. 14, no. 1, 153-166.

- Graja-Zwolińska S., Spychała A., 2012, Aktywność turystyczna wielkopolskich seniorów, *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 259: 54-63.
- Halicka M., 2000, Wiek podeszły społeczeństwa: aspekty demograficzne, in: A.M de Tchorzewski., A. Chrapkowska-Zielińska (eds.), „Trzeci wiek”. Szanse – możliwości – ograniczenia, Bydgoszcz: Wydawnictwo Uczelniane Akademii Bydgoskiej im. Kazimierza Wielkiego, 138-148.
- Hołowiecka, B., Grzelak-Kostulska, E., 2013, Turystyka i aktywny wypoczynek jako element stylu życia seniorów, *Acta Universitatis Lodzianensis, Folia Oeconomica*, 291: 165-179.
- Jakubowska H., Raciniewska A., Rogowski Ł., 2009, *Patrząc na starość*, Poznań: Wydawnictwo Naukowe Uniwersytetu im. Adama Mickiewicza.
- Kaczmarek T., 2018, Zarządzanie obszarami metropolitalnymi – zagraniczne doświadczenia i ich polskie implikacje, in: P. Churski (ed.), *Teoretyczne i aplikacyjne wyzwania współczesnej geografii społeczno-ekonomicznej*, Warszawa: Komitet Przestrzennego Zagospodarowania Kraju PAN, 273-287.
- Kamiński A., 1980, *Funkcje pedagogiki społecznej*, Warszawa: PWN.
- Kopaliński W., 2007, *Słownik wyrazów obcych i zwrotów obcojęzycznych z almanachem*, Warszawa: Oficyna Wydawnicza Rytm.
- Koprowiak E., Nowak B., 2007, *Style życia ludzi starszych*, Lublin: Annales Universitatis Mariae Curie Skłodowska, Wydawnictwo Neurocentrum,
- Korenik S. (ed.), 2009, *Kształtowanie się Wrocławskiego Obszaru Metropolitalnego w warunkach integracji europejskiej*, Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego.
- Miszczak E., 2010, Aktywność seniorów sposobem przeciwdziałania negatywnym skutkom procesu starzenia się, in: D. Kałuża, P. Szukalski (eds.), *Jakość życia seniorów w XXI wieku. Ku aktywności*, Łódź: Uniwersytet Łódzki, 24-33.
- Mitrega M., 2002, Starzenie się społeczeństwa jako problem badań naukowych, in: L. Frąckiewicz (ed.), *Polska a Europa. Procesy demograficzne w progu XXI wieku*, Katowice: Wydawnictwo Akademii Ekonomicznej w Katowicach, 9-26.
- Mokras-Grabowska J., 2010, Program Europe Senior Tourism – założenia, realizacja, efekty ekonomiczne, in: A. Stasiak (ed.), *Turystyka społeczna w regionie łódzkim*, Łódź: Wydawnictwo WSTH, 71-88.
- Ociepka A., Pytel S., 2016, Aktywność turystyczna seniorów w Polsce, *Ekonomiczne Problemy Turystyki*, no. 2(34), 83-94, <http://www.wzieu.pl/zn/ept/34/ept34.pdf> [accessed: 15.07.2019].
- Park H.R., 2007, The relationship between participation for leisure activity on school adaptation of adolescents, *Journal of Leisure and Recreation Studies*, 31(4): 5-18.
- Piekarska J., Piekarski W., 2017, *Aktywny senior. Jak zachować sprawność intelektualną w podeszłym wieku?*, Warszawa: Difin.
- Program Solidarność Pokoleń. Działania dla zwiększenia aktywności zawodowej osób w wieku 50+ [The Generational Solidarity Programme. Activities aimed at increasing occupational activity of people aged 50+], 2013, http://orbitorun.pl/upload/file/Program_Solidarnosc_Pokolen_Dzialania_dla_zwiekszenia_aktywnosci_zawodowej_osob_50+.pdf [accessed: 10.07.2019].

- Program Solidarność Pokoleń. Działania dla zwiększenia aktywności zawodowej osób w wieku 50+. Dokument implementacyjny [The Generational Solidarity Programme. Activities aimed at increasing occupational activity of people aged 50+. The implementation document], 2012, <https://archiwum.mpips.gov.pl/bip/akty-prawne/programy/program-solidarnosc-pokolen-dzialania-dla-zwiekszenia-aktywnosci-zawodowej-osob-w-wieku-50-dokument-implementacyjny/> [accessed: 10.07.2019].
- Projekt ustawy o Wrocławskim Związku Metropolitalnym, druk nr 2252, Warszawa, 25 stycznia 2018 r.
- Sitek S., Runge J., Kłosowski F., Runge A., Petryszyn J., Pytel S., Spórna T., Kurpanik M., Zuzanska-Żyśko E., 2013, *Spoleczno-gospodarcze i przestrzenne kierunki zmian regionalnego oraz lokalnych rynków pracy województwa śląskiego*, Sosnowiec: SGP WSL, <http://www.kge.wnoz.us.edu.pl/images/monografie/2013-7.pdf> [accessed: 20.07.2019].
- Skorupa N., Bogacz A., 2015, Aktywność turystyczna w późnej dorosłości i starości. Motywacja, postawy i dobrostan psychiczny, *Spoleczeństwo i Edukacja. Society and Education*, 17(2): 207-220, http://www.humanum.org.pl/images/SiE/SiE_2_2015_www.pdf [accessed: 20.07.2019].
- Studium uwarunkowań i kierunków zagospodarowania przestrzennego Wrocławia, 2018, Wrocław: Biuro Rozwoju Wrocławia.
- Śleszyński P., 2013, Delimitacja Miejskich Obszarów Funkcjonalnych stolic województw, *Przegląd Geograficzny*, 85(2): 173-197.
- Śniadek J., 2007, Konsumpcja turystyczna polskich seniorów na tle globalnych tendencji w turystyce, *Gerontologia Polska*, 15(1-2): 21-30, http://gerontologia.org.pl/wp-content/uploads/2016/05/2007-01_02-4.pdf [accessed: 12.07.2019].
- Śniadek J., Górka J., 2016, Aktywność turystyczna słuchaczy Uniwersytetu Trzeciego Wieku na przykładzie wybranych placówek w Wielkopolsce, *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Turystyki*, 2(34): 107-118, <http://www.wzieu.pl/zn/ept/34/ept34.pdf> [accessed: 28.07.2019].
- Toczek-Werner S., Marak J., Wyrzykowski J., 2018, *Czas wolny wrocławskich seniorów i jego wykorzystanie na turystykę i rekreację ruchową*, Wrocław: Wyższa Szkoła Handlowa we Wrocławiu.
- Tucki A., Skowronek E., 2012, Analiza popytu na turystykę społeczną w Polsce na przykładzie projektu Europe Senior Tourism realizowanego w lubelskim biurze podróży, *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 259: 35-42.
- Uchwała nr 239 Rady Ministrów z dnia 13 grudnia 2011 r. w sprawie przyjęcia Koncepcji Przestrzennego Zagospodarowania Kraju 2030, M.P. z 2012 r., poz. 252 [Resolution no. 239 of the Council of Ministers made on 13 December 2011 about the approval of the Spatial Planning and Land Development 2030, the Official Journal of the Republic of Poland "Monitor Polski" of 2012, item 252].
- Ustawa z dnia 27 marca 2003 r. o planowaniu i zagospodarowaniu przestrzennym, Dz. U. z 2018 r., poz. 1945, tj. ze zm. [The Spatial Planning and Land Development Act of 27 March 2003, Journal of Laws of 2018, item 1945 as amended].
- Węcka B., Marak J., Wyrzykowski J. (ed.), 2018, *Czas wolny mieszkańców Wrocławia oraz jego wykorzystanie na rekreację ruchową i turystykę*, Wrocław: Wyższa Szkoła Handlowa we Wrocławiu.

- Winiarski R. (ed.), 2011, *Rekreacja i czas wolny. Studia humanistyczne*, Warszawa: Oficyna Wydawnicza Łośgraf.
- Woźniak Z., 2016, *Starość. Bilans – zadanie – wyzwanie*, Poznań: Wydawnictwo Naukowe Wydziału Nauk Społecznych Uniwersytetu im. Adama Mickiewicza.
- Woźniak Z., 2019, *Programy i strategie polityki społecznej dla grup ryzyka*, Warszawa: Difin SA. www.mrs.poznan.pl/czytelnia-wirtualna [accessed: 15.07.2019].
- www.araw.pl [accessed: 28.06.2019].
- www.irt.wroc.pl [accessed: 28.07.2019].
- www.mpips.gov.pl/ [accessed: 10.07.2019].
- Wyrzykowski J. (ed.), 1997, *Koncepcja badań nad czasem wolnym mieszkańców Wrocławia i jego wykorzystaniem na rekreację i turystykę*, Wrocław: Wyższa Szkoła Handlowa.
- Wyrzykowski J. (ed.), 2000, *Studia nad czasem wolnym mieszkańców dużych miast Polski i jego wykorzystaniem na rekreację i turystykę*, Wrocław: Wydawnictwo Akademii Wychowania Fizycznego we Wrocławiu.
- Założenia Długofalowej Polityki Senioralnej w Polsce na lata 2014–2020* [Long-term policy for senior citizens in Poland in 2014-2020], <https://www.gov.pl/web/rodzina/rzadowy-program-na-rzecz-aktywnosci-spoecznej-osob-starszych-na-lata-2014-2020> [accessed: 10.07.2019].
- Zawadka J., 2016, Charakterystyka aktywności turystycznej seniorów w Polsce, *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Turystyki*, 2(34): 119-129, <http://www.wzieu.pl/zn/ept/34/ept34.pdf> [accessed: 15.07.2019].
- Zielińska-Szczepkowska J., Żróbek-Różańska A., 2014, Aktywność władz samorządowych w obliczu zmian demograficznych kształtujących sektor turystyczny: przykład województwa warmińsko-mazurskiego, *Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*, 37(3): 315-323, http://www.wneiz.pl/nauka_wneiz/sip/sip37-2014/SiP-37-t3-315.pdf [accessed: 20.07.2019].

Aktywność turystyczna i rekreacyjna seniorów-mieszkańców Wrocławia

Streszczenie. Celem artykułu jest rozpoznanie głównych czynników warunkujących aktywność turystyczną i rekreacyjną mieszkańców-seniorów Wrocławia realizowaną na terenie metropolii wrocławskiej. W artykule przyjęto, że seniorami określamy osoby w wieku 50+, podobnie jak w publikacjach Głównego Urzędu Statystycznego i dokumentach rządowych. Artykuł ma charakter badawczy i dotyczy uwarunkowań przestrzennych, społeczno-ekonomicznych i demograficznych aktywności turystycznej i rekreacyjnej seniorów. Do weryfikacji hipotez wykorzystana została metoda sondażu bezpośredniego, zastosowano technikę wywiadu z kwestionariuszem. Podmiotem badań było 326 seniorów-mieszkańców Wrocławia. Główna hipoteza badawcza zakłada, że podstawowymi determinantami aktywności turystycznej i rekreacyjnej osób starszych-mieszkańców Wrocławia realizowanej na terenie obszarów turystyczno-rekreacyjnych Metropolii Wrocław są potrzeby poprawy zdrowia, rekreacji ruchowej oraz poznania przyrody i kultury. Uzyskane wyniki badań pozwalają stwierdzić, że przyjęta w artykule główna hipoteza została potwierdzona. Głównym czynnikiem warunkującym aktywność turystyczną i rekreacyj-

ną osób w wieku 50+ jest potrzeba wypoczynku w plenerze, m.in. poprzez różne formy rekreacji ruchowej oraz poznawanie przyrody i kultury. Najchętniej odwiedzanym obszarem turystyczno-rekreacyjnym metropolii wrocławskiej okazała się Wrocławska Dolina Odry, parki miejskie Wrocławia (głównie w trakcie jednodniowej aktywności rekreacyjnej) i Żmigrodzka Dolina Baryczy wskazywana przede wszystkim jako cel wyjazdów weekendowych.

Słowa kluczowe: metropolia Wrocław, aktywność turystyczna i rekreacyjna, osoby 50+

PIOTR GUTOWSKI*

Development of Virtual Museums in Poland

Abstract. Technological determinism has initiated the revolution of society, laying the foundations of the civilization of knowledge. One of its key principles is the shift of the economic center of gravity to broadly defined services. In many areas, information and communication technology has replaced traditional tools with their digital equivalents. This can be observed, inter alia, at the interface between tourism and culture in the form of virtual museums. The article reviews and analyzes the level of development of selected virtual museums in Poland. Moreover, based in the results of the study and the proposed evaluation model, the author attempted to answer questions about the quality of museum e-services, their competitiveness in relation to traditional museums and, finally, the benefits of developing and maintaining such services.

Key words: e-services, virtual museums, virtual walk, virtual tours

1. Introduction

Museums are a very important element of building and maintaining national identity and one of the key promoters of culture. In 2018, there were 945 active museums in Poland, which were visited by 38.1 million people (an increase of 1.7% in relation to 2017). Of the total number of visitors, 15 million were able to benefit from free admission. The total number of exhibits in museum collections now exceeds 22 million and continues to grow, making this type of cultural activity more attractive. Also very common are occasional museum initiatives such as the “museum night”, attended by as many as 866 thousand people in 2018 [GUS 2019: 2, 3].

* University of Szczecin (Poland), Faculty of Economics, Finance and Management, e-mail: piotr.gutowski@wzueu.pl, orcid.org/0000-0001-6757-8921.

In the world of omnipresent information, museums have gained in importance and their tasks have broadened with the appearance of previously unavailable possibilities, such as recording and archiving collections as well as sharing collections in digitized versions. There is also an additional aspect worth consideration: “creative activity – creating culture, reality, sometimes art, which is realized in a digital virtual area” [Folga-Januszewska 2008: 40]. The most spectacular and effective tool in the IT resources of museums is the possibility of offering virtual tours. The only key question that arises is how virtual tours actually affect classical cultural tourism? Are they a threat or maybe an opportunity to promote and disseminate knowledge among young people, who so much value all kinds of technical innovations?

The purpose of the article is to answer the above and other related questions by means of analyzing data collected from two basic sources: reports, databases and other analytical studies available online, as well as from two studies conducted by the author in 2017 and 2019. This approach enables comparative analysis and a better understanding of the causes, interactions and facts that are shaping the studied phenomena.

Two research hypotheses were formulated. The first one concerns the quality of services: like e-administration [Mazur, Mazur, Mendyk-Krajewska 2018: 203-216], the offering of e-museums in Poland is unsatisfactory. The complementary hypothesis is as follows: the services of virtual museums are a substitute and competition for classic museums.

2. Use of digital technologies in Polish museums

Pioneering activities related to the digitization of museum collections in Poland began in the 1980s. The first DOS-based text database was created in 1989. In 1995, the first study was conducted in order to determine the level of computer implementation in museums [Folga-Januszewska, Jaskanis 1996: 74-85]. The current reality of modern society based on information exchange makes all multimedia an important and indispensable feature that attracts audiences, especially in the sphere of cultural tourism [Gajda 2016: 24]. As a result, all cultural institutions require restructuring through the introduction of modern digital techniques. This is also true of museums which, faced with the threat of digital exclusion, had to implement numerous modern ICT solutions in order to evolve towards virtual museums, both in terms of terminology and character. It is worth pointing out that there is no universal, generally accepted definition that of the term “virtual museum”¹ that provides a systematic list of solutions or modern information technologies that should be applied in virtual museums.

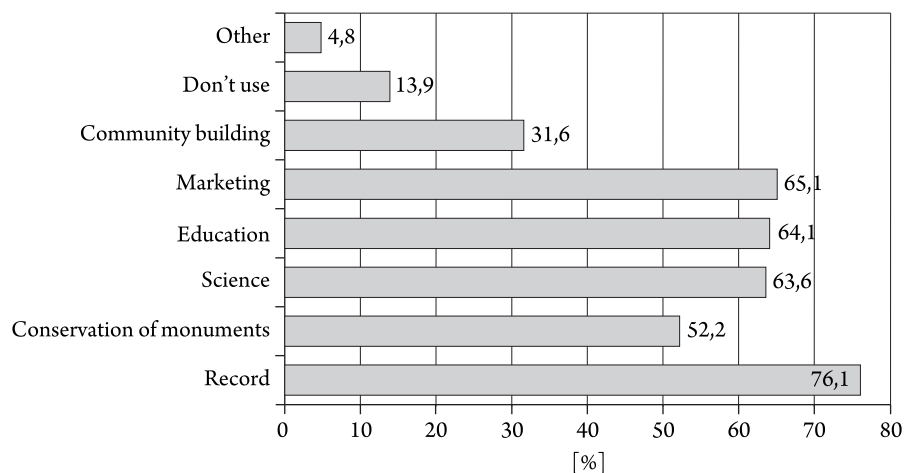
¹ The terms “e-museum” and “digital museum” are synonyms that can be found in the literature.

As information technology becomes more ubiquitous, it is changing more and more areas of life, including services, devices and functionalities. Its pervasive and convergent character is at once an obstacle and a creator of completely new possibilities. In practice, museums use the following digital capabilities:

- Internet, social media, forums, etc. to communicate with recipients and to create communities,
- websites, for communication, informational purposes and for marketing purposes,
- interactive solutions to enrich stationary exhibitions and collections – e.g. touch screens with additional information, descriptions or films that are placed next to museum exhibits,
- virtual walks through rooms, gardens and museum buildings with the possibility of viewing exhibits,
- databases containing digital catalogues of collections in the form of photographs (2D), three-dimensional models (3D) and multimedia,
- other digital functionalities, such as games, exercises, mechanically operated and controlled exhibits, etc.

Museums use digital materials for different purposes, as evidenced by the data presented in Chart 1. In the largest number of cases (76.1%) digitized content serves for recording purposes. Other significant applications include marketing activities (65.1%), education (64.1%), science (63.6%) and conservation (52.2%). Only less than 14% of the surveyed museum units declared that they did not use their digital resources, which, given the relatively short period of intense work aimed at accelerating the development of information society, seems to be a very decent result.

Chart 1. The use of digital collections by museums in 2017 in Poland



Source: *Statystyka muzeów...* 2018: 80.

Making collections available in electronic form is not an unambiguous matter in Poland. Almost 20% of the surveyed museums reported that they had problems with making objects available to the public online. The main barriers listed by respondents include difficulties in determining the legal status of items from the collection, ownership of items to which third parties have rights, differences in the interpretation of regulations concerning the public sharing of collections, doubts regarding the public sharing of collections under open licenses or possession of so called orphan works [*Statystyka muzeów...* 2018: 80].

Internet users have also reported some inconveniences related to the use of digitized collections. Reported issues include difficulties with browser plug-ins, inability to download objects, unclear, unreadable and non-intuitive website design. Moreover, users made comments about the quality and limited use of objects, fees for using resources, difficulties in finding objects, lack of facilities for the disabled and the lack of responsive or adaptive web design to facilitate the use of mobile devices [Dzięglewski, Fiń, Guzik 2015: 67].

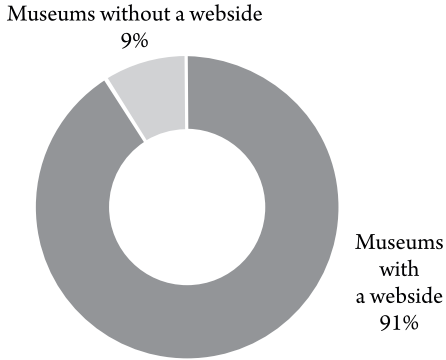
Museums offer a specific type of service related mainly to the promotion of culture. However, they also operate in the tourist and economic environment. One of the basic tools enabling efficient and effective functioning in these environments is having a website. In this respect, as shown in Chart 2, 91% of all museums in Poland in 2017 had their own websites.

The proportion shown in Chart 2 should be assessed as relatively good, especially if Polish museums are compared with European companies in general: the average share of website owners in the total number of entities was only 77%. In the European Union, Finland had the highest proportion (96%) while Romania – the worst (only 45%). Of course, these figures also come from 2017² [GUS 2018: 75].

Information and communication technologies implemented by museums constitute a considerable challenge in terms of organization, know-how and costs. One study carried out by Dorota Folga-Januszewska contains the following observation: “The accessibility of information about Polish museum collections varies and has significant economic consequences. It can be argued that the lack of investment in the computerization of museums not only contributes to their economic collapse but also contributes to deculturation, especially among young Internet users seeking knowledge by exploring resources of foreign museums” [Folga-Januszewska 2008: 21]. This opinion emphasizes the important role of financial support and stimulation of changes in Polish museology, especially when

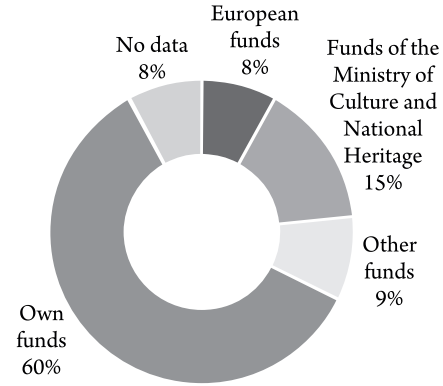
² It should be noted that this is not a completely objective comparison because the need to have a website is strongly correlated with the company's type of business activity; however, it is worth emphasizing that more and more museums are becoming private entities and have to compete for customers.

Chart 2. Museums in 2017



Source: *Statystyka muzeów...* 2018: 49.

Chart 3. Sources of financing used by museums in Poland to digitize and share their collections in the period 2012-2017



Source: *Statystyka muzeów...* 2018: 88.

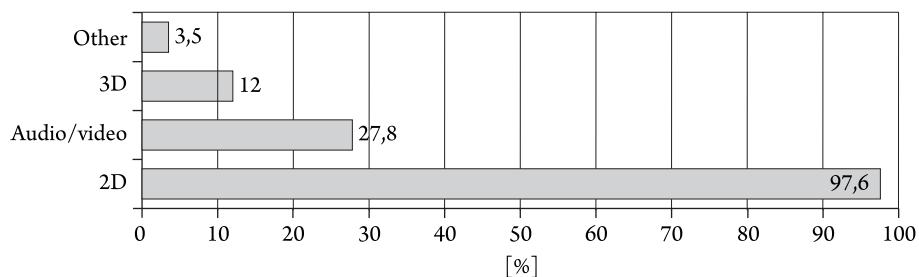
it comes to the introduction of new technologies. Unfortunately, most museums have to use their own funds as they are unable to obtain external financing. This observation is confirmed by the data presented in Chart 3, which shows that over a period of 5 years (from 2012 to 2017) only 9% of museums in Poland received EU funding for digitization.

Digital collections of museums are made available to Internet users in various ways. The most impressive form is a virtual tour offering full interactivity and freedom of movement, as well as the possibility of using VR³ glasses. However, to implement such solutions, it is necessary to create a complex dedicated application, which is expensive and time-consuming. So far, to the best of the author's knowledge, no museum in Poland offers such a service.

Virtual tours typically feature scenes and panoramas with additional options (e.g. voiceover). Slightly less spectacular forms of presentation include three-dimensional models, which make it possible: "to see objects in a way that is usually impossible during a simple visit to a given cultural institution. It offers different perspectives of a given object or an opportunity to see elements that are normally inaccessible to the visitor" [Maźnica 2016: 42]. Other techniques include 2D mapping, e.g. photos and films. Chart 4 presents ways in which museums make their digital collections available online. As it turns out, the most popular form of sharing archived digital collections is photography. 3D models are offered by only 12% of all museums.

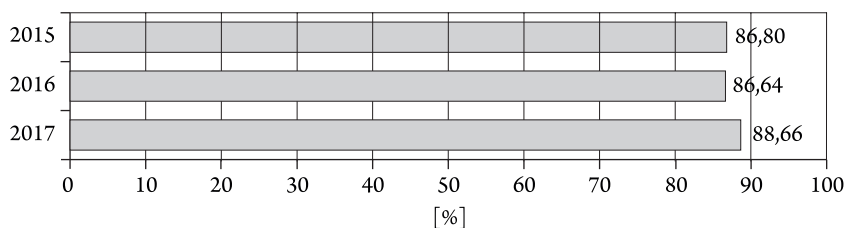
³ Glasses that enhance the experience of virtual reality.

Chart 4. Percentage of museums using different forms of sharing digital cultural objects online



Source: Dziegłowski, Fiń, Guzik 2015: 33.

Chart 5. Percentage of museums with social media presence (institutional profiles) in 2015-2017



Source: *Statystyka muzeów...* 2018: 49.

Table 1. The use of the most popular social media by Polish museums (based on 2015 data)

Social media channels	Characteristics
Facebook	36 profiles, the most popular maintained by the Auschwitz Museum (187 thousand fans) and the Warsaw Uprising Museum (157 thousand fans).
YouTube	181 channels, the most popular maintained by the Warsaw Uprising Museum and the Museum „Poland on Wheels”. The channels had over 5 thousand subscribers.
Instagram	30 profiles, the most popular one maintained by the Museum of Warsaw with 5 863 followers.
Twitter	56 profiles, the most popular ones maintained by the Warsaw Uprising Museum (4.2 thousand followers) and the Museum of Modern Art in Warsaw (1.2 thousand followers).
Pinterest	28 boards, but most of them have very few followers and contain few pictures.

Source: Ciemniowska, Pliszka 2017: 36-45; Stańska 2013; 2014.

The Internet is an excellent communication platform. According to the Report of the National Institute of Museums and Collections Protection, in 2017 museums were very keen to use social media (Chart 5), paying less attention to multimedia (only 16% used this solution) [*Statystyka muzeów...* 2018: 51].

Chart 5 shows a growing trend, which can be interpreted as evidence of the increasing awareness of the role of this form of information among the management of museums. As a result, in 2017 almost 90% of museums social media profiles to promote culture in the digital world. Detailed data on their achievements in this area are shown in Table 1.

3. The e-museum service in the light of data from surveys and official reports⁴

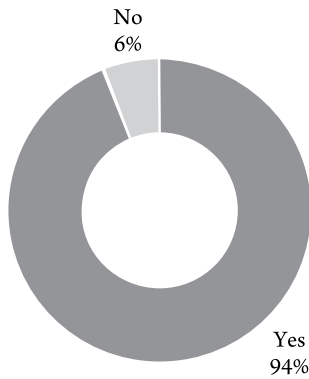
E-museums function in virtual reality. They can be accessed via the Internet. Most often e-museums provide their services via websites but sometimes they can be accessed through dedicated applications. Users must therefore have direct or indirect access to the Internet. Most Internet users believe that all contents posted online should be available for free (75% of respondents [Gemius/PBI, 2012]). This view is also shared with regard to culture as shown in Chart 6.

For the vast majority of Internet users free online content is important or even very important (90% of respondents [Sekuła 2012]). This view can be explained by three main factors: the fact that the Internet content was supposed to be free of charge and not regulated in any way, the common fact of online piracy and the relatively low level of financial wellbeing of the Polish society.

In the context of virtual museums, this view seems to be inappropriate and can have a detrimental effect on institutions and users alike. Reference can be made to the following definition: “The contemporary museum remains a permanent institution, which must generate income in order to survive; it serves the needs

⁴ This section describes results of two surveys conducted by the author. The first one was a survey of respondents' preferences and knowledge about e-services (23 e-services were considered, including e-museums). The survey lasted from March to June 2016. In order to ensure representativeness, the minimum sample size was set (calculated) at the level of 385 respondents. 500 correctly completed forms were collected, which were the basis for statistical inference. The results of the survey were used in the PhD thesis entitled “Economic and social benefits of broadband Internet in the context of development of information society in Poland”. These results will be referred to in this article using the phrase: “based on survey A”. The second survey was a pilot survey, conducted in June and July 2019. A group of students was asked to share a link to an online survey questionnaire among members of social media groups associated with culture and museums. A total of 648 questionnaires were collected, but with a high rate of item nonresponse. The results of this survey will be referred to in the article using the phrase: “based on survey B”.

Chart 6. Should e-museum services be free of charge?



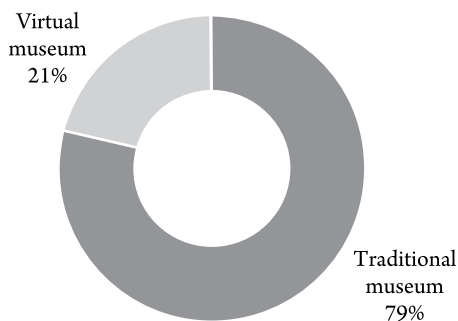
Source: based on data from survey B.

of the nation and its policy of defining its identity and values; it is publicly accessible also via the Internet, it studies evidence of human activity and human environment, prepares collections, preserves and protects collections or storage media that contain them, makes them available and presents them to the public, creates new realities with educational and imaginative value, and provides entertainment” [Folga-Januszevska 2008: 54]. The quality of services offered by museums and the range of their exhibits depends on their financial situation. As nonprofit institutions,

museums are often forced to make their collections or services available for free as they are under pressure from the online community, regulatory restrictions and prosocial provisions in project contracts for EU funding. This leads to the shortage of financing, particularly for the purpose of expanding collections and, consequently, to a decline in the quality of service and gradual pauperization.

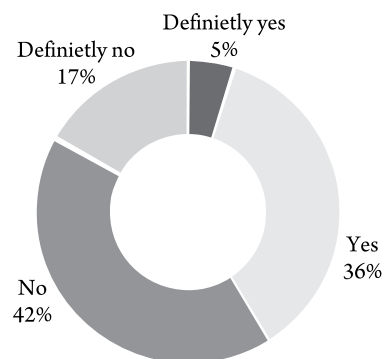
Chart 7 and Chart 8 present opinions about the comparison between traditional and virtual museums. The first one concerns the attractiveness of each type of museum. For the vast majority of respondents (79%), a personal visit at

Chart 7. Is virtual or traditional museum more attractive for visitors?



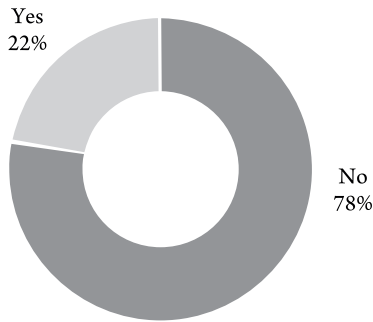
Source: based on data from survey B.

Chart 8. Is an e-museum service of high technical and substantive quality competitive in relation to its non-digitalized counterpart?



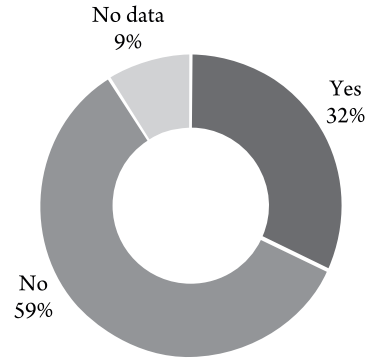
Source: based on data from survey B.

Chart 9. The use of virtual museums



Source: based on data from survey A.

Chart 10. The use of virtual museums



Source: Ciemniowska, Pliszka 2017: 62.

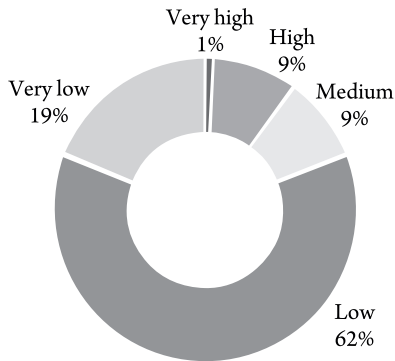
a museum is more preferable. This finding is not quite consistent with the data in Chart 8, according to which 41% of respondents believe that an e-museum service of high technical and substantive quality is competitive in relation to its non-digitalized counterpart.

This lack of consistency is only apparent. It can be assumed with high probability that such a discrepancy in views is the result of the technical quality of virtual museum services, because, as can be seen in Chart 8, opinions based on user experience are not positive for most e-services in Poland [Mazur, Mazur, Mendyk-Krajewska 2018: 203-216].

It should be pointed out that relatively few people are familiar with the offering of e-museums available in Poland. Chart 9 and Chart 10 show that this type of services is used by a relatively small number of Internet users – only by 22% of respondents in survey A and 32% of respondents surveyed for the report “Analysis of users of the e-museum project” [Ciemniowska, Pliszka 2017: 62]. The difference in results is small and may be due to the growing awareness and experience of Internet users: Chart 9 shows data for 2016, while Chart 10 – data for 2017.

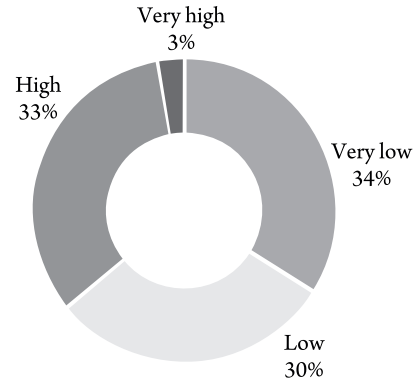
The role of transmission media has changed over time. Initially, they were the functional basis for the information society, but when their capacity reached sufficiently high bandwidth to enable all currently available services and organizational solutions, attention has shifted to the fastest possible creation of optimal results in the economic and social spheres. This goal can be achieved by developing e-services, which, from the perspective of the public and entrepreneurs, are the most noticeable effects of attempts to build a knowledge society. One may ask: “how advanced are e-museums in the development of e-services”? The answer can be found in Chart 11 and Chart 12.

Chart 11. Perceived quality of service provided by virtual museums in Poland (respondents' opinions from 2019)



Source: based on data from survey B.

Chart 12. Perceived level of sophistication of virtual museums in Poland (respondents' opinions from 2016)



Source: based on data from survey A.

According to the respondents, the situation does not look very satisfying, either in terms of sophistication or as regards the quality of services provided by virtual museums. The majority of respondents assessed the quality as poor or very poor (81% of answers, see Chart 11). The level of sophistication is also largely perceived as low: as many as 64% of respondents rated it as “low” or “very low” (Chart 12).

4. Assessment model and results of the analysis

The author designed a model for the evaluation of virtual sightseeing services offered by Polish museums. It was based on the spatial list and map (Fig. 1) with aggregated centers that offer the above mentioned functionalities.⁵

Digital museums offer at least several different types of services. Only one of them, the virtual tour, was evaluated because of its potential and similarity to traditional museum tours.

The map in Fig. 1 shows 112 museums, but only 102 virtual walks could actually be executed. The remaining ten could not be completed owing to technical and IT errors and it was unclear whether they were temporary or permanent; as a result, the museums in question were disqualified and removed from the study.

⁵ It should be noted that the list was not checked for relevance as it contained a very large number of items (112 items), which the author considered sufficiently representative to provide an overall picture of the development of the virtual museum tour service in Poland.

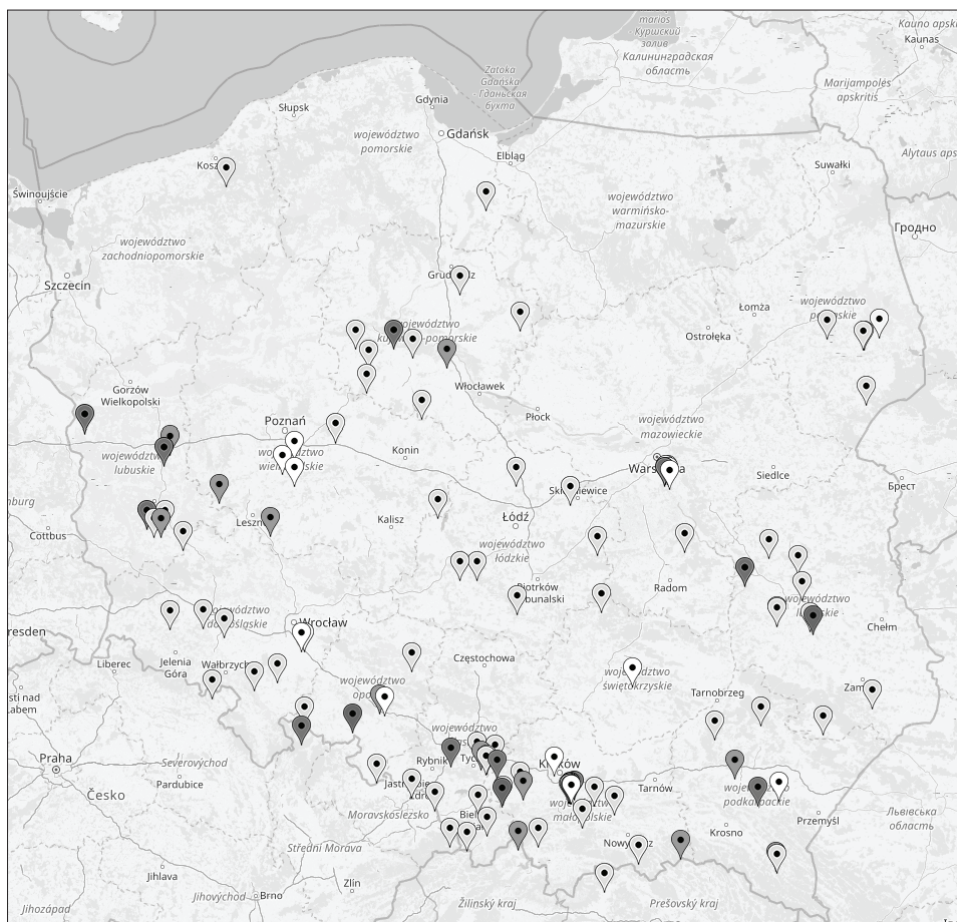


Fig. 1. Museums offering virtual tours

Source: <https://www.e-muzeum.eu> [accessed: 4.08.2019].

The analytical apparatus consists of eight elements (subindexes), which are differently weighted and scored⁶. The general structure is illustrated in Fig. 2.

The best results in this type of qualitative analysis are achieved by applying the Delphi method, especially in cases where a given phenomenon needs to be assessed using a multi-criteria research tool. Experts' opinions can be used to limit errors and minimize the subjectivity of the researcher. However, this is

⁶ Score ranges are related to the type of factor. For example, 'additional options' were identified as a factor of medium importance, but a given museum may receive 0 points when its virtual service does not offer this type of functionality; for example, a sub-index of 'graphics' cannot take the value of 0, because there is always a better or worse visual design; if it is very weak, the museum will get the lowest rating, which is 0.5.

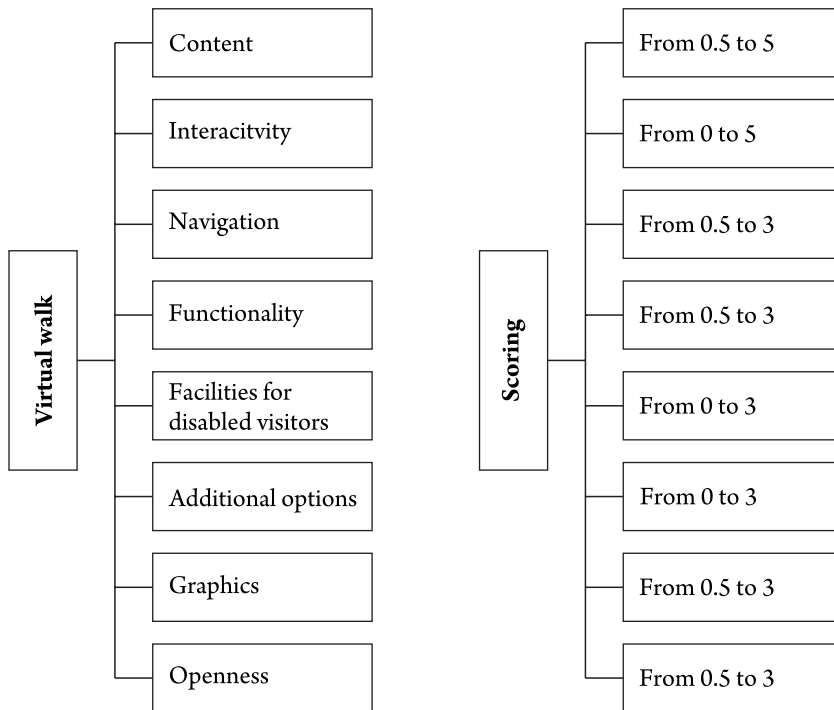


Fig. 2. Architecture of the assessment model

Source: own.

a time-consuming activity, requiring considerable financial resources. In this case, weights were determined by deduction and causal reasoning. The research model built by the author is a conceptual tool, which is the starting point for further discussion. The results obtained by applying the model are by no means final and indisputable. Rather, they are used to study trends and follow general directions of observed changes. Presented below is a brief description of the eight sub-indexes that make up the assessment model.

Content – the size of digital resources made available to the user; in particular the number of panoramas, their expansion, additional materials, photos, 3D models, the possibility of visiting not only the inside of the building but also the option of viewing it from outside if it is architecturally interesting, the possibility of a virtual walk in the museum park, etc.; the score ranges from 0.5 to 5, so this component was judged to be a factor of high importance.

Interactivity – the possibility of undertaking additional actions during the walk, usually associated with obtaining information about exhibits, which in-

creases the feeling of realism and gives the user an opportunity to better understand the collections; in a developed form it can be, for example, the possibility of enabling a monitor located in the corridor of the museum with additional information, etc... Scoring: from 0 to 5, which means it is a factor of high importance.

Navigation – functionality and intuitiveness of navigation mechanisms used to move in the virtual world; readability of icons and navigation tools, etc. Scoring: 0.5 to 3, which means it is a factor of moderate importance.

Functionality – smooth and trouble-free operation of the application; no jams, fast transition between locations (quick loading of locations). Scoring: from 0.5 to 3, which means it is a factor of moderate importance.

Facilities for disabled visitors – important especially for the visually impaired and persons with impaired hearing; typical features include text-to-speech readers or prerecorded messages and information; menu narration; narration while walking, possibility of enlarging the font; etc. Scoring: 0 to 3, which means it is a factor of moderate importance.

Additional options – these include sound effects, relaxing music, postcards, links to movies, animations, etc.; Scoring: 0 to 3, which means it is a factor of moderate importance.

Graphics – it comprises graphical design of, for example, navigation or menu elements; the use of graphical themes that are coherent with the subject matter of a given museum, but at the same time easily legible and intuitive. Scoring: 0.5 to 3, which means it is a factor of moderate importance.

Openness – freedom of movement during the walk; this is a very significant factor, which increases the impression of realism and the sense of “openness” of a given location. Scoring: 0.5 to 3, which means it is a factor of moderate importance.

All virtual walks were tested in similar conditions – constant speed of Internet connection (monitored); applications running on the same device – a laptop (which led to discarding a ninth sub-index from the analysis: the possibility of a virtual walk and its quality when using VR glasses), the tests were carried out for three days at similar hours (between 9 a.m. and 12 a.m.).⁷ Detailed results of the analysis are presented in Table 2.

The maximum possible score for a virtual tour service was 28 points. The lowest possible score was 2.5 points, while the average possible score was 15.25. The research results are presented graphically in Chart 13.

In Poland, many museums offer virtual sightseeing services, which creates ideal conditions for analysis and evaluation as the source material is vast and easily accessible. After analysing the assessments (Table 2 and Chart 13), the following conclusions can be formulated.

⁷ The analysis took place in August 2019.

Table 2. Assessment of e-museum tour services

E-Museum	Content (from 0.5 to 5)	Interactivity (from 0 to 5)	Clear navigation (from 0.5 to 3)	Speed of the system (from 0.5 to 3)	Facilities for disabled visitors (od 0 do 3)	Additional options (from 0 to 3)	Ggraphical design (from 0.5 to 3)	Virtual tour (from 0.5 to 3)	Sum
1	2	3	4	5	6	7	8	9	10
The Lubuski Land Museum in Zielona Góra	2	2	2	2	2	2	3	1	16
The National Museum of Agriculture and Agricultural and Food Industry in Szreniawa	2	2	2	2	0	1	3	2	14
The Museum of Pieskowa Skała Castle.	2	2	2	2	1	1	2	2	14
Museum of the Pałuki Land	2	0	2	1	1	3	3	1	13
The Chateau Museum in Pszczyna	1.5	0	3	2	0	1	3	2	12.5
The Museum of Modern Art in Wrocław	2	0	3	2	0	0	3	2	12
The Castle Museum in Łańcut	1.5	0	3	3	0	0	2	2	11.5
Prof. Stanisława Fischer Museum in Bochnia	2	0	2	1	2	1	2	1.5	11.5
The Museum of the National Army in Kraków	2	1	2	1	2	0	2	1.5	11.5
Międzyrzecz Reinforced Area – Museum of Fortifications and bats in Pniewo	1	1	2	2	0	1	2	2	11
The Solec Museum in Solec Kujawski	1	2	2	1	1	0	3	1	11
Malbork Castle Museum	2	1	2	1	0	1	3	1	11
The Museum of Folk Architecture in Sanok	1.5	0	2	2	1	1	2	1.5	11
The Museum of Archaeology in Kraków	1.5	1	1	2	1	1	2	1.5	11
The Moravian Museum in Międzyrzecz	1.5	1	2	2	0	1	2	1	10.5
The Museum of Bilgoraj Land	0.5	0	2	2	2	1	2	1	10.5
The Polish Academy of Arts and Sciences	1.5	2	2	1	0	1	2	1	10.5
The Museum of Zamość	1	0	2	2	2	0	2	1	10
The museum of Koszalin	1	0	2	3	0	0	2	1	9
The military Museum of Zielona Góra – Drzonów	1	0	2	3	0	0	2	1	9
The Archaeological Museum of Kruszwica	1	1	2	1	0	1	2	1	9
The Ground Forces Museum of Bydgoszcz	1	0	2	2	0	0	1	3	9
The Warsaw Uprising Museum	1	0	1	2	0	1	3	1	9
The Kazimierz Pułaski Museum in Warka	1	1	2	2	0	0	2	0.5	8.5
Castle Museum in Baranów Sandomierski	1	0	1.5	2	0	1	2	1	8.5
The regional Museum of Głubczycka Land	1.5	1	1	1	0	1	2	1	8.5
Castle Museum in Niepołomice	2	0	1	2	0	1	1.5	1	8.5
The National Museum in Krakow	0.5	0	0.5	2	2	1	2	0.5	8.5
The museum of Chrzanów	0.5	2	1.5	2	0	0	2	0.5	8.5
The Museum of the Fortress of Kostrzyn	1	0	2	2	0	0	2	1	8
The Archaeological Museum of the Middle Nadodrze in Zielona Góra – Świdnica	1	0	2	3	0	0	1	1	8

Table 2 – cont.

1	2	3	4	5	6	7	8	9	10
The Museum of the First Piasts on Lednica	1	0	2	2	0	0	2	1	8
The Museum of the Szubin Region	1	1	2	1	0	0	2	1	8
The Museum of the Krajeńskie Land in Nakło nad Notecią	1	1	2	1	0	0	2	1	8
The Museum of Lowicz	3	0	2	1	0	0	1	1	8
The Museum of Good-night stories in Rzeszów	1	1	1.5	2	0	0	1	1.5	8
Polish Aviation Museum in Kraków	1	0	1	1	2	1	1	1	8
The Archdiocesan Museum in Kraków	0.5	0	1	2	2	0	2	0.5	8
The Museum of the History of Polish Jews POLIN in Warsaw	1	0	1	2	1	1	1	0.5	7.5
Municipal Museum in Nowa Sól	1	0	2	2	0	0	1	1	7
The Museum of the Ravian Land in Rawa Mazowiecka	1	0	1	1	1	1	1	1	7
The Zamoyski Museum in Kozłówka	1	0	1	2	0	1	1	1	7
The Copper Museum in Legnica	1	0	1	1	0	1	2	1	7
The Air Force Museum in Dęblin	1.5	0	1	2	0	0	1	1	6.5
The Museum of Koceń History	0.5	1	1	2	0	0	1	1	6.5
The Regional Museum of the Polish Tourist Country-Lovers' Association in Dobczyce	1	0	1	1	0	1	1.5	1	6.5
The Museum of Modern Art in Kraków	1	1	2	1	0	0	1	0.5	6.5
The Ethnographic Museum in Toruń	1	0	2	1	0	0	1	1	6
The District Museum in Sieradz	1	0	1	1	0	1	1	1	6
The Regional Museum in Kutno	1	0	1	2	0	0	1	1	6
The National Museum in Kielce	1	0	1	2	0	0	1	1	6
The State Museum at Majdanek	1	0	1	2	0	0	1	1	6
The Henryk Sienkiewicz Museum in Wola Okrzejska	1	0	1	2	0	0	1	1	6
The Museum of the Karwacjans and Gladysze Manor House in Gorlice	1	0	1	2	0	0	1	1	6
The Museum – Castle Complex in Niedzica	1	0	1	2	0	0	1	1	6
The Museum of Architecture in Wrocław	1	0	1	2	0	0	1	1	6
The Central Museum of War Creditors in Łambinowice	1	0	1	2	0	0	1	1	6
The Museum of Polish Song in Opole	1	1	1	1	0	0	1	1	6
The Cieszyn Silesian Museum	1	0	1	2	0	0	1	1	6
The Vistula Ethnographic Park in Wygiełzów	1	0	1	2	0	0	1	1	6
The Museum of Royal Castle in Warsaw	1	0	0.5	2	0	0	1	1	5.5
The Ustroń Museum in Ustroń	0.5	0	1	2	0	0	1	1	5.5
The Auschwitz-Birkenau State Museum in Oświęcim	1	0	1	2	0	0	1	0.5	5.5

Table 2 – cont.

1	2	3	4	5	6	7	8	9	10
The Podlaskie Museum of Białystok	1	0	1	1	0	0	1	1	5
The Historical Museum in Białystok	1	0	1	1	0	0	1	1	5
The Museum of Icons in Supraśl	1	0	1	1	0	0	1	1	5
The Museum of Turk City	1	0	1	1	0	0	1	1	5
Museum of the History of the City of Zduńska Wola	1	0	1	1	0	0	1	1	5
The Regional Museum in Opoczno	0.5	0	1	1	0	0	2	0.5	5
The Museum of Royal Łazienki Park in Warsaw	1	0	1	1	0	0	1	1	5
The Boleslaw Prus Museum in Naleczow	0.5	0	1	2	0	0	1	0.5	5
The Regional Museum in Stalowa Wola	1	0	1	1	0	0	1	1	5
The Historical Museum in Sanok	1	0	1	1	0	0	1	1	5
The Regional Museum in Chojnów	0.5	0	1	2	0	0	1	0.5	5
The Jan Dzierżon Museum in Kluczbork	0.5	0	0.5	1	1	1	0.5	0.5	5
The Wawel Royal Castle. National Art Collection	0.5	0	1	2	0	0	1	0.5	5
The Municipal Engineering Museum in Kraków	0.5	0	1	2	0	0	1	0.5	5
The Castle Museum in Oświęcim	1	0	1	1	0	0	1	1	5
The museum of Będzin	1	0	1	1	0	0	1	1	5
The Museum of the History of Katowice	1	0	1	1	0	0	1	1	5
Silesian Museum	1	0	1	1	0	0	1	1	5
The Museum of the Upper Silesian Ethnographic Park in Chorzów	1	0	1	1	0	0	1	1	5
Upper Silesian Museum in Bytom	1	0	1	1	0	0	1	1	5
The Museum of Sanitary Technology in Gliwice	1	0	1	1	0	0	1	1	5
The Regional Museum in Wolsztyn	1	0	1	1	0	0	1	0.5	4.5
The Palace Museum in Rogalin	1	0	1	1	0	0	1	0.5	4.5
The Regional Museum in Nowy Sącz	1.5	0	0.5	1	0	0	0.5	0.5	4
The Museum of Ceramics in Bolesławiec	0.5	0	1	1	0	0	1	0.5	4
The Central Museum of Firefighting in Mysłowice	0.5	0	1	1	0	0	1	0.5	4
The Regional Museum in Bełchatów	0.5	0	1	1	0	0	0.5	0.5	3.5
The Folk Museum in Kolbuszowa	0.5	0	1	1	0	0	0.5	0.5	3.5
The Household Museum in Ziębice	0.5	0	1	1	0	0	0.5	0.5	3.5
The Museum of Gas Industry in Paczków	0.5	0	1	1	0	0	0.5	0.5	3.5
The Museum of the Opole Village in Opole	0.5	0	1	1	0	0	0.5	0.5	3.5
The Museum of Racibórz	0.5	0	1	1	0	0	0.5	0.5	3.5
The Historical Museum in Bielsko-Biała	0.5	0	0.5	1	0	0	1	0.5	3.5
The Żywiec Ethnographic Park in Ślemień	0.5	0	0.5	1	0	0	1	0.5	3.5

Table 2 – cont.

1	2	3	4	5	6	7	8	9	10
The Museum of the Silesian Weaving in Kamienna Góra	0.5	0	0.5	1	0	0	0.5	0.5	3
The Museum of Wodzisław Śląski	0.5	0	0.5	1	0	0	0.5	0.5	3
Rev. Dr Władysław Łęga Museum in Grudziądz	0.5	0	0.5	1	0	0	0.5	0.5	3
The Museum of Bielsko Podlaskie	0.5	0	0.5	1	0	0	0.5	0.5	3
The Museum of Tykocin	0.5	0	0.5	1	0	0	0.5	0.5	3

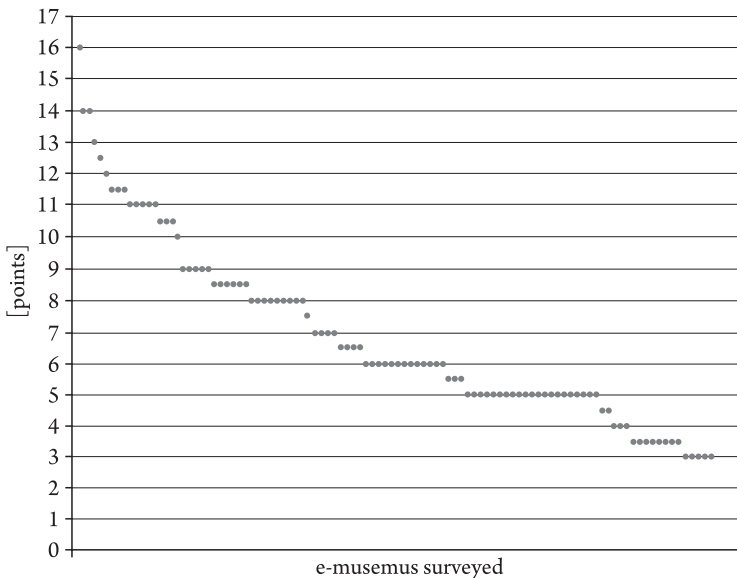
Source: own research.

Most of the virtual walks are based on a few repetitive and commonly used Internet applications. Dedicated solutions are very rare.

It can be seen that systems of the same type are used in the same area (within a given district or province different museums often use the same application), which may be the result of regional cooperation within a given administrative unit and frequent communication or participation in a common development project.

Another common practice is connecting a digital museum walk to a larger general virtual tour of the whole city or even the region. In such cases, museum panoramas are very poor, offer limited information and few interesting additional services.

Chart 13. Evaluation of e-museum tour services



Source: own research.

Based on the assessment, it can be concluded that the sophistication level of Polish virtual museums as far as virtual tours are concerned is very low. Although the majority of museums offer such services, they seem only to serve marketing purposes and do not take advantage of the potential functionality that such resources offer. This situation would be understandable if the respondents (Chart 7) were not convinced that a virtual tour can be a valuable substitute for a physical tour, only taking into account tourism and recreation criteria. However, virtual tours in Polish museums do not seem to be a substitute for physical tours but rather serve as complementary solutions. Therefore, there is no explanation for their poor quality and superficial character. According to one view “some museums do not have items that are spectacular enough to be shown in an attractive way” [Maźnica 2016: 9]. However, this point of view is very limited given the fact that the perception of a virtual tourist is affected by more elements than just the range and attractiveness of exhibits or architectural objects. A properly executed and high quality virtual tour can be interesting in itself provided that the participant is given a fairly large degree of freedom. It seems that museums treat the information revolution as a necessary evil rather than an opportunity, and virtual sightseeing services are not seen as a powerful tool for promoting culture and tourism but merely as an obligatory feature that represents current standards of the modern world.

With respect to the data presented in Table 2 and Chart 13, it can be noted that only the service offered by the Lubuski Land Museum in Zielona Góra was rated above the mean score (by merely 0.75 point). The lowest rating of 3 was given to five museums (i.e. just 0.5 point above the lowest possible score).

5. Summary

Efficient e-services are among the key features of the accelerating development of the information society. They influence more and more areas of human life, enabling new fields of application, such as remote surgery. Their expansion seems inevitable and should be interpreted as a great opportunity for the economy and society. However, they are also associated with threats. One such threat is delayed implementation and adoption of digital technologies and services. In modern society, such information exclusion is increasingly becoming synonymous with social exclusion. In order to eliminate this threat, the ICT sector should be given special significance and should be supported, thoroughly analyzed, stimulated and monitored.

This is confirmed by the findings of the study (even if with respect to just one e-service). The survey results indicate that most museums in Poland create digital content and use it mainly for recording collections of exhibits (Chart 1). Most mu-

seums (over 90%) have their own website (Chart 2). Digitization and computerization is mainly (and unfortunately) financed by the museums themselves (Chart 3). The digital resources are most often stored and made available in the form of photographs (Chart 4). Museums try to create online communities by successfully taking advantage of social media (Chart 5 and Table 1). Unfortunately, the service of the e-museums remains largely unknown for many Polish Internet users (Chart 9 and Chart 10), and most of them believe that access to online resources should be free (Chart 6), which the author does not regard as appropriate.

The article presents selected results of the research. The author proposed a model for evaluating one feature of e-museum services, namely virtual tours. A total of 102 Internet walks were rated (Fig. 1) and the results of the assessment are presented in Table 2. After analyzing the results and the data presented in Chart 11, 12 and 13, it can be concluded that, regrettably, the initial research hypothesis about the poor quality of virtual museum tours was verified.

The validity of the complementary hypothesis raises more doubts. The respondents' opinions presented in Chart 7 and Chart 8 seem to contradict or at least undermine the assumption that virtual museums are a fully-fledged substitute for traditional museums and constitute a serious competition for them. This may be related to the user experience of respondents or the poor quality of e-services themselves. Considering the above, the complementary hypothesis cannot be verified. Nevertheless, it should be noted that there is a certain group of people for whom this digital solution seems to be the only alternative, as in the case of people with disabilities, which is yet another argument in favour of intensifying activities in this field.

References

- Ciemniewska J., Pliszka S., 2017, *Analiza odbiorców projektu e-muzea. Użytkownicy Internetu*, Warszawa: Narodowy Instytutu Muzealnictwa i Ochrony Zbiorów https://www.nimoz.pl/files/articles/124/07_Analiza_odbiorcow_PBI.pdf [accessed: 4.08.2019].
- Dzięglewski M., Fiń A., Guzik A., 2015, *Przemiany praktyk i strategii udostępniania i odbioru dziedzictwa kulturowego w formie cyfrowej w latach 2004-2014. Raport końcowy*, <http://badania-w-kulturze.mik.krakow.pl/files/RaportKo%C5%84cowy.pdf> [accessed: 4.08.2019].
- Folga-Januszewska D., 2008, *Muzea w Polsce w latach 1989-2008. Stan, zachodzące zmiany i kierunki rozwoju muzeów w Europie oraz rekomendacje dla muzeów polskich*, Warszawa: MKiDN, http://www.kongreskultury.pl/library/File/RaportMuzea/muzea_raport_w.pelna.pdf [accessed: 4.08.2019].
- Folga-Januszewska D., Jaskanis A., 1996, *Ankieta o stanie komputeryzacji muzeów w Polsce*, w: *Media informatyczne w digitalizacji zbiorów archiwalnych, bibliotecznych i muzealnych (materiały seminarium)*, Kraków: Zamek Królewski na Wawelu, 74-85.

- Gajda K.A., 2016, *Cztery typy muzeum – podział dokonany wedle modeli edukacji*, Kraków MKiDN, <http://www.ic.europeistyka.uj.edu.pl/documents/31861989/141312500/Kinga+Anna+Gajda%2C+Cztery+typy+muzeum+%E2%80%93++podzia%C5%82+dokonany+wedle+modeli+edukacji%2C+Aneta+Pazik%2C+Strony+internetowe+muze%C3%B3w/65b3e5d4-e664-4c21-adba-f44b19a80d3d> [accessed: 4.08.2019].
- Gemius/PBI, 2012, <http://pbi.org.pl/badania/> [accessed: 4.08.2019].
- GUS, 2018, *Spółeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2014-2018*, Warszawa–Szczecin, <https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/spoleczenstwo-informacyjne-w-polsce-wyniki-badan-statystycznych-z-lat-2014-2018,1,12.html> [accessed: 4.08.2019].
- GUS, 2019, *Kultura w 2018*, <https://stat.gov.pl/obszary-tematyczne/kultura-turystyka-sport/kultura/kultura-w-2018-roku,20,2.html> [accessed: 4.08.2019].
- <https://www.e-muzeum.eu> [accessed: 4.08.2019].
- Maźnica Ł., 2016, *Wirtualne Muzea Małopolski. Repozytorium w pięciu krokach*, Fundacja Warsztat Innowacji Społecznych, https://epale.ec.europa.eu/sites/default/files/raport-wirtualne-muzea_wmm.pdf [accessed: 4.08.2019].
- Mazur Z., Mazur H., Mendyk-Krajewska T., 2018, Ocena jakości platform e-usług publicznych, *Nierówności Społeczne a Wzrost Gospodarczy*, 53(1): 203-215.
- Sekuła E., 2012, *Darmowy dostęp do kultury w Internecie*, <https://www.legalnakultura.pl/pl/czytelnia-kulturalna/badania-i-raporty/news/54,darmowy-dostep-do-kultury-w-internecie> [accessed: 4.08.2019].
- Stańska Z., 2013, *Polskie muzea na Twitterze*, <http://muzealnictwo.com/2013/05/polskie-muzea-na-twitterze/> [accessed: 4.08.2019].
- Stańska Z., 2014, *Muzea na Instagramie*, <http://muzealnictwo.com/2014/01/muzea-na-instagramie/> [accessed: 4.08.2019].
- Statystyka muzeów. Muzea w 2017 roku*, 2018, Warszawa: Narodowy Instytut Muzealnictwa i Ochrony Zbiorów, https://www.nimoz.pl/files/publications/55/Statystyka_muzeow_2017_online.pdf [accessed: 4.08.2019].

Rozwój wirtualnego muzealnictwa w Polsce

Streszczenie. Determinizm technologiczny zainicjował rewolucję społeczeństwa tworzącą podwaliny cywilizacji wiedzy. Jednym z jej kluczowych założeń jest oparcie ekonomicznego źródła ciężkości na szeroko pojętych usługach. W wielu przestrzeniach nowoczesne narzędzia ICT umożliwiły wykreowanie ich cyfrowych odpowiedników. Stało się tak m.in. na styku turystyki i kultury poprzez powstanie wirtualnych muzeów. W artykule dokonano przeglądu oraz analizy poziomu rozwoju wybranych wirtualnych muzeów w Polsce. Ponadto, w odniesieniu do przeprowadzonych badań i autorskiego modelu oceny, autor podjął próbę odpowiedzi na pytania: o jakość e-usług muzealnych, ich konkurencyjność względem tradycyjnych muzeów i wreszcie o korzyści, jakie niesie ze sobą opracowanie i utrzymanie takich usług.

Słowa kluczowe: e-usługi, wirtualne muzea, wirtualny spacer

MAGDALENA OLEJNICZAK*

Dark Tourism – the Dark Side of Berlin

Abstract. In search of new destinations and experiences, tourists are now visiting places that are monuments of tragedy, suffering, death and destruction. These places are often connected to mass murders or catastrophes. Such locations have always attracted interest, fascination and evoked dread. This phenomenon has been described as “dark tourism” or thanatourism. The aim of the article is to discuss the subject of thanatourism in the urban space of Berlin, which is becoming an increasingly popular branch of cultural tourism in Germany and other countries. The article consists of three main parts: a theoretical introduction, a description of thanatourism resources in Berlin and the analysis of the phenomenon in reference to selected aspects.

Keywords: thanatourism, tourist attractions, metropolis, Berlin, commercialisation, promotion

1. Introduction

Curiosity, the desire to learn and understand the world are all human traits that guide us to explore numerous different places. Humans are inspired by such factors as fashion and the willingness to learn and experience something new that reaches beyond everyday life and “standard tourist attractions”. Metropolises as tourist destinations are multifunctional units that are able to cater for tourist needs. In recent decades, urban tourism has been perceived largely as a cultural, economic and social phenomenon, but it has also stimulated urban changes. Contemporary studies of urban tourism reflect a diversity not only in terms of demographic qualities but also in interests and behaviours of tourists. Everywhere

* University of Szczecin (Poland), Faculty of Physical, Mathematical and Natural Sciences, e-mail: magdalena.olejniczak90@gmail.com, orcid.org/0000-0002-6573-1280.

in the world cities are evolving as a result of the development of tourism. They are adjusting their offerings to new trends, branches and types of tourism.

Tourists arriving in cities are often aware of the typical attractions and offers. One can often observe that travellers do not limit themselves to only exploring key tourist areas of cities, but also search for untypical places and non-standard attractions that are often located in different parts of the city, beyond the well-known areas. This is becoming increasingly popular not only among experienced tourists, but also beginners.

Following John Urry [2007: 16], the purpose of tourism is to provide intense and pleasant experiences that engage us in a different way than everyday life. Dark tourism is one such way of providing those experiences. In dark tourism, destinations are associated with death and suffering.

2. Aims and methods

The aim of the article is to discuss the concept of dark tourism by studying the case of Berlin. The article presents the significance of modern thanatourism, taking into account various places in Berlin that are visited by tourists. It also analyses thanatourism in terms of its social and marketing importance. The analysis is divided into five main aspects: ethical-moral, social-cultural, interpretative and political, promotional-marketing, management and commercialisation. Each one can be treated as a subject for further, in-depth analyses.

The considerations presented in the article are based on the review of the available literature on the problems of thanatourism, which in addition to scientific articles, also includes websites associated with broadly understood dark tourism. Based on the review of the different meanings of this type of tourism, the author analyses the role of “dark tourism” in the urban space of Berlin.

3. Dark tourism

Dark tourism is not a novel phenomenon, but it has not been described until recently. First attempts to formulate its definition and characteristics were made by Malcolm Foley and John J. Lennon in 1996. According to these authors, *dark tourism* involves journeys to places associated with catastrophes, genocide or murder. It also includes trips to battlefields, places of death (which resulted from wars, catastrophes, assassinations, accidents, cataclysms), concentration camps, museums and exhibitions focusing on death, burial places (cemeteries, mausole-

ums, pyramids, catacombs), prisons or places of terrorist attacks. Another term used in the literature to describe this phenomenon is *thanatourism*. The name originates from the Greek god and embodiment of death – Thanatos. Dark tourism and thanatourism are not the only concepts mentioned in studies that discuss the topic of suffering. Numerous other types of cultural tourism focus on tragedy and death – military tourism, war tourism or battlefield tourism [Tanaś 2006].

In this article, ‘dark tourism’ is the predominant term. To further understand the concept, it is necessary to explain the relation between dark tourism and thanatourism. Dark tourism is considered to be a general term for various forms of tourism associated with death, suffering, tragedy or crime. Thanatourism is a more detailed concept regarding long-term travelling practices motivated by a specific desire to experience death. In this article, the two terms are treated as distinct, yet parallel and closely connected.

1. The growing interest in dark tourism is reflected by an increasing number of scientific and popular-science articles, as well as blogs and social media entries dedicated to the subject. The topic of dark tourism is most often discussed in the literature in terms of the following aspects:

2. The character of the demand for such places (the motivations and experiences of visitors) [Podoshen 2013].

3. Dark tourism as a form of cultural tourism [Reformat 2018].

4. The establishment of the definition, typology and methodology of dark tourism and thanatourism [Stone 2006; Tanaś 2006, 2008; Wight 2006].

5. Ethical and moral problems of dark tourism and thanatourism [Buczowska, Malchrowicz-Mośko 2012; Gorączko 2016].

6. The management, interpretation and marketing of places of death and suffering for tourism and tourists [Hartmann 2013; Popiel 2012; White, Frew 2013].

3.1. Dark tourism – the history of the phenomenon

The fascination with death is not a phenomenon characteristic only of modern times. The end of life and the accompanying concept of passing from one world to another, which is so characteristic of many religions, has been of interest to people for thousands of years. One day all of us will have to face death – first that of other people and finally, our own. It is important to accept this fact and for many the best way is to confront death in places tainted by its presence. In ancient times, the Egyptians visited the pyramids, while the Romans travelled to the Colosseum where many gladiators died. In medieval times, the places of death and burial of martyrs and saints were often the target of numerous pilgrimages. According to Sławoj Tanaś, at the turn of the 18th and 19th centuries, there was a “boom” in trips filled with thanatopsy. Memories and diaries from that pe-

riod describe visits to places of death and violence, castles (Scotland, Loire Valley in France), prisons (England, France), cemeteries (Pere Lachaise in Paris), battlefields (Flodden, Culloden in Scotland) as well as places where executions and murders took place (the tsar palace in Ropsha, the place of the murder of Peter III) [Tanaś 2006: 88]. The 20th century saw two world wars at an unprecedented scale. These events have scarred the landscape with such places as death camps, places of genocide, numerous cemeteries and monuments commemorating victims of totalitarian ideology.

The 21st century has initiated a very particular phenomenon, enabled by the unprecedented, quick and easy access to information – the reporting of events online. The second phenomenon is the ever-present cult of youthfulness. Humans want to live as long as possible, looking young and remaining healthy, setting aside the notion of the end of life. Furthermore, thanks to advances in science and industry, individuals have become independent from the church. Secularisation is well under way, particularly in developed countries. Modernity has breached the barriers between *sacrum* and *profanum*. Religion used to be a buffer between life and death – it explained, described and helped people accept the phenomenon. Chris Rojek claims that in places where cemeteries were treated with respect and dignity, modernity has paved the way for mass tourism, transforming them into tourist attractions [Rojek 1993: 138]. Modernity treats tragedy and death as a commodity. Despite the presence of educational elements in such places we accept the fact that tourist visits become (with or without awareness) an opportunity and motivation for improving the product [Lennon, Foley 2000: 3-5]. Currently, death in popular culture has become part of entertainment in the form of torture chambers in castle dungeons, or houses of fear in theme parks.

3.2. Berlin: the city of memories – the historical context

Berlin is the capital of Germany and the country's largest city. The history of the city is very long and diverse, which is reflected in the wide range of monuments and tourist attractions, both historical and modern ones. The rich past of Berlin is full of radical changes – traces that are abundantly present in the entire modern city. Throughout its history, Berlin has played the role of the capital of several German countries a number of times. It was the capital of the Margraviate of Brandenburg, the Kingdom of Prussia, the North German Confederation, the German Empire, the Weimar Republic, the Third Reich, East Germany, West Germany and contemporary Germany.

The years 1933-1945 are a particularly important period as Berlin became the headquarters of the Nazi government. This is, most probably, the darkest time in the history of the city, which is reflected by a number of places in and around

the city that could be classified as dark tourism attractions. The second stage is the period after World War II, when the capital of the Reich was subjected to the common rule of the Allies, was divided into sectors occupied by military authorities, and finally separated by the Berlin Wall (1961) until its fall (1989) was the symbol of Cold War and the division of Germany.

The German capital had to face the difficult heritage of past years. Duncan Light and Craig Young [2014] observed that political power shapes the urban landscape, particularly in relation to monuments, especially in Berlin, which – according to Karen Till – is a place haunted by memory [Till 2005: 25]. As observed by Ian Kershaw, memory fades into oblivion, but the scar does not disappear [Kershaw 2008: 361-370].

Dark tourism places are also present in the vicinity of the city. They include, e.g. Konzentrationslager Sachsenhausen – the German Nazi concentration camp, as well as Zeppelin and Maybach – Zossen – Wünsdorf centres.

The sites presented in Table 1 can be divided into two types: commercialised and non-commercialised places – those that are already viewed as tourist attractions and are part of the tourist offering, and those that are hardly ever reached by tourists. Commercialised places are usually marketed for tourism by an institution. One example of a commercial tourist attraction is the Berlin Dungeon. The site is a combination of a house of fear and a historical museum. The atmosphere of dread is intertwined with a sense of humour. An approximately 60-minute tour includes 10 adventures guided by 10 professional actors who assume the roles of known historical personas from Berlin of the last 700 years. It is a commercial site created for entertainment with educational elements and its location is not directly associated with a specific person or event.

One example of a multi-faceted commercialised tourist space associated with thanatourism is Checkpoint Charlie. It was one of the most well-known border crossings between East and West Berlin. It is now a symbolic border control point where one can purchase an imprint of the stamp of the border guard from a selected occupation zone. Since 1962, it has also been the location of the Berlin Wall Museum. Criticisms from historians claiming that the museum collections are more of a tourist attraction than a historical exhibition, led to the creation of the site called “BlackBox Cold War”. There, one can receive basic information on the history of the Berlin Wall. No business activity associated with tourism is allowed inside and in the vicinity of that place because its main aim is the education of tourists. However, high numbers of visitors have attracted commercial activity in the immediate area in the form of private points of retail sales, including fast food and souvenir stalls.

The above examples are included in the materials promoting tourist attractions in Berlin – they are present in guidebooks, offerings of tourist agencies and tour operators. They are the destinations of organised trips. Tourist guides and tourist offices use the city’s historical-cultural conditions to create theme tours. The most important

Table 1. Selected dark tourism attractions

Museums and educational centres	Monuments, information tablets, places of memory	Other
Berlin Story Bunker	„Stumbling stones”	Berlin Dungeon
Berlin Underground (bunkers, flackturn, Fichtebunker, Tunnel AEG)	Berlin-Plötzensee	Checkpoint Charlie
Anne Frank Centre	Kindertransport Memorial	Dorotheenstadt cemetery
Nazi Forced Labour Documentation Centre	Memorial to the German Resistance	Invalids' Cemetery
Memorial Site – Prison SA Pappestraße	New Guardhouse	Complexes Zeppelin & Maybach – Zossen – Wünsdorf,
Memorial of Köpenick Week of Blood June 1933	Memorial to the Murdered Jews of Europe	Kaiser Wilhelm Memorial Church
Berlin-Hohenschönhausen Memorial	Memorial for Peter Fechter	Airport Tempelhof
Silent Heroes Memorial Center	Women's Protest MemorialRosenstraße	Berlin Wall (fragmnts, memorials, observation towers, streets: Bernauer Straße, Bornholmer Straße, East Side Gallery, Checkpoint Charlie, Checkpoint Bravo Dreilinden)
German Resistance Memorial Center	Empty Library Memorial	Sachsenhausen
Marienfelde refugee transit camp	Memorial to the Sinti and Roma Victims of National Socialism	Olympic stadium
Plötzensee Memorial Center	Deportation Memorial	Old Jewish cemetery
Allied Museum	Soviet War Memorial	
Anti-War Museum		
Museum of Medical History at the Charité		
Holocaust Museum		
Museum Stasi		
German Spy Museum		
Otto Weidt's Workshop for the Blind		
The Military History Museum Berlin-Gatow		
Jewish Museum		
Topography of Terror		

Source: own resources.

ones that could be categorised as thanatourism are those related to the Holocaust, the Berlin Wall, the Nazi period and the Cold War. They contribute to increasing tourist traffic in selected places and hence – they increase their commercialisation.

It is difficult not to notice the thin line between commercialisation, simplification and a brutal message, while preserving authentic and solemn character of a given place. It is difficult to even discuss these aspects when placed in the context of artificially created attractions, such as houses of fear or torture chambers designed to evoke

extreme emotions such as fear and dread and whose main aim is to generate as much profit as possible.

Admission to non-commercial places is often free. They have been created to commemorate and educate, not generate profit. These places are often integrated into public space. Most often, they do not feature a tourist offering, nor are they part of one. Such places include monuments, tablets and commemorations that are not part of the main areas of interest of tourists.

4. Dark tourism – the case of Berlin

Thanks to its geopolitical, economic and social-cultural conditions the city has a high potential for thanatourism. In order to understand, use and develop the already existing potential, it is important to approach the subject as broadly as possible. Five aspects of thanatourism in Berlin are discussed below.

4.1. The ethical and moral aspects

Thanatourism arouses a lot of controversy that results mainly from ethical reservations concerning the question of whether it is moral to visit places associated with death for tourist purposes. These doubts are strengthened when these places are historically associated with various events, such as wars, catastrophes, etc. These could include the martyrdom of a specific nation or minority, a difficult and ambiguous history, as well as a number of factors that often create the impression that dark tourism involves deriving pleasure from visiting places associated with pain and suffering. This is especially true when such places are exploited for political reasons.

For many people, a visit to places associated with death, particularly cemeteries, is an act of remembrance. It is also an act of honouring the dead, particularly in places associated with catastrophes or genocide. This way of learning about the world helps to preserve tragedies of the past in memory and to avoid similar events in the future. However, there are people motivated by morbid curiosity. The authorities of Berlin had to intervene to prevent people from visiting the bunker located in the city centre where Adolf Hitler committed suicide. There was an attempt to remove the damaged structure from public space for fear that it might attract neo-Nazi supporters. Despite these efforts, tourists still managed to get inside. For several decades, the area remained somewhat neglected because of its close location to parts of the Berlin Wall. Eventually, after the unification of Germany in 1990, a parking lot and a residential area were created in this place. Recently, a commemorating tablet has been placed there.

The place is important for history, culture, and society. Therefore, it requires adequate commemoration, one that takes into account the character of the past events. It is important to appropriately select information and to present it as objectively as possible.

More on the ethical aspects of tourism, including dark tourism, can be found in the work by Karolina Buczkowska and Ewa Malchrowicz-Moško [2012].

4.2. The aspect of interpretation and politics

Places associated with tragedy and death are made accessible for various reasons, such as entertainment, education, to honour events in collective awareness, and for political reasons [Stone 2006: 145-160]. The question of historical interpretation plays a key role in the case of attractions of thanatourism. It is important to discuss the method used to select and develop content, e.g., for exhibitions, promotional materials, information tablets, etc. Dark tourism makes use of selective interpretation, which can be defined as the process of creating numerous images of the past in which history is never an objective recollection of the past, but rather a selective interpretation based on the way we perceive the present. Given a certain interpretation and narration, such places may be ill-understood, not understood at all, or simply avoided. Narrations are often created in order to manipulate visitors for certain political or ideological aims.

It has to be stressed that experiences of visitors are burdened by various degrees of emotional intensity depending on the state of their knowledge, their sensitivity and personal life experiences. One has to remember that the historical heritage is viewed by people of various nationalities, with different experiences and shaped by different historical and political backgrounds.

One place that stirs a lot of emotions and has become a political tool and a symbol of facing the difficult past is the Memorial to the Murdered Jews of Europe, which was unveiled in 2005. The memorial is the main site that honours the victims of Holocaust in Germany. It consists of 2711 concrete blocks placed in parallel rows. The author of the monument does not impose a single interpretation of the site. The lack of information plaques and signs preventing visitors from standing on the monument leads to situations where most visitors without prior preparation experience the site in a rather unreflective manner, not even trying to understand the significance of this popular "attraction". In 2017, this situation inspired Shahak Shapir, an Israeli living in Berlin, to create a shocking photo project called "Yolocaust" to make people aware of how inappropriate their behaviour is. He used photos taken by tourists at the memorial and shared them on social media sites, then combined them with archived photographs of concentration camps. The edited photos appeared all over the world and initiated a discussion on the behaviour of visitors.

4.3. The promotional and marketing aspect

Not every place has been intentionally created and promoted as a tourist attraction. Some have become such attractions as a consequence of certain events or because of people associated with a given place; others have been created and promoted by the media. Television, Internet sites and social media constantly inform us about tragedies, catastrophes, mass murders and terrorist attacks. After hearing about such events, we often quickly return to our everyday lives and a visit to places mentioned on TV becomes another bullet point in our holiday trip plan.

The media make use of quick and simple messages designed to evoke emotions by covering tragic events that later influence experiences of visitors. The media can stimulate the initial interest in a specific place or event. They often create an image that is hard to change later on. They obscure the educational value and authenticity of the place. On the other hand, the media, especially films, can help to understand and interpret events and places. The role of media in the advertising of places of trauma and crime has been widely described in Magdalena Hodalska's work [2014].

Tourists surveyed in the area of the Brandenburg Gate, the East Side Gallery and the Topography of Terror confirmed that actual experiences derived in authentic sites were less real and less dramatic than those evoked by images shown in the media. This is quite a typical dissonance, which is experienced when expectations created by the media are confronted with the reality of a tourist's experience. Surveyed tourists realised that the history they were experiencing was presented to them in a specific form but they accepted it.

The popularity of places can often be increased by the marketing activity of companies and organisations that focus on generating profits resulting from the development of tourism. This is achieved by a particular way of advertising a tourist product (a place associated with death) providing the service: if it is marketed as an educational trip, which includes some sort of reflection, then the awareness of its commercial character is more likely to remain in the background.

4.4. The aspect of management and commercialisation

Tourist interest in places associated with death and suffering is a major challenge for institutions that have been selected for the supervision of such sites. On the one hand, it is necessary to respect the memory of those places and people directly or indirectly associated with them. On the other hand, such institutions have to cater to the needs of tourists who are guided by various motivations.

It is important to avoid the trivialisation of death when creating a tourist product and to present it using the right form and narration. Heritage associated with cruelty is particularly vulnerable to all kinds of disharmonies, conflict and criticism, especially when there is a need for profit. To avoid conflict and raise interest in the historical and educational aspect of a place, there is a ban on business activity in the area of certain places in Berlin. One such place is Checkpoint Charlie (described above). Despite the ban, large numbers of tourists still generate the need for street food and souvenirs in the vicinity of the site.

Commercialisation is not always a negative phenomenon. Some sites remain in good condition today only thanks to the tourist infrastructure that has helped to save them from slipping into oblivion. Some of the profits from ticket sales are allocated to the maintenance of the place and used to conduct scientific research. Many places, in addition to having a rich educational and publication offering, become large museum sites with well-developed catering and accommodation services. As a result, they can be perceived as a complete tourist product or part of it and hence raise doubts as to the commercial use of the symbolism of death and suffering.

One example is the Stasi Museum located in the building used by the Ministry of National Defence of the former GDR. The museum has prepared an exhibition showing methods used by the secret police operated and how they affected their victims. The exhibition also documents the acquisition and takeover of the building on January the 15th 1990 by civil rights' activists. The institution conducts scientific research and offers educational programmes for children and youth [www.stasimuseum.de].

4.5. The social-cultural aspect

People's attitude towards death is indicative of the cultural state of a society. In particular, it reveals the way in which people, both individually and collectively, face sadness and trauma. In 2016, there was a terrorist attack at a Christmas market near the Kaiser Wilhelm Memorial Church. 12 people died in the attack and about 50 other people were injured. A monument was erected on the stairs leading to the church – a “metal scar”. The church itself also commemorates the victims of World War II. The media claimed and assured that residents of Berlin would not succumb to fear and would not change their lifestyle and that the society would not bend the knee to terrorism. Both tourists and residents of Berlin, after the initial shock and fear of future attacks, quickly returned to the festive atmosphere of the market.

Another issue is how the existence of “dark places” affects residents and tourists that are ever-present in the urban space. The development of tourism has

a significant influence on the functioning of cities and changes in urban space. In highly developed agglomerations, the boundaries between the behaviour of residents and visitors (tourists) are getting increasingly blurred. The needs associated with free time – entertainment, recreation and participation in cultural and sports events, visiting restaurants and shops – are gaining in importance. On the other hand, it is important to maintain the sense of security, the identification with the space and the need to commemorate past events and people. Despite high numbers of tourists, the everyday life of residents is visible in the urban landscape. The urban space is a common good, a stage for everyday life of the urban community, whose needs have to be taken into account. Residents often overhear stories told by tour guides under their windows, which are often far removed from historical facts, and they hear comments and questions from tourists.

This confrontation between tourists and residents is exemplified by the Brandenburg Gate, which was the site of political manifestations. It used to be an important propaganda element from the time of the uprising in 1788 until the fall of the Berlin Wall. On the other hand, it has become an icon for Berlin's tourism, a place that all the city's tourists visit.

5. Summary

The aim of the article was to identify the gaps in the knowledge regarding the subject of dark tourism in the urban space of Berlin. The subject was analysed from the social-cultural, economic and marketing points of view. Each of these areas should be explored further.

What makes Berlin one of the most attractive cities in the world is the diversity of places, attractions and experiences tourists can explore. This creates perfect conditions for the development of various types of tourism, including dark tourism, which cater to the needs of the increasingly demanding and conscious tourist. Dark tourism enables visitors to approach a tragedy from a different, unusual perspective. The notion of dark tourism is broad enough to encompass both tourism motivated directly by the interest in death and trips only indirectly associated with death, i.e. those where it is only one of the motivating factors.

The turbulent history of the previous century has left behind places associated with death and suffering. The entire city of Berlin is filled with monuments, various kinds of commemorations, museums, education centres, and places erected for entertainment purposes, such as houses of fear. Not all places of death, catastrophes and destruction have been commemorated and not all of them have evolved in the direction of tourism. A significant part of efforts aimed at commemorating the past has been shaped by cultural values, politics and local

communities. Consequently, tourists cannot reach every place. Thanatourism in Berlin does not take extreme forms. Among dark tourism attractions, one will mainly find museums and places of memory created to meet the needs and expectations of tourists and generate profit. Equally important is the infrastructure accompanying these places, which is designed to make tourist visits comfortable. They are made more attractive to meet tourists' needs for authenticity, strong emotions and information. Most places are commercialised and are part of the tourist offering, e.g., theme pathways featuring the Berlin Wall or the Cold War. Thanks to their location in the vicinity to the main attractions, they are visited as incidentally, in addition to the regular itinerary.

References

- Buczowska K., Malchrowicz-Moško E., 2012, Etyczne dylematy turystyki kulturowej, *Turystyka Kulturowa*, 12: 42-55.
- Foley M., Lennon J.J., 1996, JFK and Dark Tourism – a fascination with assassination, *International Journal of Heritage Studies*, 2(4): 198-211.
- Gorączko J., 2016, Tanatoturystyka – naturalne zjawisko w podróżnictwie czy kontrowersyjny trend światowej turystyki kulturowej?, *Turystyka i Rekreacja*, 18(2): 159-173.
- Hartmann R., 2013, Dark tourism, thanatourism, and dissonance in heritage tourism management: new directions in contemporary tourism research, *Journal of Heritage Tourism*, 9(2): 166-182.
- Hodalska M., 2014, Turyści horroru w miejscach pamięci: rola mediów w promocji miejsc traumy i zbrodni, in: B. Popiołek, A. Chłosta-Sikorska, A. Słaby (eds.), *Historia – pamięć – tożsamość w edukacji humanistycznej*, t. 3, Kraków: Wydawnictwo Libron, 593-605.
- Kershaw I., 2008, *Hitler, the Germans and the final solution*, New Haven: Yale University Press, 361-370.
- Lennon J., Foley M., 2000, *Dark Tourism. The Attraction of Death and Disaster*, London – New York: Cengage Learning EMEA, 3-5.
- Light D., Young C., 2014, Public memory, commemoration and transitional justice: Reconfiguring the past in public space, in: L. Stan, N. Nedelsky (eds.), *Post-Communist Transitional Justice: Lessons from Twenty-Five Years of Experience*, Cambridge: Cambridge University Press, 233-251.
- Podoshen J.S., 2013, Dark tourism motivations: Simulation, emotional contagion and topographic comparison, *Tourism Management*, 35: 263-271.
- Popiel M., 2012, *Dark tourism* jako element innowacyjności biur podróży, *Przedsiębiorczość – Edukacja*, 8: 386-395.
- Reformat B., 2018, *Dark tourism* jako niszowa forma turystyki kulturowej, *Prace Naukowe. Uniwersytet Ekonomiczny w Katowicach*: 16-24.

- Rojek C., 1993, *Ways of Seeing. Modern Transformations in Leisure and Travel*, London: Macmillan.
- Stone P.R., 2006, A Dark Tourism Spectrum: Towards a typology of death and macabre related tourist sites, attractions and exhibitions, *Tourism: An Interdisciplinary International Journal*, 54(2): 145-160.
- Tanaś S., 2006, Tanatoturystyka – kontrowersyjne oblicze turystyki kulturowej, *Peregrinus Cracoviensis*, 17: 85-100.
- Tanaś S., 2008, *Przestrzeń turystyczna cmentarzy. Wstęp do tanatoturystyki*, Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Till K. E., 2005, *The New Berlin: Memory, Politics, Place*, Minneapolis: University of Minnesota Press.
- Urry J., 2007, *Spojrzenie turysty*, Warszawa: Wydawnictwo Naukowe PWN.
- White L., Frew E., 2013, *Dark Tourism and Place Identity, Managing and interpreting dark places*, London – New York: Routledge.
- Wight A.C., 2006, Philosophical and methodological praxes in dark tourism: Controversy, contention and the evolving paradigm, *Journal of Vacation Marketing*, 12(2): 119-129.
- www.stasimuseum.de [accessed: 15.10.2019].

Dark tourism – ciemna strona Berlina

Streszczenie. Turyści w poszukiwaniu nowych destynacji i wrażeń docierają do miejsc, które utożsamiane są z tragedią, cierpieniem, śmiercią i zniszczeniem. Są to miejsca masowej zagłady i katastrof. Od zawsze budzą one zainteresowanie, fascynację i grozę. Zjawisko to zostało określone jako *dark tourism* lub inaczej tanatoturystyka. Celem artykułu jest wprowadzenie w problematykę tanatoturystyki w przestrzeni miejskiej Berlina, która współcześnie staje się popularną formą turystyki kulturowej, również w Niemczech. Artykuł składa się z trzech głównych części: wprowadzenia teoretycznego, inwentaryzacji zasobu tanatoturystyki w Berlinie oraz analizy zjawiska w wybranych aspektach.

Słowa kluczowe: tanatoturystyka, atrakcje turystyczne metropolia, Berlin, komercjalizacja, promocja

IGOR PANDYAK*

Interdependence between Agglomeration Processes and the Hotel Sector in the City of Lviv

Abstract. The purpose of the article is to establish the relationship between the market of hotel services and the development of the Lviv agglomeration. The study is based on questionnaire data, statistical analysis and logical reasoning. The author analysed 92 hotels operating in Lviv. Reports and studies of tourist flows and hospitality were conducted by the Tourism Department of Lviv City Council, and the Main Statistical Office in Lviv region. The main objectives of the study included evaluating the Lviv agglomeration in terms of attractiveness for living and doing business in comparison to other regions of Ukraine; identifying changes in the development of urban infrastructure of the Lviv agglomeration and their impact on the development of tourism and hospitality; characterising the hotel services market; identifying current trends in how the Lviv agglomeration is exploiting its current potential in the hospitality. As a result of the analysis, the author presents 1) modern features of the development of the hotel industry in Lviv; 2) an underlying inconsistency of the processes taking place in the Lviv metropolitan area, which is a complex system of relations in the urban space and, at the same time, a factor that determines the important role of hospitality establishments; 3) positive and negative aspects of the impact of the agglomeration on the hotel industry.

Keywords: agglomeration, hotel industry, hotel establishments, hospitality, accommodation facilities, hostels, factors

1. Introduction

The emergence of agglomerations is one of the main socio-economic factors involved in the transformation of the hospitality industry into a powerful service component of the economy. Today, the mutual influence of agglomerations and

* Ivan Franko National University of Lviv (Ukraine), Faculty of Geography, e-mail: PandyakIG@ukr.net, orcid.org/0000-0001-8060-4389.

the hospitality sector is no less relevant than it was in the period of its active development in the mid-twentieth century, since these phenomena, in addition to their positive impact, can negatively affect the social and spatial structure of urban areas. The study of the impact of an agglomeration on the development of the hotel industry is also necessary because the existing research on the subject is fragmentary and there are no appropriate techniques for identifying aspects of these interactions.

The process of urbanization and the formation of agglomerations is characterized by rapid growth (1.84% per year), as urban settlements provide citizens with better opportunities for employment and social development. In 2017, 54.9% of people in the world lived in urban areas [Global Health Observatory... 2017] and this share is expected to increase to 75% by 2050 [United Nations Department... 2018].

Historically, urbanization has led to an increase in GDP per capita, as a result of higher productivity of the urban population. Accordingly, the current urbanisation trends contribute to an increase in the proportion of people with average and above-average incomes. According to forecasts, by 2025, the share of the population with an average wealth status will increase by more than 1.2 billion people, or from 27% today to 60% in 2030 [UTC investor and analyst meeting 2018]. Average-income consumers, especially those more affluent, represent a group that can drive a similar growth in the hotel sector.

The rise of urbanization and the resulting formation of agglomerations not only brings considerable advantages for the urban population but is associated with certain drawbacks. 54.9% of the world population living in urban areas consume as much as 75% of the world's natural resources and are responsible for 80% of greenhouse emissions [A New Urban Agenda...]. Energy consumption is increasing, which contributes to the global climate change. For example, in the USA, about 16% of energy is consumed by air conditioners, while the global demand for energy for air conditioners is expected to increase by more than three times by 2050 [International Energy Agency 2018].

A direct link between the increase in the number of hotels and the growth of metropolitan areas was established by M. McCroskey [1990], who analysed the development of these processes in the United States in the early 20th century. According to McCroskey, the growing popularity of automobile transport resulted in a high mobility of the population and was a factor which contributed to the wide-scale construction of hotels in the USA.

Another study of the relationship between urbanization, the development of metropolitan areas and the increasing number of hotels in China was conducted by J. Shen [2000]. The author notes that as a result of urbanization about 10% of temporary urban population uses hotel accommodation.

These studies reflect the relationship between the growth of agglomerations and the hotel industry caused by the growing demand from the tourism market. The authors observe that high-demand-orientated large metropolitan areas are associated with lower costs and increased income for investors [Marco-Lajara et al. 2016].

The relationship between the concentration of tourism enterprises in agglomerations, including hotel establishments, and the development of the hotel industry is explored by Philipp Ehrl [2013]. This study confirms the development of individual hotels with the support of other hotel enterprises, which leads to industry consolidation.

The relationship between agglomerations and hotel development was also investigated by J.M. Luo and C.F. Lam. According to the authors, research interest in this topic reflects the priority given to large cities and the service sector in the strategic development for China's economic growth. As agglomerations develop, travel expenses for their inhabitants are reduced, working conditions improve, and migrants from villages find employment in service industries [Luo, Lam 2016].

Agglomerations have become one of the reasons for the commercialization of the hospitality industry. The weakening of community ties in large cities, with their inherent exchange of natural resources, disappearance of conservatism in the conditions of a predictable future for the individual are all factors that lead to the formation of a multicultural environment. According to the German sociologist, G. Simmel, such an environment is the core of individual and social freedom, the possibility to show one's worth, but, at same time, the clear structuring of urban society in the division of labour often narrows the individual's need for personal freedom, causes moral and spiritual degradation, and kills the personality. The sociologist also focuses on the formation in cities of a particular demonstrative model of behaviour, the essence of which is the individual's desire to stand out, become a prominent, public person, and, therefore, a free person [Simmel 2003]. In this context, hospitality facilities, particularly hotels, with their multifunctional appeal for city guests and local residents, have become a means of manifesting urban social space.

The American urbanists, L. Mumford and L. Wirth, analysed the evolution of cities and identified an interesting aspect of their development. At first glance, cities appear to be chaotic, messy social phenomena, but, in reality, they are dynamic, mobile, secular, economically rational organic systems. All components, in particular hospitality enterprises, which are part of this socio-spatial system, are characterized by internal logic and dynamics [Mumford 2001].

Other studies of social, communication, architectural and other components of the urban space indicate deep social changes, the suitability of urban areas,

their organization, important attributes of urban infrastructure for the interaction in socio-cultural space, for aggregating and expressing the needs and interests of individuals.

Multifunctionality of agglomerations increases the demand for accommodation facilities, promotes competition, partnership, implementation of innovations, diversification of types and forms of business organization, generally improves market characteristics and market research, encourages the development of hotel supplies [Alcácer, Chung 2014].

The Ukrainian historian and culture expert, V. Rusavska, analysed the influence of the hospitality factor on the formation of the socio-cultural space of the city in the 19th-century Ukraine. Her analysis focuses on the functional interaction between social unity, social structures, symbols and values, communication and information. In the context of this socio-cultural space, the city is not only the result of transforming the natural landscape into an urban one but is also a form of people's coexistence. This coexistence, with its unique cultural, material and spiritual values is what produces a spatial urban culture. It is the urban culture that determines the perception of the urban population, includes norms of hospitable behaviour [Rusavska 2014].

2. Research methods

The study described in the article was conducted using empirical and theoretical methods. Empirical methods included interviews with guests, top managers, hotel staff and residents of Lviv. The results of the survey of the hotel services market were supplemented by reports and studies concerning tourist flows and hotel management conducted by the Tourism Department of the Lviv City Council and statistical reports of the Main Statistical Office of the Lviv region. Empirical data provided expert information on the development of the hotel industry and tourism in Lviv and Ukraine. In order to compare the social and economic status of Ukraine's largest agglomerations, monitoring results of the country's recognised rating agencies were used.

Interview data were collected from 92 hotel enterprises operating in Lviv. The survey was conducted between December 2018 and February 2019 among managers responsible for certain functional areas associated with the reception of guests in hotels.

The data collected directly from employees of Lviv hotels revealed inconsistencies with official data provided by the State Statistics Office and the Tourism Department of the Lviv City Council. The discrepancy is due to fact that market operators are reluctant to reveal true information. Some establishments, espe-

cially small hotels and hostels, do not reveal their activities or provide false information. Hoteliers intentionally reduce the room occupancy rate to report smaller amounts of profit. There are also discrepancies regarding the number of hotel enterprises in the city from various sources, including official ones, which make it difficult to assess the economic performance of the hotel services market in Lviv. For example, the Lviv City Council website lists 44 hotels and 21 hostels, doroga.ua – only 16 hotels and 13 hostels, and booking.com – as many as 53 hotels and 37 apartments.

The collected data were analysed to measure the degree of correlation between related variables (Pearson's correlation coefficient).

The analysis of the results revealed modern features of the development of the hotel industry in Lviv and an underlying inconsistency of the processes taking place in the Lviv metropolitan area, which is a complex system of relations in the urban space and, at the same time, a factor that determines the important role of hospitality establishments.

3. The results of the study

In 2018, the Lviv agglomeration, with a population of 721.3 thousand people, received 2.2 million tourists. Tourism and hospitality today form the socio-economic basis of the city's development. Due to the development of tourism and other non-productive areas of economy, Lviv, over the past years, has ranked among the top three Ukrainian cities with the highest standard of living.

The positive assessment of the Lviv agglomeration is associated with high employment rates - 65.9% (5.8 points in the regional ranking, see Table 1) [Zajnyatist naseleण्या za stattyu ... 2017] a favourable employment situation in terms of the ratio of the number of applications to the number of vacancies (1.8 applications per vacancy), as well as the highest quality of higher and secondary education in Ukraine (1.4 and 1.6 points out of 5, see Table 1). The agglomeration of Lviv is also characterized by the lowest crime rate situation in the country. The reconstruction and modernization of the Lviv airport and the runway infrastructure, the availability of well-known international and Ukrainian low-cost airlines, has generated a significant level of passenger traffic. Each year, the airport receives about 2 million passengers, which makes it second only to the main airport in Ukraine - Boryspil Airport.

At the same time, Lviv is one of the most expensive cities in Ukraine. Considerable demand for housing ranked the city as the most expensive in terms of purchase price and second, after Kyiv, for housing rental in 2019. The high investment attractiveness of Lviv's construction sector (6.9 out of 10 points), according

to the results of the Euro-Rating agency research, is due to the great demand of tourists for commercial housing (Table 1) [U rejtyngu “Najkomfortnishyx mist Ukrayiny 2019”...].

Table 1. The ranking of the largest agglomerations of Ukraine in terms of the standard of living and the conditions for doing business

Score, points	Average salary, 10 points	Investment attractiveness, 10 points	The cost of a consumer, 5 points	The cost of a one bedroom apartment, 5 points	The cost of renting one room apartments, 5 points	Employment of working age population, 10 points	Number of CVs for the vacancies 5 points	Number of schools in the rating «100 best in Ukraine», points	Number of higher education institutions in the rating «200 best Ukraine», 5 points	Amount of waste per 1 thousand km ² , 5 points	Crime rate, 5 points	Airport passenger traffic, 5 points	Demographic situation, 5 points	The sum of points
Lviv	1.4	6.9	4.2	0	1.1	5.8	1.8	1.4	1.6	4.9	4.0	0.5	3.4	36.6
Kiev	10	10	0.2	2.3	0.0	8.2	3.2	5.0	5.0	2.8	0.0	5.0	5.0	56.7
Kharkiv	1.2	4.1	2.9	3.1	2.1	10	1.8	0.7	3.1	1.3	1.6	0.3	2.1	34.3
Dnieper	3.6	6.8	3.8	3.4	3.2	8.0	2.7	0.7	1.9	4.5	1.4	0.1	1.8	41.9
Odesa	1.2	5.1	2.5	0.9	1.2	6.6	2.7	0.5	1.9	5.0	2.8	0.5	3.0	33.9

Source: results based on statistical data and scores awarded by rating agencies.

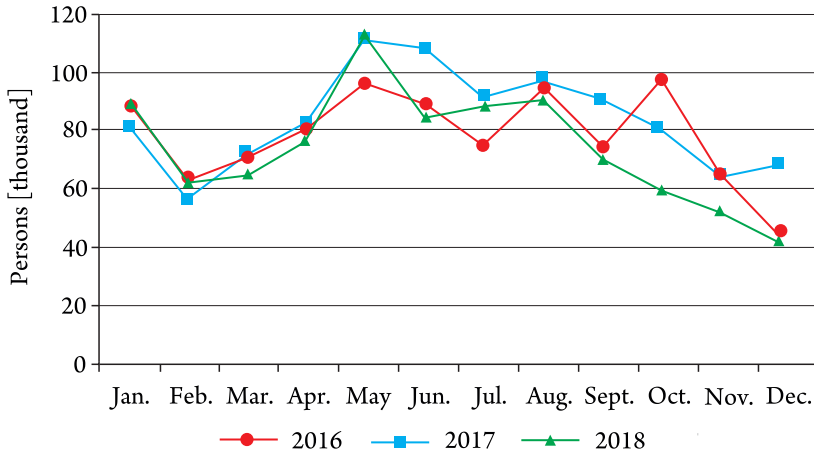
According to *Business Insider*' ranking of the most affordable tourist cities in the world, Lviv was ranked first, mostly thanks to the price of accommodation which, in 2018, in the equivalent USD amount, started from \$25 per person per night. According to a ranking of the best cities to visit in Ukraine in 2017 published by CNN, Lviv also ranked first [Best Places to Visit in Ukraine... 2017].

During the period 2016-2018, the hotel services market saw an increase in Lviv's attractiveness. Improvements in the country's geopolitical and economic situation resulted in an increase in domestic and foreign tourist flows since 2015. The number of hotels and similar accommodation facilities increased by 18.1% in 2017, compared to 2016 (from 75.7 thousand to 92.5 thousand people) (Fig. 1.).

In early 2018, there were 124 hotels in Lviv, with 3118 rooms offering a total 6,209 beds; there were also over 100 hostels [Lviv Oblast 2019]. This corresponds to 4.1 hotel rooms per thousand inhabitants, compared to the average of 9 rooms per thousand inhabitants in Eastern and Central Europe. With the constantly growing number of hotels in the city, Lviv is slowly catching up with the neighbouring countries.

At the end of 2018 and in the first half of 2019, Ukraine experienced a significant drop in the demand for hotel services (20-30% depending on hotel type). Among the main causes are the imposition of martial law, which led to a consid-

Fig. 1. The number of persons using accommodation facilities in Lviv in 2016-2018



Source: based on data of the statistical department of Lviv region.

erable decline in the number of foreign tourist arrivals; the possibility of visa-free travel to the EU countries, which increased the popularity of these destinations among Ukrainian tourists, as well as two stages of elections in Ukraine, which significantly reduced business activity in the country. During the hotel survey it was found that the average occupancy in Lviv hotels of various categories in the first half of 2019 was as follows: 40-50% in 4-5 star hotels, 50-60% in 3-star hotels. The hotel occupancy rate increased slightly by 5-10% in April-July.

In the second half of 2019, operators and experts noticed a steady increase in the attractiveness of Ukraine among foreign tourists [Okhrimenko et al. 2019]. In 2019, Ukraine recorded the biggest progress in the group of Eastern European countries in terms of the Travel and Tourism Competitiveness Index (TTCI), having moved up by 10 points to 78th place. The country's standing improved with respect to the business climate (from 124th to 103th place), safety (from 127th to 197th place), openness to foreigners (from 78th to 55th place) and general infrastructure (from 79th to 73th place [The Travel and Tourism Competitiveness...]).

After a marked drop in demand for Lviv accommodation facilities, in early 2019, and in general in the whole year, the commercial real estate market is showing signs of recovery and growth. Despite the decrease in the number of tourists, tourism revenues have increased from 128 million UAH up to 151 million UAH. This paradoxical situation was due to a rise in prices for services, primarily for accommodation facilities. There was also an increase in the number of foreign tourists who stay for a slightly longer period than Ukrainians and leave more money.

In the second half of 2019, an increase in occupancy rates prompted hotel and hostel owners to raise prices. The cost of rooms increased by 10-40%, hos-

tel and apartments prices increased by 10-20%, while in more expensive hotels, mainly used by foreigner guests, who are less sensitive to the growth of hryvnia prices, the price increased by 30-40%.

With regard to categories of rooms available in Lviv hotels, more than 80% are middle-standard rooms classified as *budget*, *economy* and *midscale*. A similar trend is observed in newly opened hotels. Over the past 5-7 years, the largest increase in the hotel room stock has been in the categories of the middle class, *economy*, *midscale* and *upper midscale* [Lviv City Council Tourism Office... 2017]. But, there is only one hotel offering rooms classified as high international *luxury* standard (Grand Hotel Lviv Luxury & Spa). In other words, the current demand determines the structure of the market supply.

When one analyses the demand for rooms of various categories, in the first half of 2018, the prices of upscale *luxury*, *upper upscale*, and *upscale* rooms rose from 5 to 22%, then fell to 5% in the autumn of 2018, and in late 2018 and early 2019, the period of growth was followed by a significant decrease of 20% relative to the price in the same period in 2018.

The price of middle class rooms – *budget*, *economy*, and *midscale* kept increasing between early 2018 and the second quarter of 2019. The growth was due to the demand and significant supply potential in this segment.

The average annual occupancy rate of Lviv hotels in 2018 was 65-75%. Hotels with less efficient management and less attractive location were occupied at an average level of 35-55%. These figures for Lviv are higher than the average for Ukraine (Table 2).

Table 2. Average occupancy rate of Lviv hotels in 2016–2018 (%)

Year	2016	2017	2018
Average occupancy	61	80	72

Source: based on data of the statistical department of Lviv region.

An important factor which determines how agglomerations affect the hospitality market is their attractiveness for investors. The return on investment in hotel enterprises in Lviv today is 9% or more. The average payback period is 7-9 years, the long-term payback is 10-15 years. Investors are primarily interested in the most popular middle-class hotels – budget 3 star- and 3+ star hotels. Such hotels are popular with foreigners and are the preferred option for Ukrainian tourists and businessmen. There is a growing interest in 4-star hotels as a result of price reduction of up to 6% in high-class establishments. [Malska, Pandyak 2012: 46].

An important criterion in assessing investment attractiveness of hotel establishments is profit margin. This indicator depends on the hotel category: the

smallest profit margin in high category 4-5-star hotels is 35-72% of total gross income, in 3-star hotels – from 50%, in lower category hotels and in hostels, 65-70%. At the same time, hotels of the high price segment with a much longer return on investment, but with steady occupancy rates, provide a more reliable, stable revenue stream. The most attractive option in terms of return on investment today are 3-star hotels in Lviv with a 9-12% annual profit margin [Since the beginning of 2019...].

The uncertainty of investors is due to the payback period of projects (5-13 years), which depends on the effectiveness of implementing an investment in a well-chosen location, a rationally designed technical project, and professionalism of project and business managers. Today, the payback period of investments has not changed considerably, as the market conditions are consistently positive, given the general economic growth, and inflationary processes are balanced in terms of expenditure and revenue. However, consultants, marketers and other specialists are only occasionally involved or not present in the initial stage of the project at all.

The current hotel market in Lviv is one of the most developed and attractive for investors. What distinguished it from other cities of Ukraine is the significantly higher number of hotels (124), a relatively high occupancy rate (65-75%), closer to the level observed in European countries, a noticeable segmentation, (with thematic and boutique hotels representing the majority). Compared to Kiev and other Ukrainian cities, where no significant increase in visitors has been recorded, the popularity of Lviv is associated with the organisation of international festivals, sports events, the implementation of the *Program for the Development of the Tourism Industry of Lviv for 2016-2022*, an increase in the number of air routes and improvement in the general infrastructure, the most important factor being the cultural aspect – historical monuments, mentality, culinary art.

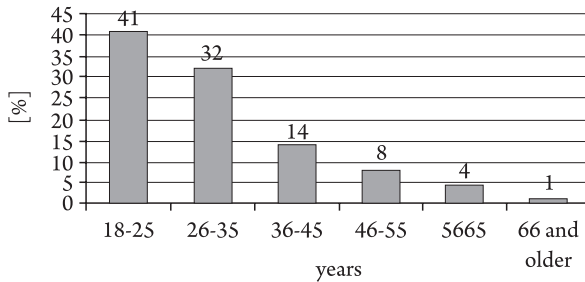
One of the main trends of the hotel services market in Lviv in 2019 was the increase in the share of Ukrainian tourists (30% of all tourists).

In terms of basic demographic traits, the majority of tourists (87.5%) are under the age of 50, with a slight predominance of men, the major share (77.1%) of business people (entrepreneurs, managers, employees, specialists). As regards the frequency of arrivals, 35.4% of respondents visited Lviv for the first time, for the others it was another visit (Fig. 2).

During the survey, guests interviewed in Lviv hotels reported the following purposes of visiting: 58.3% – tourism, entertainment and recreation; 25.0% – business; 9.4% – for medical treatment, medical consultation, disease prevention, rehabilitation; 7.3% – other reasons (Fig. 3).

Among the respondents, 67.3% plan to stay in the hotel from one to three days, 19.6% – from 4 to 7 days, 10.2% – more than 7 days, the rest (2.9%) did not decide on the length of stay.

Fig. 2. Age structure of guests staying in Lviv hotels in 2018 (%)



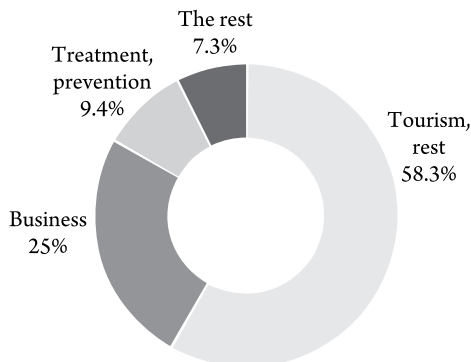
Source: own research based on information Analiz rynku vyiznyx turystiv... 2018.

More than a half of interviewed guests (53.1%) chose a hotel to stay in taking into account the quality of service, staff hospitality and room comfort. Other important criteria include the location (16.7%) and the room price (15.6%). Other criteria, such as the hotel image, room category, availability of additional services are less significant, and were mentioned by only 14.6% of the respondents.

The main source of information for a considerable group of potential hotel guests (42.7%) were recommendations of relatives and acquaintances. Information on hotel website also plays an important role (34.4%), advertising in the media is considered to be less important (15.6%) and information from other sources is mentioned by a small percentage of respondents (7.3%). 53.1% of interviewed guests choose to stay in the same hotel again; in most hotels with effective marketing, regular guests are the main category of visitors.

The main reasons for changing a hotel after the first visit include inconvenient location (30.2%), the quality of service (22.9%), room facilities (22.9%), the price of services (18.8%).

Fig. 3. Purpose of visiting given by guests staying in Lviv hotels in 2018 (%)



Source: own research based on information Analiz rynku vyiznyx turystiv... 2018.

To identify the relationship between individual factors that affect the demand for hotel services, Pearson's correlation coefficients were calculated. This coefficient describes a linear relationship and is widely used to measure the degree of dependence between two variables.

The correlation coefficient can range from -1 to $+1$. A value of $+1$ indicates a positive relationship between two variables X and Y , which means that an increase in Y is correlated with an increase in X . A value of -1 indicates a negative relationship, which means that a decrease in Y is correlated with an increase in X . If the Pearson correlation coefficient is close to 0 , there is no linear correlation between a pair of variables. The strength of the relationship is considered to be high if the value of the indicator is above 0.5 .

Based on the values of the Pearson's coefficient, it can be concluded that the occupation of hotel guests (entrepreneur, specialist, student, etc.) is positively correlated with their expectations concerning accommodation and hotel services (in all cases the correlation coefficient exceeds 0.9). At the same time, there are differences between the groups studied when it comes to certain factors. For example, 65.3% of interviewed entrepreneurs said that the main goal of visiting Lviv was to solve a business issues (the average for all respondents was 33%). 26.7% of pensioners and housewives indicated medical treatment and rehabilitation as the goal of their visit (the average for all respondents was 10.6%). Almost 90% of students and workers said they were staying for no more than three days, compared to the average of 62.4% for all respondents. Business guests primarily paid attention to the quality of service and location of the hotel (31.7% and 19.9% , respectively).

The development of the hospitality industry in Lviv has been negatively affected by the influence of the war, which significantly reduced the number of foreign visitors, causing a fall in foreign currency earnings, and the introduction of visa-free travel to EU countries, which has resulted in the declining number of Ukrainian tourists. Thanks to a developed network of low-cost airlines, Ukrainian tourists can now buy cheap flights to destinations in European countries, which, in some cases, are even cheaper than train tickets.

The development of tourism and hospitality in Lviv is hampered by an insufficiently developed network of high-speed railway connections with major regional centers in Ukraine. Considering the needs of holiday and weekend tourists, the only *Intercity* service is available between Lviv and Kyiv. Services to other major regional centers - Kharkiv, Dnipro, Odesa, are provided by regular trains with a travel time of 1.5 - 2 days.

The decline in hotel occupancy in the first half of 2019 was associated with a decrease in the tourist attractiveness of Ukraine and Lviv, in particular. Only 26.8% of tourists arriving in Lviv for holidays stay in hotels [Analiz rynku vyiznyx turystiv... 2018], the rest stay with relatives or friends (26%) and in hostels

(21.5%), rented apartments (19.3%). For this reason, Lviv needs to develop industrial production in order to attract more business tourism.

The greatest decline in occupancy rates was observed in 4-5 star hotels. These hotels are mainly focused on foreign tourists from the business segment. The development of Lviv's strategy for tourism, trade and IT sector in the last decades has led to a decrease in industrial business activity; political events have reduced the city's popularity as a destination for foreign guests. Another factor, the strengthening of the hryvnia against the dollar in 2019 reduced the attractiveness of high-category hotels for foreign tourists but has a positive effect on domestic tourists.

Another important factor for foreign guests is getting new travel experiences. The Lviv tourist offering has been available on the market in a more or less unchanged form for about 10 years and most tourists have already seen major attractions so the city has ceased to be interesting for foreign and Ukrainian tourists. Minor changes are associated with new festivals, usually intended for a narrow audience. In addition, it is necessary to take into account the change in value-based orientations, the development of new kinds of entertainment, services. Changes in hospitality services and tourism facilities will generally be an impetus for the development and renewal of the industry.

The development of tourism tends to be associated with higher costs of living, a greater strain on the local infrastructure and the transport system. Tourists increase the consumption of water and energy, the amount of waste and waste water, emissions and noise. According to a recent survey of Lviv residents, 4.2% of respondents are dissatisfied with the presence of tourists.

For hotel guests, the price-to-quality ratio is an important aspect. Fees for services in Ukraine are often similar to, or even higher than their equivalents abroad. For example, compared to the price of 2,835 UAH for a single room in Lviv (*Atlas Deluxe Hotel*), the cost of accommodation in a hotel of a similar category in Budapest (*Memories Budapest Hotel*, 4 stars, a standard room) is only 1,741 UAH., and in Cracow (*PURO Kraków Kazimiezz Hotel*) – 2,027 UAH. In neighbouring countries with a stable political and socio-economic situation, accommodation is often cheaper than in Ukraine by a factor of 1.5 or even 2. Therefore, some potential guests of Lviv hotels have decided to travel abroad, where, in addition to the price, the quality of services is higher.

Today, Lviv's development strategy focuses on social and knowledge-related areas – IT services, medical tourism, and the conference industry. These areas are financially most profitable and, according to Lviv's Tourism Management Department, offer the best prospects [Prykhid 2019]. 4-5 star hotels are actively developing in response to the growing demand in the events industry¹. The prox-

¹ MICE tourism (meetings, incentives, conferences and exhibitions), also known as the meetings industry. The incentive component is associated with trips offered to employees as a form of for targets met or exceeded, or a job well done.

imity and transport accessibility of Lviv to well-known medical centres in Europe and the demand for private quality medicine contributes to the development of this healthcare industry in the city, which is manifested by the increasing number of conferences held in hotels. Conference delegates spend more money than holiday tourists staying for a longer period of time and order, in addition to conference services, catering and other additional services.

The main areas of development in medicine – dentistry, reproductive medicine – attract foreign tourists, who are the most desirable category of hotel guests. In 2019, a number of promotional tours for Scandinavian companies were organized in Lviv. With prospects created by this new source of revenue, and given the drop in demand for recreational tourism, Lviv is planning to open four new hotels, with a view of attracting foreign tourists.

Another opportunity with a great potential for the hotel industry is the development of the IT sector. In recent years, Lviv has often been called the Silicon Valley of Eastern Europe, the most attractive place for information analysts from all over Ukraine. At the beginning of 2019, 320 IT companies based in Lviv employed more than 21 thousand people; by the end of the year this figure increased to 24 thousand people [Ukrayina – ce odne z najkrashhyx miscz ... 2018]. Lviv is attractive for IT specialists because of low taxes and low cost of living, comfortable conditions, a well-developed system of vocational education, and salaries comparable to those of European specialists. The annual growth of the industry is 25%. By virtue of the multiplier effect, the industry generates 3-4 jobs in related sectors of the economy, attracting a quarter of those involved in the production and social sphere of Lviv. The IT sector has the greatest influence on the commercial and individual real estate market and the construction industry in Lviv.

In the coming years, the development of the hotel sector depends on the socio-economic and political situation in the country. The tourism development strategy in Ukraine's main tourist centres and regions will play a significant role.

What might provide further impetus for the development of the hotel sector is the expected adoption of the Law on Gambling, which will regulate the operation of casinos in five-star hotels with a certain number of rooms depending on the region. In Kyiv, the threshold has been set at 200 rooms per hotel, in Odesa, Kharkiv, Dnipro, and Lviv – at 120 rooms, in other cities – the required minimum is 100 rooms. The adoption of this law will encourage many hotels to improve the quality of their service in order to earn a 5-star rating. The increase in the number of five-star hotels in Lviv due to the legalization of gambling will lead to the expansion of the tourism offering and to economic growth.

4. Conclusions

The study of the interdependence of agglomeration processes and the hotel industry in Lviv has revealed a mixture of positive and negative factors. The city's hotel industry is affected not only by agglomeration processes but also by the difficult political and economic situation of the whole country.

Attractive features of the Lviv agglomeration that contribute to the development of tourism, strengthened by the city's development strategy, which prioritises the tourism sector, have put Lviv at the top of the ranking of Ukrainian cities when it comes to the standard of living. The quality of life, which contributes to the growth of the agglomeration, the growing share of the urban population and the workforce, have created the economic basis for market operators and the growth in the number of hotel guests. About 10% of the urban population uses tourist accommodation facilities for temporary residence, mostly in private apartments.

There is now a strong demand for tourist accommodation provided by new hotels and the growing number of private apartments. The average occupancy rate in Lviv hotels, which is 65-75%, is similar to the European level, with a clear market orientation on thematic and boutique hotels. The proximity of Lviv to European countries, enhanced by its rich historical and cultural heritage and natural conditions, makes it popular with foreign tourists. The Lviv agglomeration is characterized by a developed social infrastructure, air route services, though land transport needs to be improved, especially the railway, which is a popular mode of transport for domestic tourists.

The recreational attractiveness of the city generates a high demand for middle-class hotel rooms, which encourages investments in 3-4-star hotels. The average period of return on investment is 7-9 years and is more favourable than in other cities in Ukraine and Europe. Also, profit margin are relatively high and, depending in the category, vary from 35% to 72% of gross revenue. The development of the IT sector and the strategy for the development of specialized medical tourism are also an opportunity for the segment of 4-5-star hotels.

The relatively high standard of living in Lviv is associated with higher costs of living and is reflected by high housing prices (rent and purchase), high fees for medical, transportation services, and food prices. The strong demand for tourism services has increased prices of hotel rooms, which are higher than their foreign counterparts. Despite the development of the hotel, Lviv's tourism offering has not changed much.

References

- A New Urban Agenda: Accommodating 2 billion New Urban Citizens*, www.pwc.co.uk/issues/megatrends/rapid-urbanisation.html [accessed: 6.11.2019].
- Alcácer J., Chung W., 2014, Location strategies for agglomeration economies, *Strategic Management Journal*, 35(12): 1749-1761.
- Analiz rynku vyiznyx turystiv, Instytut mista, 2018, <https://city-adm.lviv.ua/lmrdownloads/analizrynkuturystiv.pdf> [accessed: 9.11.2019].
- Best Places to Visit in Ukraine According to CNN, 2017, <https://destinations.com.ua/travel/best-places-to-visit-in-ukraine-according-to-cnn> [accessed: 9.11.2019].
- Ehrl P., 2013, Agglomeration economies with consistent productivity estimates, *Regional Science and Urban Economics*, 43: 751-763.
- Global Health Observatory, World Health Organization (WHO), 2017, <https://www.who.int/countries/en/> [accessed: 9.11.2019].
- International Energy Agency: The Future of Cooling, 2018, <https://www.iea.org/cooling/> [accessed: 21.10.2019].
- Luo J.M., Lam C.F., 2016, A qualitative study of urbanization effects on hotel development, *Journal of Hospitality and Tourism Management*, 29: 135-142, <https://kundoc.com/pdf-a-qualitative-study-of-urbanization-effects-on-hotel-development-.html> [accessed: 11.11.2019].
- Lviv City Council Tourism Office. ABHG Hotel Real Estate Market Analysis, 2017, <http://www.artbuild.com.ua> [access: 11.11.2019].
- Lviv Oblast, 2019, http://database.ukrcensus.gov.ua/regionalstatistics/regiontree.files/asp_tables_uk/46 [accessed: 5.11.2019].
- Malska M.P., Pandyak I.G., 2012, *Gotelnyj biznes: teoriya ta praktyka. Pidruchnyk*, 2nd ed., Kyiv: Centr navchalnoyi literatury.
- Marco-Lajara B., Claver-Cortes E., Ubeda-Garcia M., Zaragoza-Saez PC., 2016, Do Hotels Benefit from Agglomeration?, *Journal of Tourism & Hospitality*, 5(1): 1-5, doi.org/10.4172/2167-0269.1000201, <https://www.longdom.org/open-access/do-hotels-benefit-from-agglomeration-2167-0269-1000201.pdf> [accessed: 5.11.2019].
- McCroskey M.L., 1990, Arizona's community-Built Hotels, *Cornell Hotel and Restaurant Administration Quarterly*, No 31: 26-33.
- Mumford L., 2001, *Myf mashyny: Texnyka y razvytye chelovechestva*, Moskva: Logos.
- Okhrimenko A., Boiko M., Bosovska M., Melnychenko S., Poltavska O., 2019, Multi-subject Governance of the National Tourism System, *Problems and Perspectives in Management*, 17(2): 165-176, [http://dx.doi.org/10.21511/ppm.17\(2\).2019.12](http://dx.doi.org/10.21511/ppm.17(2).2019.12) [accessed: 11.11.2019].
- Prykhid V., 2019, Yak Lviv reaguye na zmenshennya kilkosti turystiv , <https://www.dw.com/uk/%D1%8F%D0%BA-%D0%BB%D1%8C%D0%B2%D1%96%D0%B2-%D1%80%D0%B5%D0%B0%D0%B3%D1%83%D1%94-%D0%BD%D0%B0-%D0%B7%D0%BC%D0%B5%D0%BD%D1%88%D0%B5%D0%BD%D0%BD-%D1%8F-%D0%BA%D1%96%D0%BB%D1%8C%D0%BA%D0%BE%D1%81%D1%82%D1%96-%D1%82%D1%83%D1%80%D0%B8%D1%81%D1%82%D1%96%D0%B2/a-48825088> [accessed: 21.10.2019].

- Rusavska V.A., 2014, Gostynnist yak chynnyk formuvannya socialno-kulturnogo prostoru mista XIX st., *Zbirnyk naukovyx pracz "Gileya: Naukovyj visnyk"*, 83: 25.
- Shen J., 2000, Chinese urbanization and urban policy, in: C.M. Lau, J. Shen (eds.), *China review*, Hong Kong: The Chinese University Press, 455-480.
- Simmel G., 2003, Velyki mista i duxovne zhyttya. Lviv: *Nezalezhnyj kulturologichnyj chasopys "Yi"*, 29: 315-329.
- The Travel and Tourism Competitiveness Report 2019, http://www3.weforum.org/docs/WEF_TTCR_2019.pdf [accessed: 6.11.2019].
- U reytingu "Najkomfortnishyx mist Ukrainy 2019", Vinnycya spustylasya na 5 misce", 2019, <https://vinbazar.com/news/suspilstvo/u-reytingu-najkomfortnishih-mist-ukrani-2019-vinnitsiya-spustylasya-na-5-mistsie> [accessed: 21.10.2019].
- Ukrayina – ce odne z najkrashhyx miszcz u Yevropi dlya rozvytku IT-biznesu, 2018, https://zaxid.net/ukrayina_tse_odne_z_naykrashhih_mists_u_yevropi_dlya_rozvytku_it_biznesu_n1460926 [accessed: 11.11.2019].
- United Nations Department of Economic and Social Affairs: 68% of the world population projected to live in urban areas by 2050, says UN, 2018, www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html [accessed: 11.11.2019].
- UTC investor and analyst meeting, March 2018, ir.utc.com/static-files/6ca68b3a-cf1c-4b45-94d4-2a8bfa8717b2 [accessed: 11.11.2019].
- Z pochatku 2019 roku sredni ciny v gotelyax znyzylasya na 6%, a rozmishhennya goteliv znachno pokrashhylasya, <http://budport.com.ua/news/15293-z-pochatku-2019-roku-serednya-vartist-nomera-u-stolichnih-gotelyah-znizylasya-na-6-a-zavantazhenist-goteliv-znachno-pokraschilasya> [accessed: 5.11.2019].
- Zajnyatist naseleennyja za stattyu, typom miscevoli ta vikovymy grupamy, 2017, http://www.ukrstat.gov.ua/operativ/operativ2017/rp/eans/eans_u/arch_znsmv_u.htm [accessed: 10.11.2019].

Współzależność procesów rozwoju aglomeracji i branży hotelarskiej we Lwowie

Streszczenie. Celem artykułu jest porównanie relacji między rynkiem usług hotelowych a rozwojem aglomeracji lwowskiej. W badaniach wykorzystano następujące metody: statystyka, kwestionariusz, analiza i konstrukcja logiczna. Badania przeprowadzono w 92 hotelach we Lwowie. Analizę raportów i badań przepływów turystycznych oraz branży hotelarsko-hotelowej przeprowadził Lwowski Urząd Turystyczny Lwowskiej Rady Miasta i Główny Urząd Statystyczny w obwodzie lwowskim. Główne zadania badawcze polegały na: identyfikacji miejsca aglomeracji lwowskiej, m.in. na Ukrainie, pod względem atrakcyjności dla życia i prowadzenia działalności gospodarczej; na identyfikacji zmian w rozwoju infrastruktury miejskiej aglomeracji lwowskiej i ich wpływu na rozwój turystyki i hotelarstwa; na scharakteryzowaniu rynku usług hotelowych; oraz znalezieniu aktualnych kierunków wykorzystania potencjału przez aglomerację lwowską w dziedzinie hotelarstwa. Główne wyniki badań: odkryto nowoczesne cechy rozwoju lwowskie-

go przemysłu hotelarskiego; niespójności procesów w aglomeracji lwowskiej jako skomplikowanego systemu relacji w przestrzeni miejskiej, a jednocześnie jako czynnika strukturyzującego ważną rolę placówek hotelarskich; pozytywne i negatywne aspekty wpływu aglomeracji na branżę hotelarską.

Słowa kluczowe: aglomeracja, przemysł hotelarski, przedsiębiorstwa hotelowe, hotelarstwo, obiekty noclegowe, hostele, czynniki

YURIY ZINKO^{*}, MARTA MALSKA^{**}, TETYANA BILA^{***}, VOLODYMYR BILANYUK^{****},
YURIY ANDREYCHUK^{*****}, IRYNA KRIBA^{*****}

Tourist-recreational Regionalization of the Lviv Agglomeration

Abstract. The article describes the methodology and methods of examining the tourist-recreational activity in urban agglomerations, also in the territorial dimension. The authors present maps showing the regional development of the tourist and recreational economy of the Lviv agglomeration taking into account its functional zones. They also provide a justification for selecting existent and prospective tourist-recreational complexes and places of interests (tourist localities) situated within the functional zones of the agglomeration – urban, suburban and peripheral ones. A number of possible tourist activities and services (products) are proposed for functional zones and selected places of interest. The authors argue that tourist-recreational regionalization must be taken into account when implementing administrative-territorial reforms in the Lviv agglomeration. In particular, it is important to create a standard set of spatial units and develop criteria for selecting them that account for the development of urban and suburban tourism in these areas.

Keywords: agglomeration, tourism, recreation, functional zones, tourism complexes, places of interest

* Ivan Franko National University of Lviv (Ukraine), Faculty of Geography, Department of Tourism, e-mail: zinkoyuriy@gmail.com, orcid.org/0000-0001-5546-6308.

** Ivan Franko National University of Lviv (Ukraine), Faculty of Geography, Department of Tourism, e-mail: malskym@ukr.net, orcid.org/0000-0001-8887-6565.

*** Ivan Franko National University of Lviv (Ukraine), Faculty of Geography, e-mail: tetianab@gmail.com, orcid.org/0000-0001-8330-4496.

**** Ivan Franko National University of Lviv (Ukraine), Geography Faculty, Physical Geography Department, e-mail: bilanyukvolodymyr2@gmail.com, orcid.org/0000-0002-6327-6907.

***** Ivan Franko National University of Lviv (Ukraine), Faculty of Geography, Constructive Geography and Cartography Department, e-mail: yuriy.andreychuk@lnu.edu.ua, orcid.org/0000-0002-4940-4319.

***** Ivan Franko National University of Lviv (Ukraine), Faculty of Foreign Languages, e-mail: ikriba@yahoo.com, orcid.org/0000-0002-2362-2959.

1. Introduction

The development of recreation and tourism in metropolitan areas is most often considered in structural, functional and spatial terms. The problem also concerns urban [Mika 2008] and suburban [Faracik 2008] tourism. Because agglomerations exercise various functions (administrative, economic, cultural, educational), they are also involved in a wide range of recreational and tourist activities that generate various kinds of tourist flows [Mika 2008].

From the spatial perspective, metropolitan areas are associated with a special type of tourism-oriented regions, namely metropolitan ones. Regions of metropolitan tourism can be described as nodes with a multidimensional development [Liszewski 2003]. A separate issue in the spatial organization of regions of metropolitan tourism is the analysis of their internal differences, which can be reflected by creating rankings of spatial entities. Such studies are important to address the inventorying and spatial planning of recreational activity and tourism in metropolitan areas. The most common approaches to the regionalization of tourism and recreational in metropolitan areas are those that focus on administrative-territorial, functional, and hierarchical-spatial (geospatial) considerations.

The relevance of research on tourism and recreational activity in Ukrainian metropolitan areas stems from the fact that these problems still do not receive enough attention [Kiptenko et al. 2017] but are important for implementing the administrative-territorial reform. The study described in the article, which focuses on the Lviv agglomeration, examines the question of selecting spatial units that are relevant from the perspective of tourist and recreational economy of the metropolitan region. The goal is to identify the current territorial structure of municipal and suburban tourism and recreational activity in the Lviv agglomeration and future directions of development in the identified spatial units. The study is based on the analysis of tourism resources, infrastructure and forms of tourism and recreational activities / services in the metropolitan center (urban zone) and in suburban and peripheral zones of the metropolis, enabling further generalizations and planning at the level of operating geospatial units – tourist-recreational complexes and points of interest (tourist localities).

The study included the following main tasks:

- delimit the Lviv agglomeration and justify its division into basic functional economic zones;
- assess the tourism-recreational potential of the basic metropolitan zones – urban, suburban and peripheral ones;
- justify the delimitation of spatial structures from the perspective of tourism and recreation within the metropolitan zones, taking into account their specialization and future directions of development.

Works of Polish researchers, in particular those related to the Poznan agglomeration, were used during the study of the territorial structure and functioning of the tourism and recreational economy of the Lviv agglomeration.

2. Methods and methodology in the study of tourist-recreational activity in metropolitan areas

From the methodological point of view, the concept of tourism space [Liszewski 1995] within metropolitan areas is important in the analysis of tourism and recreation. Three types of factors that determine the organization of tourism space (formal, functional and perceptual), as well as different types of tourism space related to certain functions (penetration, assimilation, colonization, and urbanization). Following the classification of tourism-recreational space proposed in [Liszewski 2005], a structural spatial model of a region of metropolitan tourism and recreation can be developed. In this model, the following concepts are distinguished: municipal space, the space of urbanization, the space of tourist colonization, the space of penetration, the space of tourist assimilation and quality tourism. Therefore, when studying tourist-recreational regionalization in metropolises it is important to take into account both the character of urban processes and the directions of the tourist-recreational development of these areas.

Recreational tourism activity in metropolises is often examined as an integrated form of urban and suburban tourism [Faracik 2003, 2008; Mika 2008; Makowska-Iskierka 2009, 2013]. Therefore, when addressing problems of tourist-recreational regionalization in metropolises, it is important to use the concept of a tourist business district [Getze 1993] when referring to agglomerations, and the concept of an area of tourist reception (area with a high level of tourist flows) in the context of suburban tourism [Żemła 2011; Makowska-Iskierka 2009]. In accordance with the concept proposed by P. Getze [1993], in large and medium-sized cities tourist destinations are centrally located (old part of the city) and include a considerable set of cultural and architectural objects and services. Trade and business centers also facilitate the development of areas of tourist activity in the city. Suburbs can also play a role in tourism, if they are rich in tourist attractions that is easily accessible, and if they have additional infrastructure [Makowska-Iskierka 2009]. These factors are responsible for the spatial differentiation of recreation and tourism in suburban zones.

The following research directions can be identified in the studies of tourism and recreation in Polish metropolitan areas that take into account the spatial dimension:

- studies of the characteristics of tourist flows and forms of tourist activities in municipal and suburban areas of agglomerations [Iwicki 2002; Faracik 2003, 2008; Liszewski 2005; Mika 2008; Makowska-Iskierka 2009, 2013];
- studies focusing on forms of tourism and recreation in the spatial-functional constituents of agglomerations, in particular urban, suburban and peripheral zones [Zamelska, Kaczor 2017];
- studies to facilitate the planning of tourism and recreation development of metropolitan areas for basic spatial units: larger areas (tourism areas, tourist-recreational complexes), local destinations (tourist localities) and linear formations (tourist routes) [Bródka, Miedzińska 2016].

When studying the current state of recreation and tourism and planning its future development in metropolises, one often relies on cartographic inventories of tourist attractions, infrastructure, forms of tourist activities and services (products). GIS databases provide necessary data for the purpose of regionalization in the metropolitan area. Recreational-tourist spatial units in agglomerations should be selected by applying certain principles such as constructiveness, economic and social efficiency, specialization, integrated use of regionalization and administrative division [Kuzyk 2018], inclusion of the underlying structure (zoning) of the metropolis.

In the geography of tourism, Polish researchers distinguish areas four basic territorial units: areas of tourist reception, tourist complexes, tourist localities, tourist regions as [Kurek, Mika 2008; Faracik 2008; Mika 2008; Liszewski 1995, 2003; Żemła 2011; Żabińska 2013; Basińska-Zych, Hołderna-Mielcarek 2017; Zamelska, Kaczor 2017], while Ukrainian authors use five-category classification: tourist points, tourist centers, tourist knots, tourist districts and tourist regions [Kuzyk 2018]. In the context of tourism, metropolitan areas are treated as metropolitan tourist regions in the Polish literature, while Ukrainian sources view them as tourist knots [Liszewski 2005; Kuzyk 2018].

To justify the territorial division of tourist-recreational activity in the Lviv agglomeration, the following methods were used:

- analysis of recreational-tourist resources (attractions, infrastructure, dominant forms of activities and services) in the basic functional-economic zones (urban, suburban and peripheral). They were selected taking into account the use of elements of spatial structure of urban planning set out in the General plan of Lviv [Shabliy (ed.) 2012];
- classification of units for purposes of regionalization: recreational-tourist units in the agglomeration, recreational-tourist complexes, encompassing a certain homogeneous and interconnected set of attractions, infrastructure and offering specialised forms of activities/services; tourist points (tourist localities) as specific objects with certain tourist-recreational functions.

– future forms of recreational-tourist activities and services for the basic functional-economic zones of the Lviv agglomeration and indentified complexes and points (localities) were planned using documents describing the development of the city of Lviv and other units of suburban areas (territorial communities and administrative units) [Gabrel, Hromyak, Lysiak 2007; *Shema planuvannia terytorii Lvivskoyi oblasti...* 2009; Zinko, Malska, Mandiuk 2009; Lozynskiy, Kostiuk 2011; Dubyna 2013].

In the process of developing approaches to regionalization and planning the future development of tourist-recreational resources in the Lviv agglomeration, the authors also considered recommendations for the development of the tourism industry in the Lviv region¹ until 2031 [*Shema planuvannia terytorii Lvivskoyi oblasti...* 2009; Zinko, Malska, Mandiuk 2009]. In this context, nature conservation and recreational zones analogical with the reception and recreational territories in plan developments in the Poznan agglomeration [Kaczmarek, Mikula (eds.) 2016; Bródka, Miedzińska 2016] were used as a basic unit of territorial planning.

3. Tourism and recreation in the functional-economic zones of the Lviv agglomeration

The formation and management of the Lviv agglomeration is in its initial stage. At present, the document “Preliminary location of the Lviv agglomeration” [Gabrel, Hromyak, Lysiak 2007] is being developed. The structure and delimitation of the Lviv agglomeration has not been finalised yet. To justify the delimitation of the Lviv agglomeration different criteria and indexes are applied: population density and employment rates, accessibility of infrastructure [Lozynskiy, Kostiuk 2011; Glynskiy 2012; Dubyna 2013; Natalenko (ed.) 2017]. All this research work has resulted in the formulation of a few different functional-spatial models of the Lviv agglomeration. Taking into account population density and functional connections with the center of the metropolis, Lozynskiy, Kostiuk [2011] suggest including settlements adjacent to the city of Lviv with a considerable population density, in particular the towns of Vynnyky and Dubliany, the settlement of Rudno and 14 rural councils. In its justification of the General plan of Lviv (2011-2025), the research institute “Mistoproekt” (Lviv), distinguishes between the core and the external zone as a compound of the Lviv agglomeration within the limits of the 2-3-kilometre zone of influence of the ring road zone

¹ An *oblast* (Ukrainian: *область*), usually translated as a region in English, is one of Ukraine's 24 primary administrative units.

[Shabliiy (ed.) 2012; Dubyna 2013]. In the design plan these zones are treated as a metropolitan system known as Greater Lviv. Lviv (the center of the system), the towns of Vynnyky and Dubliany, the settlements of Briukhovychi and Rudno and 22 rural councils with a general area of 30 thousands hectares are included in this system. The total population of the metropolitan Greater Lviv is 816 thousand, including 83 thousand living outside the city [Dubyna 2013]. The project document of the “Mistoproekt” institute specifies Lviv’s zone of suburban settlement [Shabliiy (ed.) 2012] – a special peripheral zone of the Lviv agglomeration. It includes the following settlements of adjacent to administrative districts: Pustomyty (with the town of Pustomyty and the urban-rural Shchyrets), Horodok (with the Horodok town and the urban-rural Lyubin), Mykolaiv, Kamianka Buska, Peremyshliany, Zhovkva (with the urban-rural of Kulykiv), Yavoriv (with the urban-rural of Ivano-Frankove). The zone of suburban construction is located within the 15-25 kilometre distance from the borders of Lviv. In the study of the

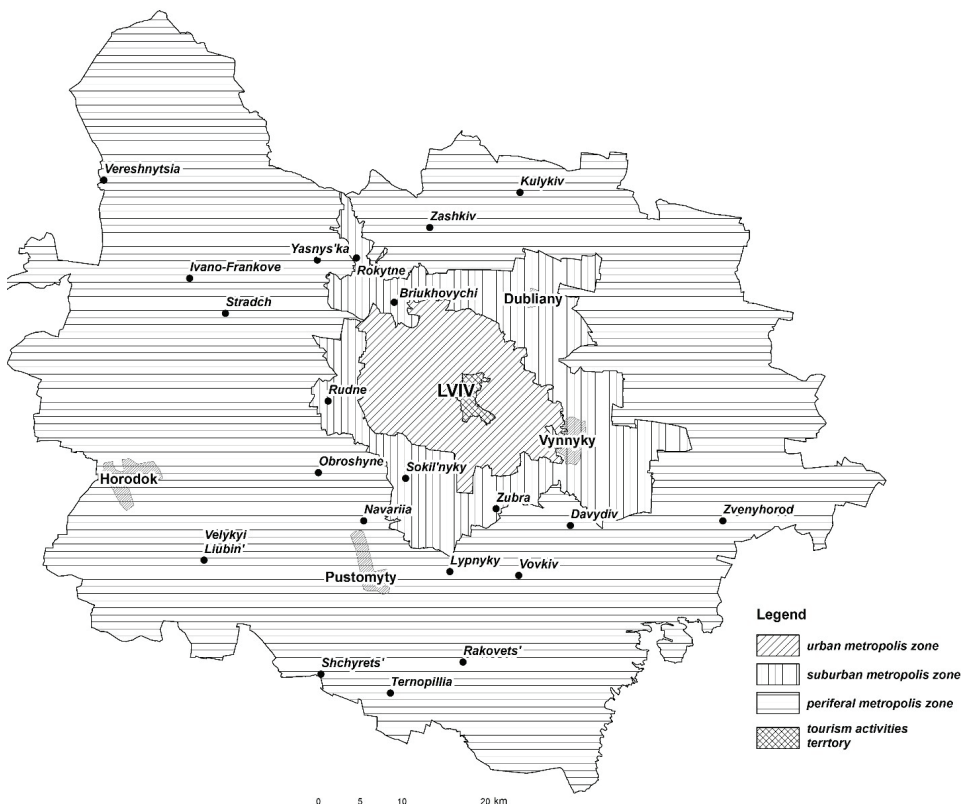


Fig. 1. The zoning plan of the Lviv agglomeration

Source: based on Shabliiy (ed.) 2012.

territorial structure of tourist-recreational resources in the Lviv agglomeration, the authors used the above-mentioned spatial model of the metropolis, proposed by the “Mistoproekt” Institute including some corrections by the corresponding research author (Fig. 1).

By analogy with the territorial division of metropolitan areas into functional-economic zones, which is used in tourist-recreational research of metropolises [Bródka, Miedzińska 2016; Basińska-Zych, Holderna-Mielcarek 2017; Zamel-ska, Kaczor 2017] the territory of the Lviv agglomeration was divided into: *ZI* – the *urban zone*, including the territory of the Lviv City Council; the *external zone* – suburban area, including Lviv’s zone of influence, specifically, 2 urban, 2 urban-rural and 22 rural councils; and the *peripheral zone*, encompassing housing developments in the suburban areas of 7 adjacent administrative districts. Each metropolitan zone is characterised by a set of tourist attractions, infrastructure and dominant types of tourist-recreational activities and services (products). It is possible to argue that the urban zone can be treated as an area with the prevalence of municipal tourism, while the suburban and peripheral zones exhibit features typical of suburban tourism.

Tourism is an important type of activity in metropolitan areas. With regard to tourism and recreation, a metropolis offers a number of different products [Żemła 2011]. Spatial heterogeneity in the development of basic constituents of the tourist-recreational economy is a characteristic feature of any metropolis. What follows below is a description of the current development of the dominant types of tourism – municipal and suburban, in the basic functional-economic zones of the Lviv agglomeration.

According to A. Matczak [Matczak, Płoński 2008], in the analysis of municipal tourism one should distinguish between primary (surroundings, entertainment), secondary (infrastructure) and additional elements. Urban tourism in the *urban zone* of the Lviv agglomeration is primarily determined by the architectural heritage, history and the urban character of the city of Lviv, as well its places of cultural heritage (theatres and museums). In the last decades places of worship, festivals, restaurants, places of entertainment, shopping centers, as well as thematic fairs and conference events have become increasingly important for the growth of tourism. This is manifested by the rapid increase in the accommodation infrastructure: between 2008 and 2013 the number of hotels grew from 28 to 78, and reaching 113 at the beginning of 2019 [Pandiak 2018]. The number of budget accommodation facilities, such as hostels, is growing particularly fast. At present there are about 120, with the highest concentration in the centre of the city. With respect to the main types of urban tourism in Lviv, the following ones can be listed: cultural tourism, festival and gastronomic tourism, business tourism, sentimental tourism and recreation in the city. These forms of tourism have become the basis for the development of branded, basic and niche tourism products in Lviv.

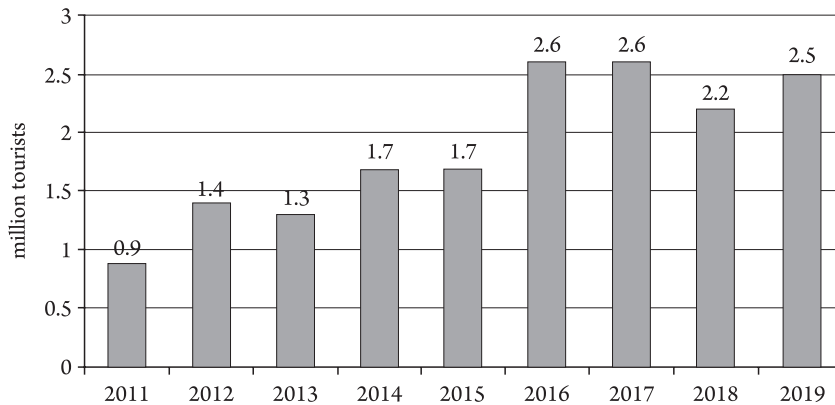


Fig. 2. Number of tourists arriving in Lviv in 2011-2019

Source: based on *Publichnyi zvit Upravlinnia turyzmu...* 2019.

Statistical data about tourist flows to the city confirm positive dynamics. For the last decade the number of visitors has grown from 0.9-1.4 million in 2011-2013 to 2.2-2.6 million in 2016-2019 (Fig. 2). At the same time, the number of tourists arriving by air is growing: the total number of passengers passing through by King Danylo airport in Lviv reached 1.9 million people. Categorised by the country of origin, the majority of the tourist traffic is generated by domestic tourists (56%), while foreign tourists mostly arrive from Poland, Belarus, Turkey [*Publichnyi zvit Upravlinnia turyzmu...* 2019].

The *suburban and peripheral zones* of the Lviv agglomeration are home to various types of suburban tourism. Most suburban administrative districts include a considerable proportion of wooded areas (from 17 to 33%), and large areas of these forests have a recreational and curative value. Protected areas – the Yavoriv national park, the “Roztochchya” nature reserve, the regional landscape park “Stilsk highlands” and a number of forest wildlife reserves increase the tourist attractiveness of metropolitan suburban areas.

The main attractions of these zones include forest parks (Vynnyky, Briukhovuchi), water reservoirs with waterfront infrastructure (Briukhovuchi, Rodatychi, Navariya, Vynnyky) or partly reclaimed quarry water reservoirs (Yasnyska, Zadorozhne), and ponds for amateur fishing.

Resources of historical and cultural tourism in the suburban-peripheral zones are represented by architectural complexes, places of worship, historical monuments, ethnographic settlements. The most famous sites include Horodok architectural complexes, Zvenyhorod Museum Complex, the Stradch Cave Monastery. A large number of religious objects – historical and cultural monuments are situated in Horodok, Shchyrets, Kulykiv, Navariya, Sokilnyky. A number of suburban cultural heritage sites are of great value for Polish and German history:

burial places of prominent historical people (Ivano-Frankove, former Yaniv), German colonies (Vizenberg, Khorosno, Ternopillya, Sokolivka).

The well-developed accommodation, sport-recreational and catering infrastructure is an important factor that stimulates the development of tourism in the suburban and peripheral zones of the metropolis. The accommodation facilities include different types of establishments, such as hotels, motels, holiday resorts and hotel-recreation complexes (Table 1). On the whole, there are 103 tourist establishments with total capacity 5120 beds [Bila 2012].

Hotels provide most of the available beds (32.6%), but the proportion of beds at hotel-recreation complexes is growing rapidly. As evident from Table 1, most accommodation facilities are located in areas adjacent to the districts of the city of Lviv, such as Pustomyty (34.7%) having the longest border with Lviv, with a number of hotel-recreation complexes (64.9%) and motels (59.9%). 13% of all available beds, hotel establishments, hotel-recreation complexes (Vynnyky) and holiday resorts are concentrated in the Vynnyky urban council and Briukhovychi urban council adjacent to the city of Lviv.

Table 1. Beds available in tourist establishments located in the suburban and peripheral zones of the Lviv agglomeration

No.	Administrative districts and urban-rural councils of Lviv	Number of town, urban-rural and rural councils	Total number		Hotels	Motels	Hotel-recreation establishments	Holiday resorts	Children summer camps
			Total	%					
1.	Briukhovychi urban-rural council	1	383	7,5	155	138	25	65	–
2.	Vynnyky urban council	1	284	5.6	136	28	120	–	–
3.	Horodok district	28	438	8.6	65	75	98	200	–
4.	Zhovkva district	31	740	14.5	338	60	–	106	236
5.	Kamianka-Buska district	17	127	2.4	127	–	–	–	–
6.	Mykolaiv district	19	350	6.8	290	–	–	60	–
7.	Premyshliany district	11	289	5.6	–	15	–	210	64
8.	Pustomyty district	41	1776	34.7	403	661	394	273	45
9.	Yavoriv district	20	773	14.3	156	136	–	441	–
Total		169	5120	100	1670	1113	637	1355	345

Source: personal collection.

The analysis of recreational-tourist activities in the external and peripheral zones of the Lviv agglomeration indicates that they exploit the existing tourism resources, infrastructure and cater for demand from the urban population [Bila 2012]. The most popular form of tourism involves short-term stays (1-2 days) to rest in forests and near water reservoirs. This rest can take place both in forest-park and forest areas with or without recreational infrastructure.

Tourists travelling along the ring road are catered for by a number of hotels and restaurants. A richer leisure product is offered by the suburban hotel-recreation complexes: “Bukhta Vikinhiv”, “Ozernyi Krai”, “Uzlyssya”, “Drevniy Hrad”, where in addition to comfortable stay, visitors can enjoy active types of tourist activities (water, equestrian, bicycle). The balneological resort in Liubin Velykyi, which has a long history, provides recreational services. Tourists can also take advantage of marked bicycle and pedestrian thematic routes. Special water reservoirs provided by hotel-recreational complexes make it possible to practise amateur fishing.

Nature tourism for educational groups is organized in the Yavoriv national park and the Roztochchya reserve. Some suburbs specialize in cultural and religious tourism. Most popular excursions involves trips to historical and architectural complexes and places of worship: the Stradch cave, historical and architectural complexes of Horodok, Ivano-Frankove (Yaniv), Zvenyhorod.

Based on the archived sources and maps of different periods, 5 historical stages of suburban tourism were identified [Bila 2013: 1] the beginning of 14th – the end of 18th century: the origins of suburban tourism; 2) early 19th century – early 20th century: suburban tourism as a complementary element of urban tourism; 3) the inter-war period: suburban tourism as an independent type of recreational-tourist activities; 1950s-1980s: the Soviet period characterised by an active development of the infrastructure and mass tourism; 5) the modern period associated with the formation of the territorial subsystem of the Lviv agglomeration.

4. Tourist-recreational regionalization of the functional zones of the Lviv agglomeration

Regionalization of tourist-recreational resources of the Lviv agglomeration consisted in identifying within the basic zones (urban, suburban and peripheral) various types of units characterised by a tourist-recreational specialization. Taking into account tourist attractions, the infrastructure of services and dominant forms of tourist-recreational resources and services (products), two types of spatial structures can be distinguished: *tourist-recreational complexes* and *tourist-*

recreational points (tourist localities). From the functional point of view, they can be divided into existing and prospective one.

In the *urban zone*, taking into account the concept of *Tourist Business District* [Getze 1993] the following tourist-recreational types and subtypes of complexes can be distinguished:

a) existing tourist-recreational complexes (Table 2):

- the old town, characterised by a high intensity of cultural-gastronomic tourism based on a well-developed (spatially compact) accommodation, catering and entertainment infrastructure,
- clusters of parks and places of worship, used for recreation and dark tourism (visiting memorial places) and recreational-excursion infrastructure,
- clusters of areas with summer houses, which are used for recreation and gardening activities, with the dominance of temporal economic cottages.

b) prospective tourist-recreational complexes:

- sport-entertainment tourism exploiting the possibilities offered by the Lviv stadium and adjacent (spatially compact) areas,
- shopping tourism, entertainment activities and business tourism that exploits clusters of shopping, entertainment and business centers.

One can also expect considerable possibilities regarding certain new specialized forms of tourist-recreational resources in relation to the construction of

Table 2. Future directions of development of existing tourist-recreational complexes in the urban zone of the Lviv agglomeration

Tourist-recreational complexes	Proposed forms of tourist-recreational resources and products/services	Future forms of tourist-recreational resources and products/services
Compact complex “Old city” based on the historical city centre – UNESCO world heritage site	Forms of activities: cultural and festival tourism Types of products and services: gastronomic, entertainment, excursions	Forms of activities: religious and business tourism Types of products and services: specialized gastronomic and ecological transport
Cluster complex including parks and memorial places	Forms of activities: short-term rest, memorial and sentimental tourism Types of products and services: excursions	Forms of activities: ecological tourism and sport in parks, country studies Types of products and services: ecological and informational-educational
Cluster complex consisting of summer house plots	Forms of activities: short-term rest, gardening activities	Forms of activities: seasonal rest based on the constructed “second homes”

Source: own elaboration.

a congress center in Lviv and infrastructural development around the King Danylo airport and railway station.

In the nearest future in the downtown of Lviv, conditions for specialized gastronomic and conference tourism along the peripheries of the city should be created. Also, the trend consisting in suburban summer houses being used as second homes for rest and leisure is going to continue.

When trying to conduct regionalization of the urban zone one is faced with the problem of delimiting existing types of tourist-recreational complexes. For example, the limits of the tourist-recreational complex “Old city” were on the basis of the borders of the pedestrian zone which are used for outlining areas of tourist activity in historical-cultural places. In addition, the limits of historical-cultural reserve of Lviv included in the UNESCO world heritage list were taken into consideration. For cluster tourist-recreational complexes including parks and memorial sites (cemeteries) and territories used for summer houses, spatial configuration was determined on the basis of the location of the main attractions and places of concentration of tourists.

As for future directions of development of existing tourist-recreational complexes within the limits of the urban zone, they should be associated with innovative and modern forms of tourist activities, as well as development of existing tourist products and expansion of specialized services (e.g. Table 2).

In the nearest future, it is very important for the “Old city” complex to implement programs for business and religious tourism, to develop new specialized gastronomic and ecological transport services. Cluster complexes including parks and memorial places should focus on developing infrastructure for sport and ecological activities in parks and providing other local activities. With respect to existing areas used for summer houses at the outskirts of the city, one can observe a trend of converting them into the second homes for long-term seasonal rest.

In the suburban and peripheral zones of the Lviv agglomeration the following tourist-recreational complexes (Table 3) can be distinguished: complexes including suburban forests and parks used for rest and recreation and for active tourism in sites with and without recreational infrastructure (suburban zone), complexes providing services for tourists travelling along the ring road (suburban zone), complexes exploiting water reservoirs used for rest and active tourism (peripheral zone): specialized complexes (hotel-restaurant, rest) with a wide spectrum of tourist-recreational resources (suburban and peripheral zones). In addition, a number of tourist points (tourist localities), used for cultural tourism (Ivano-Frankove, Zvenyhorod), recreational-curative activities (resort Liubin Velykyi), rural, ethnographic, sentimental tourism as well as complex services for tourists (accommodation and catering) is distinguished in the suburban and peripheral zones of the metropolis.

Table 3. Future directions of development of existent tourist-recreational complexes in the suburban and peripheral zones of the Lviv agglomeration

Tourist-recreational complexes	Existing forms of tourist activities and products	Future forms of tourist activities and products
Suburban zone		
Complexes including suburban forests and parks (Vynnyky, Briukhovychi)	Forms of activities: rest in the forest and near the water, active tourism Types of products and services: Complex services on the rest sites	Forms of activities: pedestrian and bicycle tourism with marked roads Types of products and services: Rest and recreation on the equipped water reservoirs (Vynnyky, Briukhovychi)
Complexes including hotels and restaurants along the ring road	Forms of activities: services for travelling tourists Types of products and services: accommodation, gastronomic	Forms of activities: short-term rest on the equipped sites by the roads Types of products and services: expanding range of services (shopping, entertainment)
Peripheral zone		
Complexes including water reservoirs with waterfront infrastructure	Forms of activities: rest by the water Types of products and services: accommodation, gastronomic, rental of equipment	Forms of activities: different forms of active tourism Types of products and services: niche products for water reservoirs with waterfront infrastructure
Suburban-peripheral zone		
Specialized complexes with leisure tourist products (hotel-restaurant and recreational complexes "Bukhta Vikinhiv", „Ozernyi Krai", „Uzlisyya", „Drevniy Hrad",	Forms of activities: rest in the forest and by the water, active tourism, leisure Types of products and services: recreation and rest product and night lodging, gastronomic services	Forms of activities: conference tourism and visiting thematic parks and exhibitions Types of products and services: expanding services and recreation and rest product

Source: own elaboration.

There are certain prerequisites (resource, infrastructural) for the development of future tourist-recreational complexes of nature and local tourism (peripheral zone) that exploit protected areas – the Yavoriv national park and regional landscape park “Stilsk highlands” and recreation complexes including forested areas (Obroshyno-Lapaivka, Lypnyky) and reclaimed quarry water reservoirs (Yasnyska, Zadorozhne) in the peripheral zone.

The tourist-recreational complexes identified in the suburban-peripheral zones are examples of clusters. As a rule, complexes including forest-parks and forested areas and protected areas are relatively large. Complexes including water reservoirs and rest places are relatively small and considerably dispersed.

5. Problems associated with spatial differentiation of tourist-recreational resources in metropolitan areas

The regionalization of tourist-recreational resources in metropolitan areas can be conducted by taking into consideration various aspects, such as:

- specifying hierarchical spatial units, from metropolitan tourist region (knot) and to tourist points (localities);
- specifying limits and optimal sets of indexes and descriptions for tourist-recreational spatial units (complexes, localities) at different levels;
- indicating criteria for selecting spatial units for basic functional-economic zones of a metropolis: urban, suburban and peripheral ones.

It is necessary to stress that regionalisation of tourist-recreational resources in metropolitan areas is important for identifying existing and future resources of the studied areas for the purpose of spatial planning [Liszewski 2005; Bródka, Miedzińska 2016].

While conducting regionalization in the urban (central) zone of a metropolis, special attention should be paid to delimitation criteria that are used to identify spatial tourist-recreational units. These can include resource and infrastructural descriptions and features of tourist movement. At the same time, one should also consider modern trends in the development of new spatial recreational-tourist structures in metropolises, such as business centers, shopping and entertainment centers and transport objects (train stations, airports) [Mika 2008]. They are special kernels for potential spatial structures.

With respect to suburban and peripheral zones of metropolitan areas, the challenge associated with the regionalization of tourist-recreational resources, both when it comes to creating an inventory of resources and planning, is the uneven and dispersed location of natural and cultural tourist resources, tourist and auxiliary infrastructure, as well as tourist movement. This requires the use of bigger spatial units (reception territories, complexes, localities). Point spatial units (tourist points) with various attractions and monofunctional and multifunctional services provide detailed informations about the spatial structure of the tourist-recreational resources in these zones [Kaczmarek, Mięka (eds.) 2016;

Bródka, Miedzińska 2016]. In this context, it is important to rely on multidimensional research of tourist flows from city cores in order to validate and plan the configuration of basic destination areas and points.

6. Conclusions

For the tourist-recreational reorganization of metropolises it is important to develop a standard set of spatial units and criteria for their selection. These spatial units should have certain features specific for urban tourism in the urban zone and for suburban tourism in the suburban and peripheral zones of the metropolis. There are two basic models of how to conduct tourist-recreational reorganization of metropolitan areas as tourist regions: using spatial units applied in the geography of tourism (1st model), and units of metropolitan zoning (2nd model). Reorganization must become an essential component both for diagnostics of the modern state and for future spatial management of tourist-recreational resources in metropolitan areas.

In the map showing the reorganized division of recreational-tourist activities in the Lviv agglomeration, the current state and prospects for future development are presented stage-by-stage for basic functional-economic zones – urban, suburban and peripheral ones, – as well as for the identified spatial tourist units – tourist complexes and tourist points (localities) treated as metropolitan components. For specific functional and tourist spatial units of the metropolis, basic descriptions are provided by listing tourist resources and infrastructure, forms of tourist activities and products. These spatial units should become the basis for planning future directions of development of tourism in the metropolis, specifically, tourist products for zones and complexes, and tourist (service) functions for tourist points (localities).

Specific details of the spatial structure of tourist-recreational resources in the Lviv agglomeration derive from a special combination of existing and prospective territorial structures related to urban and suburban tourism. The modern state and future development of tourism in the identified territorial units should be taken into account in the process of implementing the administrative-territorial reform within the agglomeration: the creation of the “Big Lviv” system and large territorial communities in the suburban zone.

Long-term research of the development of tourism and recreation in metropolitan areas, realized under the aegis of Poznan School of Banking, focused on three Polish agglomerations: Poznan, Wroclaw and Cracow. Interdisciplinary research of tourism and recreation in these agglomerations made it possible to

obtain interesting results that are important both for current management and future planning. The participation of scientific institutions from Ukraine in the project, which investigate the tourist-recreational resources of the Lviv agglomeration (Ivan Franko National University of Lviv) and the Kyiv metropolis (Taras Shevchenko National University of Kyiv), will help to extend the geographical scope of the research (Central-Eastern Europe) and strengthen its interdisciplinary character thanks to the involvement of specialists in geography, economy and spatial planning.

References

- Basińska-Zych A., Hołderna-Mielcarek B., 2017, Social and economic conditioning of recreational activity and migration of inhabitants of the Poznań Metropolis, *Studia Periegetica*, 4(20): 39-64.
- Bila T., 2012, Prymiskiy turizm m. Lvova, *Geografia ta turizm*, 19: 121-130.
- Bila T., 2013, Etapy rozvytku rekreacii i turyzmu prymiskoyi zony mista Lvova (vid XIV do seredyiny XX st.), *Istoriya ukrainskoji geografii. Vseukrainskiy naukovo-teoretychnyi chasopys*, 27: 132-142.
- Bródka S., Miedzińska I., 2016, Turystyka i rekreacja, in: T. Kaczmarek, Ł. Mikuła (eds.), *Koncepcja kierunków rozwoju przestrzennego metropolii Poznań*, Poznań: Centrum Badań Metropolitalnych Uniwersytet im. Adama Mickiewicza w Poznaniu, 85-114.
- Gabrel M., Hromyak J., Lysiak N., 2007, Osnovni vymogy do Projektu "Tymchasovogo polozhennia pro Lvivsku aglomeraciyu", *Visnyk Nacionalnogo universytetu "Lvivska Politehnika"*, 605: 66-70.
- Getze P., 1993, Planing for tourism business districts, *Annales of Tourism Research*, 20(4): 583-600.
- Glynskiy N., 2012, Charakterystyka Lvivskoi aglomeracii yak megatovaru, Lviv Polytechnic National University Institutional Repository, <http://ena.lp.edu.ua> [accessed: 13.10.2019].
- Dubyna V., 2013, Rozvytok Lvova za Generalnym planom 2011-2025 rr., *Istoriya ukrainskoji geografii. Vseukrainskiy naukovo-teoretychnyi chasopys*, 27: 53-55.
- Faracik R., 2003, The state of research on tourism and recreation in suburban zones of major polish cities, *Prace Geograficzne*, 111: 105-127.
- Faracik R., 2008, Turystyka podmiejska, in: W. Kurek (ed.), *Turystyka*, Warszawa: Wydawnictwo Naukowe PWN, 328-330.
- Iwicki S., 2002, Przyrodnicze i ekonomiczne uwarunkowania rozwoju rekreacji w strefach podmiejskich dużych miast, *Zeszyty Naukowe Wyższej Pomorskiej Szkoły Turystyki i Hotelarstwa w Bydgoszczy*, 2: 121-130.
- Kaczmarek T., Mikuła Ł. (eds.), 2016, *Koncepcja kierunków rozwoju przestrzennego metropolii Poznań*, Poznań: Centrum Badań Metropolitalnych Uniwersytet im. Adama Mickiewicza w Poznaniu.
- Kiptenko V., Lyubitseva O., Malska M., Rutynskyi M., Zan'ko Yu., Zinko Yu., 2017, Geography of tourism of the Ukraine, in: K. Widawski, J. Wyrzykowski (eds.), *Geo-*

- graphy of tourism of Central and Eastern Europe countries, 2nd ed., Basel: Springer International Publishing AG, 509-551.
- Kurek W., Mika M., 2008, Turystyczne jednostki przestrzenne, in: W. Kurek (ed.), *Turystyka*, Warszawa: Wydawnictwo Naukowe PWN, 27-30.
- Kuzyk S., 2018, Osnovy regionalizacii turizmu, in: D. Kadnichanskiy (ed.), *Geografia, ekonomika i turizm: nacionalnyi i mizhnarodnyi dosvid*, Lviv, 171-177.
- Liszewski S., 1995, Przestrzeń turystyczna, *Turizm*, 5(2): 87-103.
- Liszewski S., 2003, Region turystyczny, *Turizm*, 13(1): 43-54.
- Liszewski S., 2005, Koncepcje zintegrowanych badań nad turystyką, in: B. Domański, S. Skiba (eds.), *Geografia i sacrum*, vol. 2, Kraków: IGI GP UJ, 105-113.
- Lozynskiy R., Kostiuk I., 2011, Suchasni mezhi Lvivskoyi miskoyi aglomeracii, *Naukovi zapysky Ternopilskogo nacionalnogo pedagogichnogo universytetu im. Volodymyra Gnatiuka, Seriya: Geografia*, 2: 55-60.
- Makowska-Iskierka M., 2009, Procesy urbanizacyjne na terenach turystyczno-wypoczynkowych strefy podmiejskiej Łodzi (koncepcja pracy doktorskiej), *Prace Geograficzne*, 121: 117-224.
- Makowska-Iskierka M., 2013, Konsekwencje przestrzenno-fizjonomiczne urbanizacji turystycznej w Łódzkim Obszarze Metropolitalnym, *Turizm*, 23(2): 35-45.
- Matczak A., Płoński A., 2008, Badania turystyki miejskiej w Wielkiej Brytanii, in: A. Matczak (ed.), *Turystyka miejska*, Bydgoszcz: Wydawnictwo Uczelniane WSG.
- Mika M., 2008, Turystyka miejska, in: W. Kurek (ed.) *Turystyka*, Warszawa: Wydawnictwo Naukowe PWN, 319-328.
- Natalenko N. (ed.), 2017, *Agglomeracii: mizhnarodnyi dosvid, tendencii, vysnovky dla Ukrainy. Analitychna zapyska*, Kyiv: Instytut gromadianskogo suspilstva.
- Pandiak I., 2018, Stalyi rozvytok hotelnoyi industrii, *Naukovi visnyk Hersonskogo derzhavnogo universytetu. Seriya geograf. nauk*, 8: 276-281.
- Publichnyi zvit Upravlinnia turizmu ta LKP „Centr rozvytku turizmu m. Lvova”, 2019, Lvivska miska Rada, <https://city-adm.lviv.ua/lmrdownloads/zvitturizm2019.pdf> [accessed: 23.11.2019].
- Shabliy O. (ed.), 2012, *Lviv: kompleksnyi atlas*, Kyiv: DNVP “Kartografia”.
- Shema planuvannia terytorii Lvivskoyi oblasti do 2031 roku, 2009, Kyiv: Ukrainskiy derzhavnyi naukovo-doslidnyi instytut proektuvannia mist “Dipromisto”.
- Zamelska M., Kaczor B., 2017, Social and geographical conditions influencing tourist and recreational migrations of inhabitants of the Poznań Metropolis, *Studia Periegetica*, 4(20): 87-109.
- Zinko Yu., Malska M., Mandiuk N., 2009, Model terytorialnoji organizacii sanatorno-kurotnoji ta rekreacyjno-turystychnoji galuzi Lvivshchyny do 2031 roku, in: M. Malska (ed.), *Geografia i turizm: europejskiy dosvid*, Lviv, 442-449.
- Żabińska T., 2013, Turystyka w dużych miastach i metropoliach. Wybrane problemy rozwoju i zarządzania, in: T. Żabińska (ed.), *Studia Ekonomiczne. Zeszyty Naukowe Wydziałowe Uniwersytetu Ekonomicznego w Katowicach*, 147: 133-153.
- Żemła M., 2011, Rola mieszkańców w budowie produktu obszaru recepcji turystycznej – przyczynek do dyskusji, *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 157: 1072-1081.

Regionalizacja turystyczno-rekreacyjna metropolii lwowskiej

Streszczenie. W artykule wzięto pod uwagę metodologię i metody badania sfery turystyczno-rekreacyjnej aglomeracji miejskich, także w wymiarze terytorialnym. Na mapie ukazano rozwój regionalny gospodarki turystyczno-rekreacyjnej metropolii lwowskiej, z uwzględnieniem jej stref funkcjonalno-ekonomicznych. Na tej podstawie wybrano istniejące i potencjalne kompleksy turystyczno-rekreacyjne oraz punkty turystyczne (obszary turystyczne) w strefach funkcjonalnych metropolii – miejskiej, podmiejskiej i peryferyjnej. Zaproponowano formy aktywności i usługi turystyczne (produkty), które mogą być wykorzystane przez władze lokalne i innych interesariuszy. Autorzy argumentują, że przy wdrażaniu reformy administracyjno-terytorialnej w metropolii lwowskiej należy mieć na uwadze regionalizację turystyczno-rekreacyjną. Dla regionalizacji sfery turystyczno-rekreacyjnej metropolii szczególnie ważne jest opracowanie standardowego zestawu jednostek przestrzennych i kryteriów ich alokacji, z uwzględnieniem specyfiki rozwoju turystyki miejskiej i podmiejskiej na tych obszarach.

Słowa kluczowe: aglomeracja, turystyka, rekreacja, strefy funkcjonalne, ośrodki turystyczne, miejsca o charakterze turystycznym

Editorial requirements

I. Size of manuscript – up to 40 000 characters (roughly 22 pages, 1800 characters per page) including tables and figures. The size of one attachment cannot be larger than 20 MB.

II. Required files

1. Files with the main part of the manuscript (without authors' data, format *.doc):

- title of the article in English and Polish
- concise and factual abstract in English and Polish, from 150 to 300 words, prepared according to structure:
 - purpose
 - methods
 - results
 - conclusions
- keywords in English and Polish (up to 8 words)
- JEL codes: code 1; code 2; code 3 (maximal 3 codes, according to the website of American Economic Association: <https://www.aeaweb.org/econlit/jelCodes.php>)
- introduction
- body text – organized into chapters/sections, each with a unique title
- conclusion (findings, recommendations)
- bibliography – complete list of referenced sources

2. Files with the title page including authors' data (format *.doc):

- author's first and last name
- academic degree/title
- organization/institution (if applicable)
- ORCID number
- e-mail address
- mailing address

3. Tables

- numbered consecutively and consistently using Arabic numerals
- include a caption and a reference to the data source (e.g. *own research*)
- tables should be referenced in the text by their number rather than expressions such as "above" or "below" (e.g. *cf. Table 1*, not: *see table above/below*)
- do not include blank cells
- any abbreviations used must be expanded below the table

4. Figures, photos and graphics

- editable (formats: *.jpg, *.tif or *.xls)
- photographs – supply source files (preferably *.tif); minimum resolution: 300 dpi
- all figures should be numbered consecutively using Arabic numerals
- for any artwork that has already been published elsewhere, indicate the original source (or otherwise state Source: *own research*)
- apply no lettering in white against black background, whether in bold or italics, and no black fills or excess frames
- if the figure is referenced in the text, use its number rather than expressions such as "above" or "below" (e.g. *cf. Fig. 1*, not: *see figure above/below*)
- provide explanations of any abbreviations used

III. Body text

- margins: 2.5 cm each
- continuous throughout the text, using Arabic numerals, placed at the bottom of page (footer)
- typeface: Times New Roman, 12 pts
- line spacing: 1.5 line
- highlights or emphasis: apply **bold** print
- foreign (non-vernacular) words and expressions: *italicized*
- people's names: give full name (including all given names and last name) at first mention; for any further references – quote last name only
- abbreviations and acronyms: when first used, give the complete phrase (name), including its abbreviation in brackets; onwards – use abbreviation only

IV. In-text citations

- placed within the text and enclosed in square brackets: author's/ editor's last name, publication year [colon], page or page range, e.g. [Meyer 2010: 31-40] or [Dubisz (ed.) 2003: vol. 3, 104]

- when there are more than three authors, give the name of the first (primary) author only, followed by the phrase *et al.*: [Kaczmarek et al. 2005: 56-67]
- when no author/ editor is indicated, three to five initial words of the title (of a published work) should be provided instead: [The Norton Anthology 2012]
- if reports or studies are referenced, the name of the sponsoring institution and the year of publication should be given: [Eurostat 2014] or [GUS 2015]
- additional information may be included if deemed necessary or appropriate, e.g.: [cf. Hadzik 2009: 38] or [as cited in Szromek 2010: 52]
- when simultaneously referencing more than one source, quote these in chronological order, separating them with semicolons: [Mansfeld 1987: 101-123; Jagusiewicz 2001: 40-73; Meyer 2010: 89-101]
- if citing multiple works published by the same author in the same year, subsequent letters of alphabet should be appended to the publication year to disambiguate the references, e.g.: [Nowak 2014a, 2014b]

Other references and footnotes:

- any additional **comments or explanations**, references to **legislation, court rulings and decisions**, as well as links to **websites** that are provided outside the body text must be numbered consecutively and placed at the **page bottom (footnote)**
- footnotes should be typeset in 10 pt font with single line spacing

V. Bibliography

- order all items alphabetically by the author/editor's last name, or by the cited work's title when authorship is not indicated; if more than one work by the same author is referenced, order these chronologically by the publication date
- **journal articles** – author's last name and first name initial, publication year, title of article [no italics], *name of periodical [italicized]*, volume/issue [colon], page range:
Spenner P., Freeman K., 2012, To keep your customers, keep it simple, *Harvard Business Review*, 90(5): 108-114.
- **books** – the author/editor's last name and first name initial, publication year, *title of the book [italicized]*, place of publication [colon], publisher:
Lane W. R., King K. W., Reichert T., 2011, *Kleppner's Advertising Procedure*, Upper Saddle River, NJ: Prentice Hall.
- **chapters in edited books** – last name and first name initial of chapter author, publication year, title of chapter [not italicized], in: first name initial(s) and last name(s) of editor(s) (ed. or eds.), *title of edited book [italicized]*, place of publication [colon], publisher, page range:
Cornwall W., 1991, The Rise and Fall of Productivity Growth, in: J. Cornwall (ed.), *The Capitalist Economies: Prospects for the 1990s*, Cheltenham, UK: Edward Elgar, 40-62.
- **legislation**
Council Directive 90/365/EEC of 28 June 1990 on the right of residence for employees and self-employed persons who have ceased their occupational activity.
Act of 4 February 1994 on Copyright and Related Rights, Journal of Laws No. 24, item 83, as later amended.
- **studies and reports**
World Energy Council, 2013, *World Energy Resources: 2013 Survey*, London.
- **online sources** [in square brackets, indicate when website was last accessed]
www.manpowergroup.com [accessed: 28.05.2015]

VI. Mathematical formulas

- processed using Microsoft Equation 3.0
- special attention should be given to correct placement of any sub- or super-scripts
- variables – in *italics*; numbers and digits – in normal font style
- use "·" or "×" only as the multiplication sign (rather than e.g. asterisk or letter X)
- quantities should be represented in SI units only
- any symbols must explained below each formula

Wymogi edytorskie

I. Objętość manuskryptu – do 1 arkusza wydawniczego wraz z rysunkami i tabelami (40 tys. znaków ze spacjami, tj. ok. 20 stron). Rozmiar jednego załącznika nie może być większy niż 20 MB.

II. Wymagane pliki

1. Część główna manuskryptu – bez danych identyfikujących autorów (w formacie Word):

- tytuł artykułu po angielsku i polsku
- zwięzłe i rzeczowe streszczenie po angielsku i polsku, od 150 do 300 słów, przygotowane zgodnie ze strukturą:
 - cel
 - metody
 - wyniki
 - wnioski
- słowa kluczowe po angielsku i polsku (do 8 słów)
- kody JEL – kod 1; kod 2; kod 3 (maksymalnie 3 kody, według strony American Economic Association <https://www.aeaweb.org/econlit/jelCodes.php>)
- wstęp
- tekst główny podzielony na rozdziały opatrzone tytułami
- zakończenie (wnioski)
- bibliografia

2. Strona tytułowa manuskryptu, dane autorów (w formacie Word)

- imię i nazwisko autora
- stopień/tytuł naukowy
- afiliacja
- numer ORCID
- e-mail
- adres korespondencyjny

3. Tabele (w formacie Word)

- ponumerowane, opatrzone tytułem oraz źródłem (np. opracowanie własne)
- z odwołaniem w tekście (np. *zob. tab. 1*, a nie: *zob. tabela poniżej/powyżej*)
- każda rubryka wypełniona treścią
- skróty użyte w tabeli – objaśnione pod nią

4. Ryciny, zdjęcia, wykresy itp. (*.jpg, *.tif lub *.xls)

- edytowalne, rozdzielczość zdjęć min. 300 dpi
- opatrzone numerem oraz źródłem (np. *opracowanie własne*)
- pozbawione napisów: półgrubych, wersalikami, białych na czarnym tle, czarnych wypełnień, dodatkowych ramek
- z odwołaniem w tekście (np. *zob. rys. 1*, a nie: *zob. rysunek poniżej/powyżej*)
- z objaśnieniem użytych skrótów

III. Tekst główny

- marginesy: 2,5 cm z każdej strony
- numeracja stron – ciągła, u dołu strony
- czcionka Times New Roman z polskimi znakami, 12 pkt
- odstęp między wierszami – 1,5 wiersza
- wyróżnienia – pismem półgrubym
- słowa obcojęzyczne – kursywą
- nazwiska użyte po raz pierwszy – pełne imię i nazwisko, kolejne przywołanie – samo nazwisko
- skróty – za pierwszym razem pełny termin, a skrót w nawiasie; dalej – tylko skrót

IV. Przypisy bibliograficzne

• umieszczone w tekście w nawiasach kwadratowych: nazwisko autora/redaktora, rok, strony:

[Meyer 2010: 31-40] lub [Dubisz (red.) 2003: t. 3, 104]

• jeśli autorów jest więcej niż trzech, należy podać tylko nazwisko pierwszego z nich, a po nim: i in.:

[Kaczmarek i in. 2005: 56-67]

• jeśli brak nazwiska autora/redaktora, należy podać kilka pierwszych słów tytułu książki/dokumentu:

[Zmiana studium uwarunkowań 2008]

• jeśli przywoływane są raporty, analizy itp., to należy podać nazwę instytucji i rok:

[Eurostat 2014] lub: [GUS 2015]

• w przypisie można zawrzeć dodatkowe informacje, np.:

[por. Hadzik 2009: 38] lub: [cyt. za Szromek 2010: 52]

• jeśli odwołanie dotyczy więcej niż jednej publikacji, należy je wymienić w kolejności chronologicznej:

[Mansfeld 1987: 101-123; Jagusiewicz 2001: 40-73; Meyer 2010: 89-101]

• jeśli autor wydał w danym roku więcej niż jedną publikację, to po dacie należy dodać kolejne litery alfabetu, np.

[Nowak 2014a, 2014b]

Przypisy objaśniające, polemiczne, uzupełniające tekst główny oraz **przywołujące akty prawne, wyroki i orzeczenia sądów i adresy stron WWW** – numerowane kolejno i **umieszczone u dołu strony**, czcionka 10 pkt, interlinia pojedyncza.

V. Bibliografia

• uporządkowana alfabetycznie według nazwisk autorów/redaktorów i tytułów prac niemających autora/redaktora, a jeśli jest więcej prac jednego autora, to należy je zestawić chronologicznie wg dat wydania

• **artykuł w czasopiśmie** – nazwisko autora, inicjał imienia, rok, tytuł artykułu (prosto), *tytuł czasopisma* (kursywą), nr czasopisma, zakres stron:

Borek M., 2000, Rola technik sekurytyzacyjnych, *Bank*, nr 12: 53-55.

• **pozycja książkowa** – nazwisko autora/redaktora, inicjał imienia, tytuł książki (*kursywą*), miejsce wydania: wydawnictwo:

Janowska Z., 2002, *Zarządzanie zasobami ludzkimi*, Warszawa: PWE.

• **rozdział pracy zbiorowej** – nazwisko autora rozdziału, inicjał imienia, rok, tytuł rozdziału (prosto), w.; inicjał imienia, nazwisko redaktora + (red.), *tytuł pracy zbiorowej* (*kursywą*), miejsce wydania: wydawnictwo, zakres stron:

Michalewicz A., 2001, Systemy informacyjne wspomagające logistykę dystrybucji, w: K. Rutkowski (red.), *Logistyka dystrybucji*, Warszawa: Difin, 102-123.

• **akt prawny**

Ustawa z dnia 8 marca 1990 r. o samorządzie gminnym, t.j. Dz.U. 2001, nr 142, poz. 1591.

Ustawa z dnia 19 listopada 1999 r. Prawo działalności gospodarczej, Dz.U. nr 101, poz. 1178 z późn. zm.

Dyrektywa Rady 2004/67/WE z dnia 26 kwietnia 2004 r. dotycząca środków zapewnających bezpieczeństwo dostaw gazu ziemnego, Dz. Urz. UE L 127 z 29.04.2004.

• **raporty, analizy**

GUS, 2015, *Pomorskie w liczbach 2014*, Gdańsk.

• **źródło z Internetu** (w nawiasie pełna data korzystania ze strony WWW):

www.manpowergroup.com [dostęp: 28.05.2015].

VI. Wzory matematyczne

- przygotowane w programie Microsoft Equation 3.0
- poprawnie zapisane potęgi i indeksy
- zmienne – kursywą, liczby i cyfry – pismem prostym
- znak mnożenia to: · lub × (nie gwiazdka czy „iks”)
- pisownia jednostek – według układu SI
- symbole objaśnione pod wzorem