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Sustainability and Tourism – Challenges and Paths in Achieving Social, Economic, and Environmental Goals

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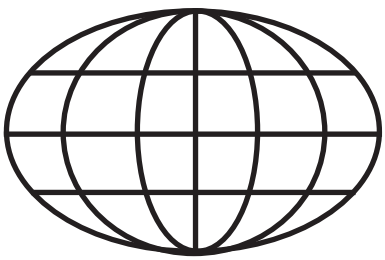

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FROM THE EDITOR

In this issue of *Folia Turistica*, we present the latest research findings of authors representing various research perspectives on the broadly understood concept of sustainability in tourism.

Knowledge of sustainability in the economy, but also in nature and society, has been developing since the 1970s, driven by the need to respond to socioeconomic crises, climate change, armed conflict, the immigration problem, and the growing predicament of environmental resource degradation. The timeliness of these issues translates into the need to study barriers and opportunities for implementing sustainable development in various sectors and areas of the economy. These problems also affect tourism which, as an interdisciplinary field, is related to other areas, both in terms of science and practice. In the literature, sustainable tourism is discussed, reflected in the works of authors from various fields of science, economics, ecology, socioeconomic geography as well as sociology and philosophy.

The starting point for generating solutions, both in theory and in practice, is identifying problems across all areas of sustainable tourism, i.e. environmental, social, economic and spatial.

Taking up the challenge of promoting knowledge on this subject, *Folia Turistica* invited authors representing various fields of science to share the results of their research and thoughts on current issues in sustainable tourism.

This issue begins with an article by **Agnieszka Wartecka-Ważyńska** and **Jan Sikora**, who show the diversity and interdependence of geopolitical, economic and social conditions that hinder sustainable development and negatively affect tourism. According to the authors, the main factors that have negative impact on the implementation of the idea of sustainable development and the development of tourism itself are: global warming and its effects, disasters and armed conflicts. The authors diagnose the need for cooperation between public authorities, social organisations and science in order to make decisions conducive to the implementation of the values of sustainable development and the tourism economy. From the point of view of supporting the implementation of the idea of sustainable tourism, in the article highlighted is the need for scientific analysis of secondary empirical materials, mainly research reports.

The tourism economy is characterised by a complex structure of entities involved in its development, both on the side of demand as well as supply. Conflicts occurring at various levels and stages of decision-making are a significant barrier to the implementation of sustainable development in tourism. This issue is addressed in an article by **Agnieszka Niezgoda**, who reviews and proposes a systematisation of different levels and types of conflict situations, indicating their sources. The conflicts are divided into three levels and techniques are proposed that may be useful at destinations striving to achieve sustainable tourism goals. These techniques relate to the functions of conflict management: warning, information, diagnosis, stimulation and integration. The entities at destinations for which these techniques may be most useful have also been identified. The techniques of demand management in tourist destinations mentioned in the article were related to the role that can be played by conflicts. Taking the identified levels and types of conflicts into account, the author also pointed out the importance of individual groups of entities related to tourism in a specific area in resolving specific types of conflicts.

Managing a tourist destination requires coordination, which should be undertaken by Destination Management Organisations (DMOs). In the next article, **Zuzana Gajdošíková** and **Mária Kürtiová** present the results of their study on the awareness of DMO representatives regarding carbon footprints, which is one of the fundamental issues illustrating the environmental problems of the modern world. The authors developed a methodology for measuring carbon footprints and, using the example of all DMOs in Slovakia, they examined the interrelationships between tourism and climate change, explaining approaches such as bottom-up and top-down methodologies for accurately quantifying the carbon footprint of tourism, each of which has specific application depending on data availability and destination type. The result of these reflections is a proposed method for calculating the carbon footprint and a presentation of the prerequisites for future actions, which are: financial support, technical training and political initiatives aimed at improving sustainable development practices in the Slovak tourism sector. The results of the study highlight the need for comprehensive carbon management as a way to achieve carbon neutrality at tourist destinations.

The topic of carbon footprint is also addressed by **Levent Soyalp** who, in his article, identifies factors influencing tourists' pro-environmental intentions, which, given the negative impact of travel and transport on the environment, are essential for the development of sustainable tourism. The research results presented in the article indicate that attitudes, subjective norms and perceived behavioural control have significant impact on tourists' pro-environmental intentions, with personal norms proving to be a particularly strong predictive factor. In addition, previous motorised transport

behaviour may act as a moderating factor, influencing the relationship between norms and behavioural intentions. The author notes the key role of supporting personal norms and considering previous behaviour patterns in order to promote sustainable tourism practices. The results of this research can form the basis for targeted strategies to promote environmentally responsible behaviour among tourists.

When considering the possibilities of implementing sustainable tourism development at tourist destinations, **Natalia Latuszek** and **Małgorzata Przygórska-Skowron** present research on the possibilities of using the heritage of meetings, using the example of the 61st ICCA Congress in Krakow (Poland), which served to identify good practices. These activities can be divided into three groups – economic, social and environmental – which reflect the main pillars of sustainable development. In the article, it is noted that heritage has the greatest potential to support sustainable development in the social aspect. The authors propose two approaches to understanding heritage, as well as a framework for the planning and implementation of heritage, to bridge the gap between theory and practice. The good practices identified in the article can serve as an example for the organisation of future events at tourist destinations.

The volume concludes with a report from the 7th International "Physical Activity in the Mountain Areas in Poland and the World" Scientific Conference, which took place in Szklarska Poręba, presented by **Patrycja Ozga-Gwóźdź** and **Stanisław Matusik**. The participants had the opportunity to listen to presentations by speakers with rich scientific achievements from the USA, Czech Republic, Slovakia, Germany, Austria, Italy, Spain, Portugal, Hungary, Ukraine and Norway. The conference was not limited to the presentation of research results. It also became a space for an intensive exchange of experiences between science and practice, thanks to the great number of invited guests: mountaineers, Olympians, representatives of associations, clubs and economic entities.

This issue also features a review by **Adam Szromek** of the book by A. Łapko, entitled *Zarządzanie portami jachtowymi w aspekcie zrównoważonej turystyki* żeglarskiej [*Management of Yacht Marinas in the Context of Sustainable Sailing Tourism*]. This monograph is a monotheistic scientific study on yacht marinas and the process of managing them in the context of sustainable sailing tourism.

The publication of this *Folia Turistica* issue coincided with a sad occasion. On 28 May 2025, Professor Grzegorz Gołembski, an outstanding researcher of economic issues in tourism, author of a several hundred scientific papers and mentor to many generations of students as well as doctoral candidates, passed away. The professor was the long-time head of the Department of Tourism at the University of Economics and Bussiness in Poznań, a member of the International Association of Scientific Experts in

Tourism (AIEST) based in St. Gallen, Switzerland, and a member of the Tourist Research Centre (TRC) scientific organisation, which coordinates annual meetings devoted to methodological aspects in tourism research. This issue includes a tribute to Professor Gołembski written by **the Secretary General of the TRC, Professor Egon Smeral**. May these words preserve the memory of an unforgettable Master and Friend of many generations of tourism researchers.

I also hope that all the works presented in this issue of *Folia Turistica*, which are the result of reflections and research on various aspects of sustainable tourism, will allow readers to deepen their knowledge of this important and topical subject.

Wishing you inspiring reading,

Agnieszka Niezgoda

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CONTEMPORARY THREATS TO IMPLEMENTING THE IDEA OF SUSTAINABLE DEVELOPMENT AND THEIR IMPACT ON TOURISM

Agnieszka Wartecka-Ważyńska, Jan Sikora***

Abstract

Purpose. The aim of the study is to indicate examples that negatively impact implementing the idea of sustainable development and tourism development. These factors are: global warming and its effects, disasters and armed conflicts.
Method. Analysis was carried out of the literature on the subject and secondary materials in the form of empirical research reports and official documents. The case study analysis method was also used.
Findings. The research is intended to show the diversity and interdependence of geopolitical, economic and social conditions that hinder sustainable development and negatively affect tourism activities.
Research and conclusions limitations. The results obtained using the research methods used do not constitute the basis for broader generalisations. They create a synthetic quantitative and qualitative material indicating the need to counteract threats to sustainable development and the tourism economy.
Practical implications. The conducted research, on the one hand, allows to diagnose the problem and, on the other, to indicate the need for cooperation between public authorities, social organisations and science to make decisions conducive to implementing the values of sustainable development and tourism economy.
Originality. Originality indicates the need for scientific analysis of secondary empirical materials, mainly research reports. These materials are representative, commissioned by public administration institutions, but are poorly scientifically applied in cognitive and practical terms.
Type of paper. Review.

Keywords: sustainable development, meeting, difficulties, tourism, threats.

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Introduction

Sustainable development is defined as a rational way of conducting economic activity and shaping people's lives, considering the protection of the environment's natural resources. This activity is carried out due to the subjective role of man, the quality of his life and the level of his awareness [Borys 2016]. The concept and meaning of sustainable development are the subjects of interest to representatives of science, economics and political practice. The inspiration for conducting this study is reading studies on the subject published in scientific works as well as the media, and the resulting reflections of the authors. The article is a review material.

The objective of the article is to indicate examples confirming the negative impact of selected factors on sustainable development; and thus, inhibiting the growth of tourism. These are natural, economic and social factors. The article aims to encourage discussion and answer the question of whether the principles and values of sustainable development have a chance of being implemented. In light of the question posed above, another one arises: is it possible to develop sustainable tourism in the current objective climatic, economic and social conditions (on a global, regional and local scale)?

The article was written using the results collected by analysing secondary materials, primarily subject literature, empirical research reports, official documents and media studies.

The secondary data analysis method is one of the basic research methods in social sciences. Official and archival documents, articles published in the press and magazines are used in numerous scientific studies [Frankfort-Nachmias, Nachmias 2001]. The case study analysis method was also used to locate selected factors threatening the idea of sustainable development and tourism.

The results presented in the article proved that climatic, economic and social factors make it difficult to implement the assumptions of sustainable development and inhibit the development of tourism economy. Furthermore, the growth of mass tourism threatens the sustainable development of the natural, economic and social environment.

The article consists of five logically arranged parts. In addition to the 'Introduction' and 'Conclusion' sections, theoretical aspects of sustainable development are presented, as examples of applying this idea in the natural, economic as well as social dimensions, and connections between the assumptions of sustainable development and tourism, including the impact of tourism on this development. The presented conclusions are of cognitive and practical nature.

Sustainable development in literature – general issues

Protection of the natural environment is an essential area of interest for science and socio-economic practice. This problem has been mainly developing since the second half of the 20th century. A significant event in the world concerning environmental protection was the Report of the UN Secretary-General U'Thant, *Man and His Environment*, published in 1969. This document drew attention, among others, to the rational use and development of natural resources, pollution of the human living environment and protection of the natural environment [Godlewska 2006]. In terms of sustainable development, an important place is occupied by the Report Our Common Future, published in 1987. This document was the result of the work of the Commission on Environment and Development established in 1983 by the United Nations (UN) under the chairmanship of Gro Harlem Brundtland [*Our Common Future* 1991]. In the report, it was emphasized that the new sustainable economic development must be consistent with the principles of environmental management. It was mentioned that humanity can ensure that its social as well as economic development and satisfying human needs does not take place without harm to future generations [*Nasza wspólna...* 1991].

However, the most significant event for the idea of sustainable development on a global scale was the United Nations Conference on Environment and Development, known as the Earth Summit, which took place in 1992 in Rio de Janeiro. The participants of the conference, i.e. representatives of governments from all over the world, delegates of the UN, international and non-governmental organisations, expressed their conviction that environmental issues should have a mutual link with social and economic development, thus creating the concept of sustainable development. The Rio de Janeiro conference resulted in the creation and adoption of five documents by its participants. These documents are enumerated below:

1. *The Rio Declaration on Environment and Development*, containing 27 principles defining the rights and obligations of states in their actions for the development of humanity and good living conditions.
2. *The Global Programme of Action for the 21st Century – Agenda 21*, which is a programme of actions formulated with the 21st century in mind. It indicates how development can be sustainable in economic, social and ecological categories.
3. *The Declaration on the Protection of Forests*, setting out directions for the sustainable development of all types of forests, their protection and use, which are of great importance for economic development and supporting all forms of life.
4. *The UN Framework Convention on Climate Change*, stabilising the content of greenhouse gases in the atmosphere.

5. *The Convention on Biological Diversity*, requiring countries to adopt solutions and measures necessary to preserve the diversity of species in nature [*Final Documents* 1998].

The issue of sustainable development has also found its way into the interests of business activities. An example of the business world's activity in the field of environmental protection is the *Business Charter for Eco-Development*, which was adopted in 1991 by the 2nd World Conference on Environmental Management in Enterprises. This Charter is an international document containing the principles of environmental management strategies in enterprises. Among other things, the greening of products and services at the stage of their design, counteracting threats to the natural environment, and the need to train employees in this area were taken into account [Poskrobko eds. 1997; Poskrobko 1998]. In the context of the presented activities for sustainable development, synthetic definitions were created to address this problem. For example, in the Report Our Common Future, prepared in 1987 by the UN Commission on Environment and Development, under the chairmanship of Gro Harlem Brundtland, the social aspect was included in the concept of sustainable development. Sustainable development is economic and ensures satisfying the needs of contemporary society without compromising the ability of future generations to meet their own needs [*Nasza Wspólna...* 1991]. The anthropocentric point of view in the concept of sustainable development was adopted at the Conference in Rio de Janeiro [1992] in the *Declaration on Environment and Development*. This definition states that sustainable development consists of rationally managing natural resources, their protection, and enforcing such technologies and institutional changes that will ensure meeting the needs of present and future generations [*Final documents* 1998]. It should also be noted that in the *Constitution of the Republic of Poland* adopted in 1997, in Article 5, it was assumed that "the state shall ensure environmental protection, guided by the principle of sustainable development" [*Constitution of the Republic of Poland* 1997]. In the Environmental Protection Law Act, sustainable development is defined as "such socio-economic development in which the process of integration of political, economic and social activities takes place, while maintaining natural balance and the durability of basic natural processes, to guarantee the possibility of meeting the basic needs of individual communities or their citizens, both current and future generations" [Act 2001]. It is worth mentioning the *2030 Agenda for Sustainable Development* adopted in 2015 by 193 countries of the United Nations (UN). This Agenda takes the global scope of the importance of sustainable development into account. It is emphasized that the contemporary modernisation effort should focus on eliminating poverty while simultaneously implementing a number of economic, social and environmental goals. In the document, such priorities as health, education, nutrition and food security are mentioned, as they

create the basis for long-term sustainable growth, conducive to the creation of new jobs. The 2030 Agenda includes 17 Sustainable Development Goals (SDGs) and 169 related tasks that reflect the three dimensions of sustainable development. The goals include:

– eliminating poverty worldwide;
– achieving food security and promoting sustainable agriculture;
– ensuring high–quality education for all, promoting lifelong learning;
– taking urgent action to prevent climate change and its effects;
– protecting oceans, seas and using them sustainably;
– protecting and promoting the sustainable use of terrestrial ecosystems, sustainable management of forests.

The new development of the world included in the 2030 Agenda is focused on five new transformational changes adopted as the 5P principle (People, Planet, Prosperity, Peace, Partnership). In Poland, the assumptions of the 2030 Agenda are formulated in the *Strategy for Responsible Development* (SOR) [*2030 Agenda for Sustainable Development*, http://www.mr.gov.pl-strony/zadania/polityka-rozwoju-kraju/agenda/2030-oagendzie].

In the context of including sustainable development in the presented official documents, analytical definitions of this problem were also created in the literature on the subject. According to Bazyli Poskrobko, sustainable development is a way of conducting business activity, shaping and using the potential of the environment, and organising social life that will ensure the dynamic development of qualitatively new production processes, sustainable use of natural resources and improvement (in the first period) and then, maintaining a high quality of life [Poskrobko 1998].

This definition assumes that sustainable development is socio-economic development that, in the long term, ensures the maintenance of the usability and quality of the environment and its natural resources. Tadeusz Borys draws attention to the socio-economic and spatial aspects of sustainable development. Sustainable development is the socio-economic development of an appropriate space, which, to balance the opportunities of access to the environment of individual societies or their citizens - both the current and future generations, a process of integrating political, economic and social activities takes place, while maintaining the natural balance and durability of basic natural processes [Borys 2001]. It follows from this definition that sustainable development comes down to the integration of four orders: ecological, social, economic and spatial to shape an appropriate level regarding the quality of human life [Borys 2014]. This author clearly emphasizes that orderly sustainable and intelligent development is achieved directly due to the subjective role of man, the quality of his life and the level of his consciousness [Borys 2016]. In light of the presented definitions, one could refer to Immanuel Kant's theory, which states that the idea of sustainable social development is a product of "practical reason" [Kant 1986]. The au-

thor wrote that the idea of practical reason is "always highly fertile and not necessarily necessary for human activity" because it is realised if it is socially accepted. Then it becomes an "acting cause" for shaping a higher level of morality and building a rationally better present and future [Kant 1986].

Following Ludwik Krzywicki's theory of the migration of ideas, it should be highlighted that every idea, including the idea of sustainable development, in its journey through time and space, will be accepted wherever it finds a socio-historical background that is favourable to its existence [Krzywicki 1986]. Therefore, one can express the conviction that the concept of sustainable development, understood as the idea of practical reason, should be practically implemented in state policy, by local government authorities, non-governmental organisations as well as associations, and by all economic entities. This postulate refers to the ethical sense of responsibility for the humanitarian, ecological and economic development of the world and its regions — development that brings benefits to everyone now and in the future [Sikora, Kaczocha 2018]. It should therefore be emphasized that in the "spirit" of Kant, the idea of sustainable development is a practical and reasonable project of a new civilization. In human activity, the idea of sustainable development requires equal treatment of the social, economic and natural spheres. The natural aspect includes, among others: maintaining biodiversity; implementing the best available technology and technique (without or with little waste, raw material, material and energy-saving); and organising economic activity and social life in such a way that they do not come in conflict with the goals of nature conservation. The economic aspect includes, among others: restructuring the economy, especially industry and rationalising energy management; eliminating means and techniques that contribute to contamination of food and the environment from agricultural production and food processing; developing a forest management model in which the environment and the creative value of the forest play a leading role; reducing the problem of transport and exhaust emissions; rationalising the use and management of water resources; rationalising the extraction and use of fossil resources; and protecting and shaping of living natural resources. The social sphere concerns, among others: shaping the ecological awareness of society; promoting sustainable consumption [Godlewska 2006].

The idea of sustainable development in theory and social practice creates a multidimensional system integrating: natural capital, including the ecosystem and natural resources, influencing social well-being; human capital in the form of, among others, human and social health, education, knowledge, professional and life experience as well as professed values; social capital as a system of human ties, trust, cooperation following formal and informal ethical and legal norms that support access to resources; economic capital necessary in the creation of products and services that meet human

needs. This includes land, finances, fixed assets and people's work in management [Sikora, Kaczocha 2018].

In the context of the above presented characteristics of sustainable development, Józefa Famielec and Stanisław Famielec rightly note that this development is not only a political but also a scientific category. Therefore, the analysis of sustainable development requires the use of knowledge from various fields of science and scientific disciplines. This idea is interdisciplinary and cannot be an autonomous object of research in a single scientific discipline [Famielec, Famielec 2016]. Therefore, the issue of sustainable development in theoretical-scientific and practical-political terms is very complex. Implementing this idea into socio-economic practice, including the tourism industry, is not easy and encounters significant difficulties. Moreover, tourism itself destroys this idea.

Difficulties in implementing the idea of sustainable development

The idea of sustainable development was invented by man and he is responsible for its implementation. Meanwhile, this same man stands in the way of implementing the assumptions of sustainable development. In the sphere of nature, he is the cause of global warming, changes in the precipitation regime, acidification of oceans and disturbance in the balance of ice sheets [Filipiak 2022]. The huge amount of greenhouse gases that humanity has already emitted and continues to do so has caused warming that will have irreversible effects for thousands of years. An example is melting glaciers. UNESCO conducted research to assess the impact of warming on 50 world heritage sites where glaciers occur. The UN agency states that in 17 areas of high ecological, landscape and cultural value, glacier formations will cease to exist by the middle of this century, regardless of the level of warming achieved. In total, 460 glaciers will be wiped off the map by the climate crisis. The doomed list includes the last glaciers in Africa (located in the Kilimanjaro and Rwenzori-Virunga mountain ranges) and many others at famous European and North American locations, such as the Italian Dolomites, the Pyrenees, and the US Yellowstone and Yosemite national parks [*Climate Change* 2022]. The Greenland ice sheet is disappearing four times faster than it was in 2003, and 95% of the oldest and thickest land in the Arctic has already disappeared. The Arctic could be ice-free by the summer of 2040. It is the atmospheric concentration of carbon dioxide and other greenhouse gases produced by industry, transport, agriculture, deforestation and the burning of fossil fuels during human activity that warms the planet and has the greatest impact on the Earth's climate. Emissions of greenhouse gases into the atmosphere increase the energy present in it,

which leads to an increase in the occurrence of dynamic weather phenomena. Since the 1980s, the number of extremely violent storms around the world has doubled. Rising temperatures are causing not only heatwaves but also devastating fires. For example, the fires in Australia in 2020 caused the deaths of approximately a billion animals [Borusiak 2022].

Global warming is causing an increase in seawater temperature, and thus, an increase in its acidity. Within 50 years, these phenomena will lead to the destruction of life-giving coral reefs, which act as a natural breakwater. Climate change also has significant impact on the natural environment in Poland. In the monograph entitled "Climate Change in Poland", over 30 Polish climatologists analysed various aspects of climate change in our country. It was pointed out, among others that since the mid-20th century, and especially in the last three decades, climate change in Poland has been exceptionally rapid about changes in earlier periods. The fast pace of these changes is caused by two factors: those natural in atmospheric circulation and solar radiation, and changes caused by human impact, including the release of greenhouse gases into the atmosphere, which intensify the greenhouse effect [Falarz eds. 2021].

The richness of nature and its biodiversity in the idea of sustainable development is combined with the economic factor of this concept. Nature is a significant capital in the development of the economy of each country and the world economy, and its protection requires high costs. In 2021, the UN Environment Programme (UNEP), World Economic Forum (WEF), and Economics of Land Degradation (ELD) Initiative prepared the *State of Finance for Nature* report on the expenditures needed to save nature and civilization with it [*State of...* 2021]. It was indicated that by 2050, humanity should invest 8.1 trillion dollars to cope with climate change and nature degradation. According to the authors of the report, nature should be at the centre of economic decisions. To achieve this state, among other things, it is necessary to focus on more sustainable development, transform subsidies currently allocated to agriculture and fossil fuels and introduce new economic and legal incentives. It is also necessary to increase the participation of private businesses and banks in financing investments in this area. Investing in nature not only protects the Earth as a planet but also benefits animals, plants and people. It improves the quality of life and creates jobs. If we do not save nature, we will not be able to talk about sustainable development. The loss of biodiversity is already costing the global economy 10% of its annual production [*State of...* 2021]. This report motivates all countries, financial institutions and companies to invest in nature, including restoring forests, regenerative agriculture and protecting oceans. These actions can help reconcile economic development with the Paris Agreement on climate.

A threat to implementing the idea of sustainable development in the natural, economic and social areas is air pollution, an example of which is

the problem of smog. In a study conducted in 2022 by the European Coalition for Public Health, in which the Polish Society for Health Programs participated, it is shown that the cost of treating diseases caused by smog exceeds PLN 1,000 a year, per family. Three Polish cities are in the top four most polluted cities in the world. According to the Swiss IQ Air index, first place was taken by Dacca in Bangladesh, followed by Warsaw, Wrocław and Kraków, and Poznań came 12th [*Kosztowny...* 2022]. According to various estimates, 45-47 thousand people die in Poland due to air pollution. There are also studies by scientists from Harvard University and University College London, in which it is noted that in Poland, this number is almost 100 thousand people. These are victims of smog-induced diseases, such as chronic obstructive pulmonary disease (COPD), whose early treatment is also expensive. The health effects lead to economic and social losses, due to a decrease in the quality of life due to a lower average life expectancy, higher healthcare expenditure and lower healthcare efficiency. According to the report, Poland incurred costs of treating patients in the total amount of PLN 15.4 billion. Almost two-thirds of these costs (64%) were generated by coal-fired heating devices, which meant the amount of PLN 9.8 billion [*Kosztowny...* 2022].

The social manifestation of disregard for sustainable development is people's mental health problems, anxiety, stress and post-traumatic stress disorder. They are primarily associated with climate change in the form of floods, fires, pandemics and the destruction of biodiversity. In an interview for Nauka Polska, ecologist Professor Piotr Skubała from the University of Silesia in Katowice said: [*Ekolog...* 2021]

> Life on our planet is a large network of connections. We, humans, are one of the strands of this network, as important as the rest and dependent on the existence of others. The guarantee for our survival and safety on Earth is therefore the preservation of biological diversity at various levels of life – genetic, species and ecosystem. Either we understand this and feel that we are part of nature, or we destroy many species, the relationships between them, and ultimately, ourselves.

Professor Skubała emphasizes that biodiversity is a kind of vaccine that protects people from threats of viruses and diseases. Many new diseases, such as Ebola, AIDS, SARS, bird and swine flu as well as COVID-19 are the consequence of brutal human interference in natural ecosystems. The ecologist believes that preventing a pandemic is economically profitable because these costs are much lower than the costs of responding to subsequent such situations. For example, experts from the Intergovernmental Panel on Biodiversity and Ecosystem Services state that preventing pandemics is 100 times less expensive than current strategies of finding vaccines and developing drugs.

The presented problems of sustainable development and, above all, the effects of limiting it, are connected with people and their state of ecolog-

ical awareness as well as behaviour in this area. For ten years, the Ministry of Climate and Environment in Poland has been conducting empirical research on the ecological awareness and behaviour of Polish residents [*Badanie świadomości...* 2020]. The results of these studies indicate that the greatest challenge for Poland that needs to be solved is protection of the natural environment. This was chosen by 52% of residents. According to the respondents, the greatest problem of the natural environment is air pollution (59%), waste (50%), and water pollution, and issues related to water (34%). The most frequently indicated reason for protecting the environment is care for future generations (73%) as well as care and concern for human health (63%). In the opinion of residents in Poland, the condition of the environment depends to the greatest extent on the activity of each person (69%). In turn, the most popular sources of information about the natural environment are the Internet (72%), television (65%) and the press (27%). It should be noted that the results of these studies allowed to indicate that education was lacking as a source of information about the state and protection of nature [*Badanie świadomości...* 2020]. The climate and biodiversity crises have reached such a scale that they are becoming a threat to humanity, requiring decisive action, including educational action. Systematised green education shapes social awareness and expands knowledge about the impact of humans on the environment, creating conscious attitudes of responsibility for the state of nature. Meanwhile, climate education is currently widely carried out with the participation of the social movement and not by educational institutions. It is schools at primary and secondary levels that should increase ecological awareness among the young generation based on reliable scientific foundations and promote the principles of sustainable development. An interesting example of developing ecological education is the agreement signed by several universities in Poland. The authorities of Maria Curie-Skłodowska University in Lublin (UMCS), the University of Warmia and Mazury in Olsztyn (UWM) and the University of Gdańsk (UG) signed an agreement on the establishment of the Green Universities Forum. The three universities will undertake joint initiatives for sustainable development. The forum aims to maximise the contribution to sustainable development in the scientific and research, environmental, social, economic and educational dimensions. This is an action aimed at increasing public awareness and its impact is on the care for common natural heritage [*Forum Zielonych...* 2022]. The demand for knowledge about green competencies in society is growing. Creating conscious attitudes in the scope of responsibility for the state of the environment and implementing the idea of sustainable development is also taking place in some local communities. An example is the training and advisory programme called "Green Leader", implemented by the Sędzimir Foundation and supported by the Polish-American Freedom Foundation. The programme aims to support local leaders in activities striving towards environ-

mental protection and sustainable development. Green Leaders are to be representatives of local government authorities and administration, municipal and county councils, social organisations and activist groups. The programme is addressed to leaders who want and can implement changes related to environmental and climate protection in their communities. They wish to exchange good practices, learn from others and develop using new solutions [*Czas na zielonych*... 2022]. In the context of the presented aspects of applying the principles of sustainable development, attention should be paid to the opportunities and threats of this idea to tourism and vice versa.

Sustainable development and tourism – the future

Tourism, similar to sustainable development, is determined by natural, economic and social factors. These factors determine the creation of a tourist product, a tourist offer (supply side) and its consumption (demand side). The ongoing climate change, global warming, its effects, pandemics and armed conflicts threaten not only implementing the assumptions of sustainable development, but also the development of tourism. On the other hand, despite these threats, tourism is evolving, becoming increasingly mass as well as unsustainable, and thus, inhibiting the assumptions of sustainable development. Research by scientists, scientific reports and mass media constantly provides many examples of threats to nature and human life, mobility and travel.

Global warming means a serious loss of biodiversity on Earth. Scientists say that global warming has long exceeded 1.5°C and will surpass 2°C by the end of the decade. This process changes, inter alia, the water cycle in nature, causing changes such as rainfall to more heavy rain, drying many regions of the world, initiating increasingly frequent and larger fires and changing the biodiversity of forests. These effects are very clearly felt by the tourism industry. In 2024, the mass media reported that an example of the effects of heatwaves is the dried-up Rusanda Lake in northern Serbia. It was the largest salt lake in the country, with salinity reaching 60%, exceeding the salinity scale of seas. The water and mud of Rusanda have been used for medical purposes since the 19th century, including the treatment of rheumatism, muscle inflammation and post-traumatic injuries [Wrońska 2024]. The above example poses a major threat to health tourism developed in this country.

The Great Barrier Reef, the world's largest living ecosystem, lies approximately 2,400 km off the coast of the Australian state of Queensland. Research results indicate that since 2016, the Great Barrier Reef has undergone five summers of coral bleaching. Large sections of the reef have turned white due to high water temperatures, which has increased the risk of their

extinction. Coral reefs protect coastlines from erosion. Thousands of species of fish live in them. In many countries, these areas are an important source of income from tourism [Nagiel 2024].

Experts from the National Institute of Geophysics and Volcanology in Italy have stated that Venice, located in northern Italy and popular with tourists, is strongly affected by climate change. Researchers have developed possible scenarios for the future of Venice, based on the assumption that — as reported by the UN Intergovernmental Panel on Climate Change (JPCC) — the level of the seas and oceans will rise 1.5 metres by 2150. It turned out that based on the analysis of data recording the water level near the city from the last 20 years combined with satellite images taken since 2008, according to scientists, one conclusion can be drawn. Some districts of Venice will be permanently underwater by 2150. The famous St. Mark's Square will be covered by 70 centimetres of water. However, the water will reach the western part of the city the most, which has already been flooded 58 times in the last four years alone. Therefore, Venice is not only flooded by tourists but also, the city is at risk of being flooded by water [Wojajczyk 2024]. Human-induced climate change and the associated drought threaten the sources of food and water for elephants in Southern African countries. Drought has affected the water and food supply for people and livestock and wild animals. According to the Zimbabwe Wildlife Agency, 160 elephants died in the country's most important Hwange National Park in 2023. In turn, Botswana's environment ministry reported that the country lost 300 elephants to drought in the same year (2023). Other countries have also recorded elephant deaths in their national parks. Government representatives from Zimbabwe, Zambia, Botswana, Angola and Namibia — the five countries that host the Kavango-Zambezi Protected Area (KAZA), where a combined 227,000 elephants live — met in Livingstone, Zambia, to discuss sustainable wildlife management.

Climate change, drought and watering holes drying up worsen conflicts between humans and wild animals. Elephants enter human habitats in search of food and water. They threaten the lives of residents and tourists [*Słonie umierają*... 2024]. Nature, a component of tourism, in the face of the growing risk of drought effects, is associated with the risk of fires, especially in countries attractive to tourists. Fires cause huge material losses and are a threat to residents and tourism, which in many regions of the world, is the main source of income. Animals die in the flames and people are forced to evacuate. Tourists flee from beaches and resorts, and those who are relatively far from the fires watch the flames and inhale toxic smoke. Every year, fires occur in popular tourist countries: Turkey, Greece, Italy, Croatia, Spain, Portugal and France. In the summer months, forest fires occurred not only in Europe but also outside our continent. The United States of America has been struggling with a fire that is difficult to extinguish (due

to drought, high air temperatures, and wind). The largest fire in 2022 devastated forests in California, which destroyed over 240,000 acres of real-estate, including forests. As a result, thousands of residents and tourists of this state were forced to evacuate. Forest fires generate considerable natural and social losses. All of them have an economic dimension, which is usually difficult to estimate. An example of losses in nature is the fire that broke out in 2020 in the largest park in Poland - Biebrza National Park. The fire occupied an area of over 5.5 thousand hectares - and as scientists note - it was the largest open-air fire in Poland since World War 2. As a result of the fire, representatives of 14 species of birds significantly decreased. The number of birds listed on the Red List of Birds of Poland, which are particularly important from the point of view of nature conservation and nature tourism (birdwatching), has decreased [Sikora, Wartecka-Ważyńska 2023]. Tourists are afraid not only of fires, heat and drought, but also of disasters in the form of earthquakes and volcanic eruptions that hit these countries. Japan is one of the most active seismic countries in the world, and as a result, is exposed to more frequent tremors. On average, there are about 1.5 thousand of them per year, which is about 18% of earthquakes worldwide. An example of this phenomenon was the earthquake on the island of Kyushu on August 8, 2024, with a magnitude of 7.1 on the Richter Scale. Earthquakes are accompanied by dangerous tsunamis. Fearing the tremors, approximately 10,000 people decided not to come to Japan after this one earthquake. Mass cancellations of hotel reservations have intensified. Local entrepreneurs estimate losses at nearly 1 million dollars [Sokołowska 2024]. At the turn of August 3 and 4, 2024, there was increased activity of the Etna volcano, the highest active volcano in Europe located in Sicily. The volcano threw a fountain of lava and smoke to a height of 10 kilometres. The awakening of Etna caused difficulties at the airport in Catania. Problems occurred with the departures and arrivals of tourists [Mazur 2024].

In nature tourism friendly to people and nature, there are examples of pathology, as evidenced by foreign exchange hunting tourism. It contradicts the idea of sustainable nature tourism. The press widely reported on bird hunting for foreign hunters on Lake Miedwie in the West Pomeranian Voivodeship. Not only game species are killed, but also those the hunting of which is prohibited in Poland because they are strictly protected. Italian hunters are eager to hunt birds in Poland and pay local hunting clubs considerable amounts of money. Money is an important individual value for a few or a dozen people who do not take the priceless value of nature as a common good into account [Jurszo 2014a, 2014b].

With their activities, people strive to implement the idea of sustainable development but also destroy the principles of this idea with their behaviour. An example of destroying the values of sustainable development in modern civilization (nature, economy, people) is armed conflicts, and above

all, the war in Ukraine. This conflict is not only causing human losses but also huge environmental destruction. Environmental losses caused by the Russian invasion exceeded 36 billion euros (over 174 billion PLN), emitting CO2 at the level of 31 billion tons. This is roughly the same as New Zealand emits annually. The war also caused soil contamination. According to calculations by the Ukrainian government, the destruction of land means losses of about 11.4 billion euros. The ground contains fragments of ammunition, destroyed industrial and thermal power infrastructure, oil depots and hazardous substances that pollute groundwater and cause irreversible damage to the environment. One-fifth (20%) of Ukrainian protected areas are at risk, including 2.9 million hectares belonging to the pan-European Emerald networks. So far, losses related to forests, which cover 16.7% of the country, have been estimated at around EUR 440 million. Ukraine has 56 national parks, which together cover 2.4% of the country's area and are also exposed to destruction, due to so-called ecological terrorism [Kuffel 2022]. Therefore, the Russian invasion of Ukraine caused not only human losses but also significant environmental and climatic damage, the repair of which will require many years and high costs for the international community [Popiołek 2022].

The consequence of Russian aggression is therefore a greater focus of the international community on helping Ukraine than on the common interest in sustainable development and tourist traffic in this country.

The selected examples of threats to tourism related to sustainable development are not always the cause of its inhibition. Despite climate change, drought and their effects, the tourism industry is still developing. Greece continues to set tourism records, and the Aegean and Ionian islands are the most visited regions in Europe per capita. According to the World Travel and Tourism Council, tourism globally accounts for about 10% of employment and about 9% of GDP [Szymański 2024]. Despite this, mass tourism worsens the situation in the practice of sustainable development. More and more tourists need more and more water. On the popular island of Santorini, water consumption has more than doubled since 2020. Mass tourism overexploits local resources, destroys the landscape and exerts economic pressure on local communities. Investments in mass tourism have little respect for the natural and cultural landscape; and the landscape is one of the basic values for which tourists come to a given place. Almost everywhere, the aim is to attract as many tourists as possible. This is what business is about, after all. Doubts arise as to whether sustainable development of nature, economy and people is possible in such situations. Is this tourism and business sustainable?

The residents of towns affected by the excess of tourists oppose mass tourism which violates the principles of sustainable development. At the beginning of the tourist season, around 60,000 residents of the Canary Islands mobilised to draw the attention of the government in Madrid to the fact that unsustainable tourism is damaging the future of Canary communities, which

live on the verge of social and environmental collapse. In their protests, they asked what they should do with the rubbish left by tourists. How to purify sewage? Why build golf courses and numerous swimming pools that require intensive irrigation in a place where there is a problem with access to water? In Barcelona, residents shoot tourists with water pistols. In Palma, the capital of Majorca, residents demonstrated by carrying banners reading "Your luxury, our misery". They also carried cardboard models of airplanes and cruise ships. Venice, which has introduced a five-Euro entry fee to the city, is discouraging tourists. Local pickets are being organised in many Spanish towns. The demands were similar, i.e. they included introducing a moratorium on tourism, imposing an additional ecological tax and limiting the sale of real estate to people from outside of Spain [Winiecki 2024].

Excessive tourism in cities and regions is called overtourism. In Poland, Kraków (mainly the Old Town area), Gdańsk and Zakopane struggle with this phenomenon, mainly during the holidays [Żemła, Szromek, Orzeł, Para 2021].

An example of nature destruction in terms of recreation and relaxation is peat development in Norway. These are private recreational, weekend and holiday houses built on hills, lowlands and naturally valuable areas, important for the protection of peat bogs. In Norway, this type of construction and recreation investment developed especially during the pandemic. The Norwegian Office of Statistics estimates that about 550,000 such houses have been built. The average "cottage" has an area of almost 104 m^2. Only in recent years have the Norwegians realised that their recreational "cottages" are the greatest destroyer of native nature [Gurgul 2024]. The above examples of threats to sustainable development also indicate risks to the development of tourism; and vice versa. Tourism, especially mass tourism, limits sustainable development. The confrontation of sustainable development principles with human activity in the areas of nature, economy and society shows that this idea is difficult to implement. The vision of the world included in its principles is beautiful. It shows nature, economy and society without misery, poverty, wars, managing and living in harmony with nature. Its assumptions concern the future and speak of programmes, expectations or dreams [Zimniewicz 2016]. A similar assessment can be made of tourism, which is to be sustainable. However, the functions of tourism have positive and negative dimensions. Tourism brings benefits, but also causes losses. Questions arise, to which there are no clear answers: Does tourism integrate or divide people and communities? Does it protect nature or destroy it? Does it contribute to the socio-economic development of regions and localities or does it cause their degradation? Does it shape people's personality and awareness or does it demoralise them? [Alejziak 2000]. In other words, is tourism sustainable? An interesting opinion regarding the adverse impact of tourism on the life of modern man was given by Jost Krip-

pendorf [1987]. He called tourism an environmental devourer, presenting it as a snake eating its own tail. It should be added that mass tourism poses the greatest threat to the natural and social environment. The negative image of tourism perceived in this way leads to the opposite, positive question. Will tourism supported by the principles and values of sustainable development be the "medicine" that will create its positive image and beneficial functions? Will the idea of sustainable tourism and development be comparable to a fashion or a new religion in which values and norms depend on the faith that people profess? This problem requires further discussion and a separate study [Niezgoda 2024]. In the context of the presented discussion, it should be emphasized that in the development of scientific knowledge on sustainable development and sustainable tourism, collaboration between representatives of such scientific disciplines as economics, management, sociology, political science, ecology and spatial geography is necessary. Unfortunately, it is currently difficult to talk about such cooperation.

Conclusions

The presented difficulties concerning the sustainable development of nature, economy and society in the situation of global warming and its effects, natural disasters and armed conflicts create questions. For example, is this development still possible?; or does it have to wait for better times? Will financing sustainable development be an additional burden for the economy?; or, on the contrary, will it become an impulse for its growth? The answers to these questions are not simple or unambiguous. It should be emphasized that contemporary situations in the area of nature, economy and society postpone implementing the idea of sustainable development. The idea does not find the right socio-economic background. On the other hand, these barriers should be limited, and a background conducive to implementing the principles of sustainable development and sustainable tourism should be created. In the implementation of this idea, economic, geopolitical and socio-conscious factors play a leading role. From an economic point of view, the climate crisis can be an element of strategic behaviour and marketing activities. In their strategy, corporations focus on making a profit at the expense of marginalising the assumptions of sustainable development [Zimniewicz 2016]. In limiting such behaviours, companies must be supported by legal changes, legal stability and broader communication with science. They must move towards decarbonisation and reducing gas emissions.

Sustainable development must be combined with investments in renewable energy sources. They mitigate the effects of the climate crisis, create new valuable jobs and reduce greenhouse gas emissions. These activities should not be perceived only in terms of current, economic costs, but above

all, in terms of benefits for society and nature [Jak pogodzić 2022]. The achieved profits are conducive to the development of tourism.

Geopolitical factors of sustainable development and tourism refer to the international and domestic situation; among others, to armed conflicts (e.g. the war in Ukraine), the effects of the pandemic, the transparency of legal regulations and their application. The energy market crisis and global warming have become a factor pushing the idea of sustainable development to the margins. The strategy of ensuring the existence of enterprises and the possibility of continuing their operations has gained greater importance. It is therefore necessary to accelerate investments in a rational energy mix, including the development of renewable energy sources, hydrogen and nuclear energy. These actions will ensure sustainable development [Gates 2021]. Social awareness is a factor that promotes or inhibits applying the principles of sustainable development. It should be shaped through education at primary, secondary and higher levels. We cannot underestimate how people actually think and behave. It would be necessary to broadly explain and educate what the rationality of actions and solutions related to energy, climate and sustainable development is. Human communities, particularly exposed to the effects of climate change and smog, should be protected, supported and encouraged to participate in the transformation. The basic condition conducive to implementing the idea of sustainable development is not only protection of nature, development of the economy and society. Integration of business with science, cooperation of social organisations and public administrations (government and local government) on a global and local scale is important. These activities also apply to tourism.

Guided by the assumptions of sustainable development recorded in the 2030 Agenda, their implementation in tourism requires appropriate actions on a global, local and regional scale. They concern responsible human activity. People are accountable for climate change that threatens tourism. It is thus necessary to shape the awareness of society focused on sustainable development. The need to popularise environmental education is essential. It is essential to indicate ethical values - goals related to nature, economy as well as society and the standards of their implementation [*World Code of Ethics for Tourism*, www.world-tourism.org/code_ethics/eng.html; Sikora, Kaczocha, Wartecka-Ważyńska 2024].

Tourism, as a factor of sustainable development, should protect the natural environment, maintain sustainable economic growth and fairly meet the needs of current and future generations. Institutions interested in sustainable development and tourism, including local authorities, should create projects for sustainable and tourism development, and evaluate these projects. The presented actions should minimise threats to implementing the idea of sustainable development, to tourism and limit the negative impact of tourism on sustainable development.

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CONFLICTS IN SUSTAINABLE TOURISM – TYPES, SOURCES, SOLUTIONS

*Agnieszka Niezgoda**

Abstract

Purpose. The aim of this article is to review and attempt to systematise the different levels and types of conflict situations with an indication regarding the sources of their emergence, and to propose solutions for developing sustainable tourism through the use of conflict management concepts.
Method. The study is a literature review comprising qualitative content analysis and synthesis.
Results. Conflicts are divided into three levels along with the sources of conflict occurrence. The research also resulted in a proposal fpr conflict management techniques that may be useful in destinations pursuing sustainable tourism objectives. The techniques were related to the functions of conflict management: warning-informational, diagnostic, stimulating and integrating, and the entities at destinations for which these techniques can be most useful were identified.
Research and conclusions limitations. The study is of theoretical and conceptual nature, while empirical research among different groups using tourist destination resources would be an important complementary element needed in order to gain certainty about the presented divisions. The different scope of activities among all stakeholders involved in shaping the integrated tourism product in different regions is also a limitation.
Practical implications. An applied contribution is the proposal of management techniques for implementing sustainable tourism principles by conflict management function.
Originality. The original contribution is separation of the levels, types and sources of conflicts occurring in tourist reception areas, together with the proposal for conflict management techniques in achieving sustainable tourism goals broken down by conflict management function and responsible stakeholders.
Type of work. Review paper with elements of applied solutions.

Keywords: sustainable tourism, conflict management, stakeholders in tourism destination, tourism product.

Introduction

Despite many works on sustainable tourism development, the issue is still topical and requires research at both theoretical and practical levels. According to the definition provided by UNWTO (United Nations World Tourism Organisation) [2023], sustainable tourism: "takes its present and future economic, social and environmental impacts into account, while meeting the needs of visitors, the industry, environment and host communities".

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Defining sustainable tourism in this way points to the different groups of actors representing not only the different services that make up the tourism product, but also the different economic sectors operating at the destination. The need to match the interests of these different actors is reflected in the concept of an integrated tourism product. It includes a set of products offered by service providers, as well as the attractions and assets of the tourist destination that satisfy their needs [Panasiuk 2019; Niezgoda 2024].

The tourism product, from such a perspective, is comprehensive and includes not only the offer of tourism enterprises, but also goods and services that local government units and other types of entities are responsible for providing (e.g. tourism organisations or service providers related to securing livelihood needs in the tourism region). The various elements of a tourism product are the result of the activities carried out by a number of actors who are concerned with their profit in meeting the needs of tourists. The differing objectives of the actors can create conflicts. All the more so, as Byrd [2007, p. 6] pointed out, tourism development decisions are made top-down, where 'experts' make decisions.

As noted by Panasiuk [2019, p. 138], an integrated tourism product is created on many levels and its structure consists of a variety of elements that form a coherent whole for tourism consumers.

The problems arising in tourist areas are therefore due, firstly, to the different objectives and needs of the actors using the resources of one area and, secondly, from the need for different economic sectors and industries to coexist in the same area.

The resolution and avoidance of conflicts at tourism destinations is particularly important for embracing the idea of sustainable tourism, which can be defined as: "any form of tourism thus planned and managed as to sustain the ecological, social and economic integrity of the sites, taking the present and future needs of visitors, the environment and host communities into account" [Niezgoda 2024, p. 44]. Therefore, sustainable tourism is a development option that, according to WTO guidelines [2023], ensures:

1) the optimal use of environmental resources, including maintaining basic ecological processes and helping to conserve natural resources including biodiversity;
2) respecting the socio-cultural authenticity of host communities by preserving their living cultural heritage as well as traditional values, and contributing to intercultural understanding and tolerance;
3) ensuring viable, long-term economic activities that provide an equitable distribution of socio-economic benefits to all stakeholders, including stable employment and income opportunities as well as social services to host communities, and contributing to poverty reduction.

This framing of sustainable tourism, which can apply to different forms and types of tourism developed in any area, requires that we look at the obstacles, which may include the conflicts that exist in tourist destinations.

The aim of this article is to review and attempt to systematise the different levels and types of conflict situations as well as their sources, and to propose concrete solutions for the development of sustainable tourism in tourist destinations. The proposals will refer to the concept of conflict management.

In order to introduce solutions, the author suggests systematisation of the levels of conflict that arise from the fact that those involved in tourism development and tourism product design present different, evolving needs over time. These needs require the development of infrastructure not only strictly for tourism, but also for other social and economic functions [Mermet 2021; Niezgoda 2006; Porfido, Tomas and Marull 2023; Postma and Schmuecker 2017]. Transformation is accompanied by the threat of imbalance, which is at the heart of the concept of sustainable development.

When aiming to develop sustainable tourism in an area, it is therefore essential to look for solutions that support the achievement of competitive advantage, both in relation to the tourist product (potential users are tourists) and in terms of the comprehensive product of the area (potential users are residents, investors, entrepreneurs, etc.). As a result, integrating the activities of all entities operating in the tourist reception area and counteracting conflict situations becomes a condition. [Niezgoda 2024; Postma and Schmuecker 2017]

The complex nature concerning the objectives of the various actors involved in sustainable tourism leads to the need for conflict management. As some conflicts are indeed inevitable, the main objective of conflict resolution should be to manage rather than prevent them. Furthermore, not all conflicts can be successfully resolved. In some cases, formalised conflict resolution through processes, such as negotiation and arbitration, serves to resolve issues. In other cases, more informal collaborative processes may be effective. Given the diverse range of stakeholders, it is also important to reflect on the sources of conflict at specific levels to identify possible solutions in line with the principles of sustainable tourism.

Analysing conflicts occurring in the tourism space is of significance because they can have warning-information, stimulating, diagnostic and integrating functions [Kowalczyk-Anioł and Włodarczyk 2017, p. 66]. In relation to these functions, in both the types of activities and the stakeholders that can undertake these activities to implement sustainable tourism will be identified in this paper.

Due to the theoretical and conceptual nature of this research, a qualitative research methodology was used: critical analysis of the literature leading to synthesis of knowledge. Due to the development of research on

sustainable tourism, mainly titles on the topic of tourism development by Polish and foreign researchers in regional and market terms were used. English-language items from 2025-2024 predominated.

Sources and levels of conflict at tourist destinations

The constant development of tourism and the expansion of colonisation areas, and even urbanisation of tourist areas [Liszewski 2009], resulted not only in the reduction of naturally valuable resources but also in the emergence of competition for access to them [Niezgoda 2024].

The flow of tourists to the old, but also to the newly created tourist regions, is causing increasingly disruptive effects: destruction of the natural environment, congestion, noise and also the commercialisation and obliteration of local culture. The massiveness of tourism is resulting in a search for more and more new areas to become tourist attractions [Bencivenga et.al. 2017; Kurek 2013; Meyer 2011].

The problem of managing and planning tourism development at different scales of management becomes crucial, which requires taking the conflicts that arise in places of tourism concentration into account. A prerequisite for this is the application of management practices that consider environmental sensitivities, and the diversification of activities adequate to the diversity of local conditions as well as the changing characteristics of contemporary tourism [Butler 1994; Esposito 2023; Orams 2000].

A review of the literature has made it possible to specify three levels, and within them several types of conflict. To recognise the nature of a particular type of conflict, the sources of conflict are also indicated (Figure 1).

The first level of conflict stems from the fact that tourism is only one form of economic activity in an area. The source of conflict at this level is the need to access scarce resources. This group includes the following types of conflict:

1) Conflict between tourism development goals and the need to preserve natural and cultural environmental resources, resulting from the fact that resources are the basis of tourism attractiveness and determine the construction of infrastructure [Butler 1994; Byrd 2007]. Preservation of natural environmental resources as a basis for tourism development, which may conflict with development plans, is indicated by Meyer [2010] on the example of the Zachodniopomorskie Voivodeship (Poland). Conflicts between nature conservation and the construction of recreational infrastructure were demonstrated by Niezgoda and Nowacki [2020] examining the motivations of tourists visiting Tatra National Park (Poland).

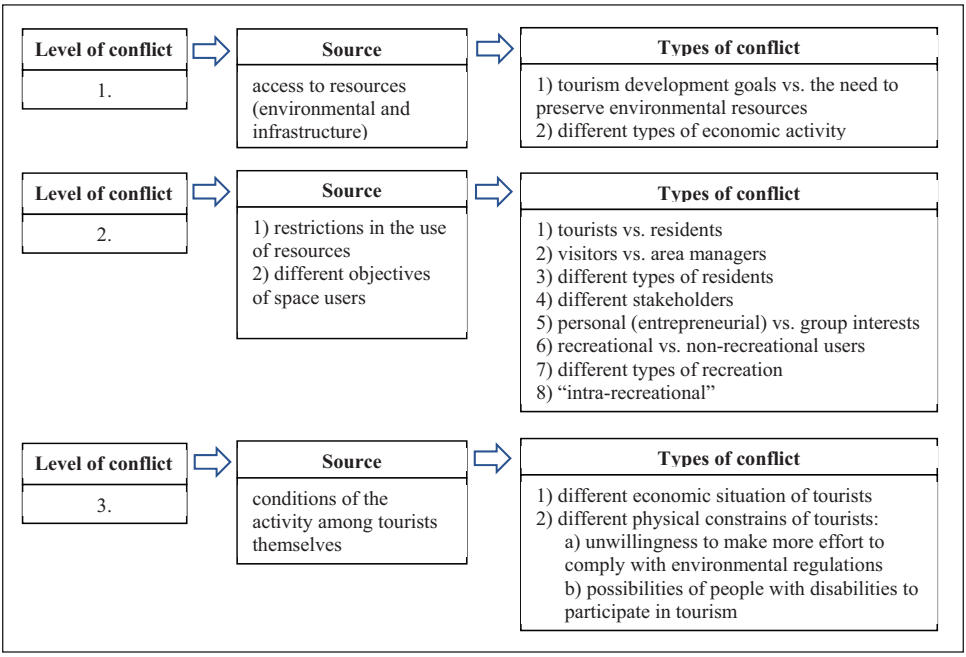

Figure 1. Levels, types and sources of conflict at tourism destinations.
Source: Own elaboration.

2) Conflict between different types of economic activity regarding access to environmental resources [Coci and Nicula 2022; Niezgoda 2006]. An example of this type of conflict is the divergence of opinion in Grönholm's [2010] study on the Archipelago of Turku between seasonal residents who wanted to preserve the unspoilt nature that creates the tourist attraction and permanent residents who would prefer faster economic development.

The second level of conflict relates to the different user groups of the resources offered by an area, where the source is their differing objectives. The following types of conflict can be mentioned here:

1) Conflict between tourists and residents concerning the use of space, in particular, the infrastructure of a place. The cause of this type of conflict is most often the exceeding of tourist capacity and absorption thresholds, which is also expressed in the phenomenon of overtourism [Diaz-Para and Jover 2021; Niezgoda and Żemła 2024]. Another reason may be inadequate planning of tourism development that does not take the control of tourist influx into account [Cochrane 2015]. Examples tend to be large cities where there is an exodus of permanent residents due to tourist congestion, e.g. Naples [Esposito 2023], but also small cities that are not prepared for this congestion, i.e. Matera [Bencivenga et al., 2017].

2) Conflict between visitors and area managers (local authority or protected area managers), particularly regarding the issue of restrictions on the use of tourism space resources. This conflict is particularly common in protected areas, where the actions of managers may be contrary to the expectations of tourists and local residents (e.g. in Tatra National Park in Poland, as shown by Partyka [2008]. For example, managers may seek to restrict routes and passages for tourists in order to minimise human interference with animal life or seek to limit urbanisation of zones adjacent to protected areas.
3) Conflict between different groups of residents, particularly between residents who benefit from tourism development and residents who are not directly involved in serving tourism [Mermet 2021; Niezgoda 2006]. An example is the situation in Reykjavik described by Mermet [2022]; and also in the Podlaskie Province (Poland), described by Niezgoda [2024].
4) Conflict between different stakeholder groups over access to resources or land use, which arises from the fact that the tourism industry is not homogeneous and stakeholders may pursue different objectives or different land uses [Byrd 2007; Niezgoda 2024]. Examples include the situation in Szczyrk described by Żemła [2010], where there was a conflict between different entities using attractive mountain areas, and the conflict in Warsaw described by Dziedzic [2010], where the local government was a party to the conflict.
5) Conflict arising from differences between personal (entrepreneurial) and group interests, most often concerning individual entrepreneurs in relation to local residents or collective entities: unions, clusters, associations. It is often due to a lack of understanding regarding the importance of general interests in relation to individual ones. The reason may be a lack of trust in collective stakeholders [Rapacz and Jaremen 2015] or fear of competition from other service providers in tourism [Rapacz 2005].
6) Conflict between recreational activities and non-recreational uses, examples of which include conflict between tourism and agriculture or forestry in protected areas (an example is the situation in Tatra National Park described by Partyka [2008]), or between tourism infrastructure and infrastructure that meets the needs of urban residents (an example is the situation in Naples described by Esposito [2017]). Conflicts between residents and tourists often occur due to insufficient public participation in the benefits of local tourism development, as demonstrated by Niezgoda and Markiewicz [2023] on the example of the Bieszczady region in Poland.
7) Conflict between land users practising different types of recreation occurring, for example, between cyclists and hikers or horseback riders

[Niezgoda 2024] or between cultural tourists and participants of bachelor parties in large cities, as noted by Postma and Schmuecker [2017] on the example of Hamburg.

8) Conflict between land users practising the same type of recreation (so-called 'intra-recreational') – for example, when an area is crowded or when the behaviour of one group of users is considered inappropriate or unacceptable by another group. 'Intra-recreational' conflict can also take place due to different levels of skill and experience of tourists – and, for example, amateurs may annoy experienced nature photographers at national parks [Eagles et al. 2002].

The third level of conflict in areas receiving tourists is that arising from the conditions of the stay and the activities of the tourists themselves. As indicated by the authors [Jakóbczyk-Gryszkiewicz and Gryszkiewicz 2007, p. 96], this conflict is most acute at two levels – monetary resources and physical fitness. Such conflicts may include:

1) Conflict resulting from a lack of match between financial resources that can be allocated to spending at the tourist destination, which may make the tourist unwilling to spend on goods and services that meet the criteria of sustainable tourism (for example, organic or from local producers). This is exemplified by the findings of Niezgoda and Kowalska [2020], which allow to indicate that young respondents preferred to spend money during their tourist trip on their own needs and did not think about the long-term goals of sustainable tourism.
2) Conflict due to physical constraints, which can have two dimensions. The first is the unwillingness of tourists to make more effort when they decide to stay in an area and then fail to comply with environmental regulations. This can refer, for instance, to the shortening of trails in naturally valuable areas or to the use of cars and parking in urban zones where this is forbidden for reasons of life quality among inhabitants [Cociș and Nicula 2022, Esposito 2022; Pérez Guilarte and Lois González 2018]. The second dimension of this conflict is the willingness of people with disabilities to participate in tourism who have not been secured a proper offer. Examples of the need for new solutions in this area are demonstrated in the results of a study by Zajadacz et. al. [2019], in which the shortcomings were indicated of the offer for people with disabilities on the Piast Route in Poland. This is a fundamental and relevant issue in terms of the intragenerative goals of sustainable development, which, in the spirit of the principle of an inclusive society, should ensure equitable access to resources.

In summary, the main source of conflict at the first level is access to resources, in particular, the natural environment but also infrastructure. At the second level of conflict, its sources are restrictions in the use of the resources of the tourism space, and the different objectives of the space users.

At the third level of conflict, its source is the conditions of the activity carried out by the tourists themselves, in particular, physical limitations.

The identified levels and sources of conflict can be the starting point for conflict management and identification of functions as well as entities that can introduce interventions in order to implement sustainable tourism.

Conflict management – functions, stakeholders and proposals for solutions

The concept referred to as "Conflict Management" refers both to ways of managing conflict and to specific approaches and strategies of conflict resolution [Thakore 2013]. As demonstrated by DeChurch and Marks [2001], at the personal level, conflict management has been defined as an individual's response to the perception that the current aspirations of the self and the other party cannot be achieved simultaneously. At the intragroup level, group conflict management describes the reactions of members within the group. While the type of conflict refers to the source or origin of the disagreement, conflict management concerns the strategies implemented by group members to reduce or resolve the conflict (e.g. cooperation, confrontation, avoidance).

The variety of solutions and strategies is due to the many causes, sources and contexts in which conflicts occur. The aim of conflict management, whether undertaken by the conflicting parties or requiring the intervention of an external party, is to influence the whole structure of the conflict situation in order to stop the destructive elements in the conflict process and to help parties with incompatible goals to find some solution to their conflict. Effective conflict management makes it possible, firstly, to minimise the disruption resulting from the existence of the conflict and, secondly, to provide a solution that is satisfactory and acceptable [Thakore 2013].

There are two basic approaches to conflict resolution. One is to understand the objectives and then establish a management system that allows the objectives of one group to be met without interfering with those of another [Kowalczyk-Anioł and Włodarczyk 2017]. In such a situation, compromise is abandoned, only focusing on the goals of one group. However, this is a rare approach, particularly in relation to sustainable tourism, as environmental protection limits the scope for action by different groups. The second approach is to try to change the goals of either or both groups (value integration), in which different solutions are possible: from forcing one group to capitulate or at least find compromise to a more constructive cooperative approach [Eagles et al., 2002; Page and Dowling 2001]. Once a decision has been made to resolve the conflict, action must be taken and consistently implemented in the long term [Niezgoda 2024].

The complex nature regarding the objectives of the various actors involved in sustainable tourism leads to the need for conflict management, in which warning and information, stimulating, diagnostic and integrating functions can be realised [Kowalczyk-Anioł and Włodarczyk 2017].

The warning-information function comprises educational activities that explain not only the significance of protecting the natural (or cultural) environment, but also the benefits of tourism development, a key aid in reducing conflicts. An important action is to carry out information campaigns, i.e. for the preservation of biodiversity, in order to make residents aware of the importance of preserving ancient types of vegetation in gardens and parks or converting popular, often mown lawns into flower meadows. Careful land-use planning taking the views of users into account, as well as management of tourist demand (number of tourists) and information about why a particular activity is allowed, are essential. As noted by the authors [Dwyer 2018; Majewski 2022], in protected areas, where traditional forms of agriculture are present, they may be considered part of the landscape heritage. Then, the benefits for nature conservation through the preservation of traditional agricultural and forestry culture should be communicated and emphasised. In areas under legal (strict) protection, activities other than those recreational are prohibited, thus eliminating such conflicts.

In protected areas, **visitor and education centres** are an effective way of acting on the warning and information function [Niezgoda 2006; Partyka 2008]. The creation of centres can serve the purpose of controlling the number of visitors, their routes of movement and their behaviour, for example, leaving designated trails. In national parks, the role of visitor centres can be played by museums associated with the park.

In urban areas, educational, cultural or urban information centres can take on the role of conflict management education points. Conflict resolution and prevention is possible through activities that support the goals of local residents, but also by clarifying the role of tourism, which can be undertaken in facilities closer to the community, for example, in neighbourhoods of large cities. As already stated [Niezgoda, Markiewicz 2023], highlighting the characteristics of the community allows for the strengthening of local identity which, in turn, fosters a higher quality of life and also influences the uniqueness of the comprehensive tourism product (town or area), as perceived by tourists.

The diagnostic role of conflict indicates differences in the objectives of the various audiences. For this role, another technique can be assigned, which is **the separation of activities (of one or different audience groups) in time or space**. This includes zoning (temporal and territorial). Zones can be designated in cities, where, for example, entry of certain types of vehicles is prohibited, or in naturally valuable areas, where **zoning ap-**

plies not only to entry but also to undertaking a certain type of activity [Niezgoda 2024]. In naturally valuable areas, the most commonly adopted zoning, coinciding with the UNESCO World Heritage Site regulations, is the division into three zones with varying protection models: strict, integrated protection, as well as biodiversity and landscape use protection zones [Eagles et.al. 2002].

Zoning can also be temporal, meaning that an area can be designated for different uses at different times of the day, during the week or seasonally. An example is regulations in cities, where the movement of residents or tourists is restricted during working hours or on particular days of the week. Zoning is relatively easy to understand, communicate to audiences and implement, but without supportive outreach measures, it can lead to escalating conflict. In the case of conflict between land users practising the same or different types of recreation, an action from this area is the introduction of trails dedicated to particular types of tourism, with clear signage as to what purpose and for whom the trail is intended. The zoning procedure is based on the choice of which areas will be subject to concentration and which to splitting tourist traffic.

The concentration strategy is to concentrate visitors in a specific area in order to reduce the impact of people staying in a wider area. Concentrating tourism in a smaller area provides an opportunity for more effective tourism management, although the impact of tourism development may be larger and more noticeable. A concentration strategy may discourage visitors from accessing other parts of the area [Niezgoda and Żemła 2024; Parralejo and Díaz-Parra 2021]. This is particularly important in highly protected areas or in those where there is already a congestion problem.

The dispersal (deconcentration) strategy is the 'opposite' of the concentration strategy and consists of 'drawing' tourists away from highly congested and environmentally, culturally or socially threatened places. To this end, potential audiences (tourists, but also residents) are encouraged to come to destinations (areas) that are less popular. To achieve this goal, cooperation with local authorities should be undertaken [Bencivenga et al. 2017; Niezgoda 2006; Pérez Guilarte and Lois González 2018]. Artificial attractions can also be created in areas where there is no threat to the natural environment. These attractions can replace threatened sites or generate interest in other assets.

In the case of exceptional, unique assets, **copies** are created and made available to tourists in exchange for a stay at an authentic site, the protection of which requires closure. Using a dispersal strategy, alternative tourism products can be created, exploited by generating new tourist interest in, for example, local culture, gastronomy, less frequented sights that are located outside the national park area, away from the seashore or the strict centre of a popular city [Niezgoda 2024; Foronda-Robles et. al. 2022].

General determinants of potential causes for conflict include the seasonality (accumulation) of tourist traffic, resulting from both the cycle of nature and the organisation of social life (holidays, weekends, public holidays, holidays, etc.) [Kowalczyk-Anioł and Włodarczyk 2017; Postma and Schmuecker 2017]. Thus, an important preventive measure is to **encourage visits at off-season times through price reductions or promotional activities**. In this view, the stimulating role of conflict is reflected. As the authors [Postma, Cavagnaro and Spruyt 2017] point out, it is important that no change be superficial and that the goal of sustainability is deeply embedded in the organisational goals that gave rise to the change.

Price regulation can refer to price increases during the peak season, but also to flexible pricing depending on the location and current use of the accommodation or attractions. In addition to dampening seasonality, in general, differentiated pricing can support conservation objectives as well as social ones during peak demand periods. A frequently used measure is to target off-season tourist demand segments in tourist reception areas that are not obliged by holidays or festive dates [Foronda-Robles and García-López 2022; Niezgoda 2006].

Another measure is to **modify the product for special audiences** – for example, organising conferences to use the tourism infrastructure on unpopular dates. Considering the relationship between different actors, entities and the regulatory sphere, as well as between competing areas, can contribute to regulating the influx of tourists locally as well as regionally, and it reflects the integrative role of conflict. The requirement is for territorial entities of different levels (municipalities, districts, provinces) to cooperate and work together instead of competing for tourist inflow [Pérez Guilarte and Lois González 2018; Postma and Schmuecker 2017].

As shown in the results of the research, compliance of the offer with the idea of sustainable tourism ensures its development into an integrated set of recognisable products. This idea is based on the elimination of conflicts between the recipients of different sub-products, which are: residents, tourists and investors [Mermet 2021; Niezgoda 2024].

Promotional activities, which can serve to minimise conflicts, are part of so-called selective demarketing and consist in reducing incentives for the arrival of those tourist segments for which pro-environmental motives are not a priority and their stay brings too little benefit in relation to the losses resulting from influx to the reception sites. Promotional activities can also be an attempt to convince potential tourists to go elsewhere, which corresponds to the strategy of dispersal of tourism. The stimulating role of conflict can be seen here. The dispersal strategy used to eliminate tourists from crowded places has been successful, for example, on the Ionian Coast [Bencivenga et al. 2017], on the Dalmatian coast [Bartoluci et al. 2014] and in Naples [Esposito 2023].

In the conflict management process, methods of so-called hard tourism demand management may also be used, which, according to the presented comprehensive view of sustainable tourism, can be extended to other users of the area, i.e. they apply not only to tourists, but also to local residents and entrepreneurs.

One of the more popular methods is to set **limits (norms)** by restricting the number of people or the length of stay at a certain place. A variant of this technique is to limit the stay on the basis of certain characteristics, for instance, restricting entry to a national park of groups with certain equipment (weapons, vehicles) and groups planning to undertake certain activities such as hunting or mass events. Limits can attract criticism from different groups in society and generate discussion, therefore, setting limits should be an opportunity to inform the public about the specific features of the area and the reasons for the reservations introduced.

One variant of limitation is the **qualification of visitor segments or organisers**, which involves limiting access to people having the required qualifications, such as those practising specialised forms of tourism. The qualification requirement is also reflected in legislation mandating that groups be accompanied by a qualified guide during the tour (as is the case of large cities). The qualification of visitors is a safeguard as it ensures that the area is visited by people who know the rules of visiting and protecting the assets, and that groups are coordinated by guides. This increases local employment for training and guiding, which fits in with the concepts of sustainable development.

Other tourism demand reduction measures include **requiring an itinerary** with the precise time and place of stay of the individuals or tourist groups using the services and attractions of a place. With such information, it is possible to pre-assign the place of stay by pre-booking or registering specific persons or groups to particular sites (heritage sites, protected areas, attractions, etc.), thus regulating tourist flows.

More rigid methods of limiting access to valuable assets are to **impose barriers or bans on certain activities** and, as a final resort, to **close off access** to the most valuable attractions (sometimes only at certain times). These measures are controversial, but can be justified if the diagnosis of the situation indicates that an excessive number, or stay of visitors, is detrimental within the context of long-term goals compatible with the idea of preserving resources for future generations. A prerequisite for understanding the purpose of the introduced bans is information and education activities for all actors involved in the sustainable tourism product. As the authors [Eagles et al. 2002; Niezgoda and Nowacki 2020] pointed out, closures can sometimes be counterproductive, as they can arouse tourists' interest and desire to visit such a "precious" place.

To summarise the considerations of management techniques, they can be related to the distinguished functions of conflict management. The dif-

ferentiation of the actors responsible for the various activities also makes it possible to relate the activities of a function to the actors implementing those activities (Table 1).

Table 1. Demand management techniques in relation to functions in the conflict management process and actors responsible for action

Function of conflict	Tourism demand management techniques	Management entities
Warning and information	Tourist centres	Local authorities/promotion bodies
	Price regulation	Market
	Selective demarketing	Companies
	Setting standards	Local authorities/national park managers
	Travel plan requirement	Local authorities/national park managers
	Barriers	Local authorities/national park managers
	Shutting down access points	Local authorities/national park managers
Diagnostic	Separation of activities among different customer groups	Enterprises, local authorities
	Qualification of market segments	Enterprises, local authorities
Stimulating	Modifying tourism product	Companies
	Concentration strategy	Local authorities
	Dispersal strategy	Local authorities
	Encouraging visits at times outside the tourist season	Local authorities/promotion bodies
Integrating	Tourist centres	Local authorities
	Copies	Local authorities/national park managers

Source: Own elaboration.

Conclusions and Discussion

Results

The presented in this article lead to the confirmation that the problem of conflicts at tourism destinations is very complex. The added value of this work is the synthesis of findings relating to various issues related to the problem of conflict management in tourist destinations in order to implement sustainable tourism principles.

The result of this synthesis is a proposal: a division of conflicts into three levels, a division within the level into types of conflicts and an indication of the sources of their occurrence.

Comparing the present deliberations with the findings of other authors, it is possible to agree with the observations of Cociș and Nicula [2022], who noted the conflict between different types of economic activity concerning access to environmental resources, as well as Byrd [2007] and Butler [1994], demonstrating the necessity of preserving natural and cultural environmental resources arising from the fact that resources are the basis of tourist attractiveness and determine the construction of infrastructure.

In the synthesis proposed in this article, the second level of conflict results from the use of space, in particular, the infrastructure of a place by different user groups. Eight types of conflict are noted at this level, which synthesises the findings achieved by Cochrane [2015], Pérez Guilarte and Lois González [2018], Mermet [2021], Rapacz and Jaremen [2015] Esposito [2023], Postma and Schmuecker [2017] and Eagles et al. [2002].

The third level of conflict noted in this study concerns the determinants of tourists' stay at destinations, which confirms the findings obtained by Jakóbczyk-Gryszkiewicz and Gryszkiewicz on physical activity [2007], Cociș and Nicula [2022], Esposito [2022], Pérez Guilarte and Lois González [2018]. Observations on the participation of people with disabilities in tourism, as derived from UNWTO guidelines [2023], are also part of this scope of conflict.

Conclusions

In the second, applied part of this article, conflict management techniques are proposed that may be useful at destinations pursuing sustainable tourism objectives. The techniques were related to the conflict management functions identified in the course of the deliberations: warning and informing, diagnostic, stimulating and integrating, and the subject in destinations for which these techniques can be most useful, was identified.

A further outcome of this paper is the suggestion to relate the techniques within the conflict management function to the actors who can implement them. This referencing is important given the complex nature of the tourism product indicated in the introductory section requiring the integration of the activities of different stakeholders.

The diversity of destinations and the range of activities of the management actors is the first limitation of the presented systematisation of the conflict management issue.

It is justifiable to agree with the position of Rapacz [2005], noting that the initiators and coordinators of activities in local development, including tourism development, are local authorities. As shown in research [Dziedzic 2010] on the topic of tourism development, the local government is not always the coordinator and may also be a party to the conflict with other users of space.

Companies, institutions and other entities related to the tourism market are involved in the creation of a comprehensive product and their scope of action concerns only selected activities, which may be a limitation of the study, since in achieving sustainable tourism objectives social and environmental goals take precedence over economic individual goals. Sustainable development goals in tourist destinations are not facilitated by the fact, demonstrated by Żemła [2010], that in important tourist destinations the conflicting parties are often those who, due to land ownership re-

lations and importance in the development of small destinations, assume a leadership role.

Limitations

A limitation for the implementation of the results of the present reflections can be the fact that the actions of tourism enterprises and organisations may be determined by market conditions and situations.

The considerations presented in this article can be a proposal for the implementation of solutions in specific tourist destinations. The diversity of destinations in terms of both tourism product and management methods is a limitation of the study.

The prerequisite for the creation of a complex sustainable tourism product, taking the objectives of the various stakeholders into account, is their cooperation. In studies by other authors it has been shown that the majority of businesses do not cooperate with public entities, and even if there is such collaboration, it takes place at a municipality level and mainly concerns the exchange of information [Panasiuk 2010]. In other studies, tourism market stakeholders found it difficult to take a firm and unequivocal position on the significance and development of cooperation in the region [Rapacz and Jaremen 2015].

Given the principles of sustainable tourism, a limitation may be that the same product utility functions can have different values for various groups of consumers, which may be the cause of conflicts that are difficult to resolve [Niezgoda 2024].

Future research

The presented proposals for actions to mitigate conflicts in tourism destinations can become a tool for implementing sustainable tourism. However, it should be borne in mind that in the case of further proposals for the implementation of solutions to complement the overview proposed in this thesis, it would be worthwhile to conduct research covering the indicated groups of actions in relation to individual tourism entities.

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MEASURING AND MANAGING THE CARBON FOOTPRINT OF TOURISM DESTINATIONS

Zuzana Gajdošíková, Mária Kürtiová***

Abstract

Purpose. Tourism is a significant contributor to greenhouse gas emissions, heightening the need for effective strategies to reduce its environmental impact. The aim of this study is to investigate the awareness of Destination Management Organisation (DMO) representatives about the carbon footprint and to propose an example for calculating the carbon footprint.
Method. A questionnaire survey was administered to all 39 DMOs in Slovakia. Synthesis of the results was carried out by comparing relative frequencies and visualising responses to open-ended questions in a word cloud. A methodology for measuring carbon footprint was developed.
Findings. The reciprocal relationship between tourism and climate change is explored, explaining approaches such as bottom-up and top-down methodologies for accurately quantifying tourism's carbon footprint, each with specific applicability, depending on data availability and destination type. A survey of Slovak tourism organisations revealed moderate awareness of carbon footprint issues, although actual measurement practices are lacking.
Research and conclusions limitations. An empirical study was conducted exclusively among Slovak destination management organisations, and the results as well as practical implications allow to presume the availability of sufficient financial, data and personnel resources.
Practical implications. Prerequisites for future efforts are highlighted, such as financial support, technical training and policy initiatives, to improve sustainability practices within Slovakia's tourism sector. The findings emphasize the need for comprehensive carbon management as a path toward carbon neutrality at tourism destinations.
Originality. This is the first type of survey conducted in Slovak conditions aimed at assessing destinations' awareness of the need for measuring and managing their carbon footprint. Additionally, the paper provides guidelines for measuring the carbon footprint and identifies the prerequisites necessary for its management.
Type of paper. This is a Research article.

Keywords: carbon footprint of tourism, climate crisis, sustainable tourism, tourism destinations.

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Introduction

The tourism sector is highly sensitive to climate change and simultaneously contributes to greenhouse gas emissions that drive global warming. This establishes a reciprocal relationship between tourism and climate change: on the one hand, tourism, through its impact (emissions, resource consumption, excessive waste generation), contributes to the climate crisis. On the other, climate change alters the nature of tourism itself, affecting destinations, businesses, their offerings and the direction of tourist flows. As global interconnectivity deepens, the decisions made by tourists can yield extensive consequences. The tourism sector remains one of the fastest-growing industries, significantly influencing both environmental sustainability and the continuous growth of tourism destinations. In response to these challenges, international tourism organisations have increasingly advocated for sustainable tourism development practices worldwide. A critical strategy in this regard is the measurement and management of the carbon footprint associated with tourism, recognised as an effective approach to mitigate the sector's negative environmental influence. The measurement of this synthetic indicator is crucial, as it allows for the comparison of carbon footprints between regions and provides a tool for evaluating changes over time. By quantifying the emissions produced by tourism activities, destinations can identify areas for improvement, track progress towards sustainability goals and implement targeted interventions. Moreover, this data-driven approach enables the identification of best practices and the development of benchmarks for other regions to follow. The aim of this study is to is to investigate the awareness of DMO representatives about the carbon footprint and to propose an example for calculating the carbon footprint.

Tourism, alike any other industrial sector, generates greenhouse gas emissions, leading to a continuous rise in its carbon footprint. In contemporary contexts, numerous destinations are actively pursuing initiatives aimed at reducing their carbon footprints, with the goal of achieving carbon neutrality within the tourism sector.

The essence of carbon footprint measurement and management at tourism destinations

The World Tourism Organization characterises a destination as a physical place with or without administrative boundaries at which visitors can stay overnight. It is a cluster of products, services, activities and experiences (UNWTO, 2008). Prior to the COVID-19 pandemic, the success of destinations was mainly evaluated in economic terms. That is, the focus was chiefly on number, tourism revenue and visitor consumption. "Too much focus on

economic development undermines the ability to realistically perceive the impacts of the tourism sector on climate change, the limiting capacity of the biosphere to support human civilization, and the high levels of environmental pollution" [Gúčik 2022, p. 113]. Accelerating climate action in tourism is thus critical for the resilience of the sector [UNWTO, 2021]. Human-induced climate change can have consequences that may lead to the damage of ecosystems [Miralles et. al. 2023]. The negative environmental impact of tourism in terms of climate change include poor management of drinking water resources, desertification, deforestation as well as inappropriate waste management and transport.

Carbon dioxide is the Earth's most important greenhouse gas. It is a gas that absorbs and radiates heat. Unlike oxygen or nitrogen (which make up most of our atmosphere), greenhouse gases absorb heat radiating from the Earth's surface and release it again in all directions, including back to the Earth's surface. Without carbon dioxide, the Earth's natural greenhouse effect would be too weak to maintain surface temperatures above freezing [Yoro and Daramola 2020]. However, adding more carbon dioxide to the atmosphere increases the natural greenhouse effect, causing global warming [Lindsey 2023]. Climate change, and the climate crisis itself, are very closely linked to the world's carbon dioxide emissions. Carbon dioxide emissions are one of the components of greenhouse gases that are released into the atmosphere in various ways. These emissions can come from natural sources such as volcanic eruptions, livestock farming, decomposition of plants in nature, and also from human activities such as the burning of fossil fuels [Natural History Museum, 2023].

Lenzen et. al. [2018] found that from 2009 to 2013, the global carbon footprint of tourism increased from 3.9 to 4.5 Gt, which is four times higher than predicted. The most significant contributors to this increase were visitor transport to destinations, visitor shopping and visitor dining. Tourism transport accounted for up to 23% of the world's total carbon dioxide emissions, and as air transport is essential to tourism, this percentage is expected to continue to grow rapidly along with tourism demand [UNWTO, 2019]. In the Glasgow Declaration (2021), which was presented at the Climate Change Conference, it is stated that carbon emissions have increased by at least 60% from 2005 to 2016. Of this, 5% comprised transport-related emissions. If the destinations do not begin to implement strategies leading to a reduction in their carbon footprint, transport-related carbon dioxide emissions are expected to increase up to 25% by 2030.

There are two types of carbon footprint. One is that referring to the direct GHG emissions caused by the direct combustion of fossil fuels, such as energy consumption and transport [Lenzen et. al. 2018]. The second type of carbon footprint concerns to the amount of indirect GHG emissions hidden in goods and services that consumers use on a day-to-day basis [Huang

and Tang 2021]. Measuring and monitoring the carbon footprint of tourism should be part of its reduction. However, most countries do not produce regular estimates of tourism emissions and there is a lack of initiative from policy makers to capture tourism emissions at the destination level [Pham, Meng and Becken 2022].

Three main analytical approaches for measuring and assessing the carbon footprint of tourism are mentioned in several scientific articles. The first is the measurement of carbon footprint using calculators. These calculators are available online for users or can be downloaded from the website for free. The main limitation of carbon footprint calculators is that they are mainly focused on direct tourism emissions, which are emissions from aviation and other ground transport, and indirect tourism emissions are not considered [Conefrey and Hanrahan 2022]. A second, important analytical approach to measure the carbon footprint of tourism is Life Cycle Assessment (LCA). In general, it is a computational model excellent for measuring the carbon footprint of tourism destinations [Huang and Tang 2021]. LCA is also regulated by ISO 14040:2006, in which it was described how LCA can help with understanding the environmental impact of various activities. LCA can help businesses or destination destinations to identify opportunities for improving the environmental performance of products or services at different stages of their life cycle, to strategically plan and define priorities associated with environmental transformation, to select relevant indicators associated with measuring environmental impact and for marketing purposes [ISO, 2006].

The so-called bottom-up approach is associated with LCA. This approach is focused on the consumption of visitors and is based on process analysis [Conefrey and Hanrahan 2022]. Thus, it can be said that the focus of this approach is on the behaviour of visitors. The LCA and the bottom-up approach are combined to increase the accuracy of measuring the carbon footprint at destinations [Ecochain 2024]. By combining the two approaches, destinations can measure both direct and indirect emissions of products and services at the production, consumption and disposal stages [Rico, et. al. 2019]. Although the bottom-up approach is considered a suitable starting point for most destinations, it is extremely data- and resource-intensive, as well as time-consuming. However, it is considered by the scientific community to be the most accurate [Conefrey and Hanrahan 2023].

A third analytical approach for measuring the carbon footprint of tourism is the top-down method. The top-down approach is mainly focused on data from countries' tourism satellite accounts and is used to examine the demand for tourism products and services [Seyhan and Russo 2020]. This approach is internationally recommended because it allows to estimate both direct and indirect emissions from tourism and requires less time and funding. Conefrey and Hanrahan [2022] stated that a top-down approach cannot lead to an objective assessment of tourism's carbon footprint at des-

tinations because it assumes that visitor behaviour does not change. It is known that tourism trends are constantly changing, therefore, it cannot be assumed that visitor behaviour remains the same. Nevertheless, this approach is practical, provided that the destination places have a satellite account of tourism [Gyawali and Naranjo 2018]. The top-down approach is based on national policies, legislation and requires the participation of actors at international and national levels [Seyhan and Russo 2020].

Aim, material and methodology

To assess the current status of carbon footprint measurement and management among regional tourism organisations in Slovakia, a mixed-methods approach was employed, combining a questionnaire-based survey with a content analysis of organisational websites and a comparative review of relevant literature and international case studies.

The primary research tool was a structured questionnaire consisting of three closed- and three open-ended questions. These questions were focused on the organisations' awareness, existing practices and future interest in measuring as well as managing tourism-related carbon emissions. The questionnaire was electronically distributed via email to all 39 officially recognised destination management organisations in Slovakia, ensuring full coverage of the target population. A total of 20 organisations responded, representing approximately 51% of the DMOs. The responses were collected and analysed to identify key trends and gaps in carbon footprint-related practices.

To complement the survey and partially address non-response bias, a content analysis of the websites of non-responding organisations was conducted. In this analysis, the authors searched for any publicly available information related to carbon footprint initiatives, sustainability practices or climate change mitigation. Finally, the empirical findings were contextualised through a review of academic literature and international best practices, which serve as a benchmark for developing tailored recommendations for tourism destinations.

Results

In order to assess the current status of carbon footprint measurement and management among regional tourism organisations in Slovakia, a questionnaire survey was employed. A total of 39 regional tourism organisations were contacted, of which 20 provided responses (Table 1). Responding organisations included Gron Region, Northern Spiš-Pieniny, Šariš-Bardejov,

Žitný Ostrov-Csallóköz, Vysoké Tatry-Podhorie, Gemer, Kysuce, Horehronie Region, Záhorie and Kopanice, Orava Cluster, Visit Košice, Dudince, Rajecká Dolina, Central Slovakia, Malá Fatra, Liptov Region, Senec Region, Trnava Tourism, Tekov Region and the Bratislava Tourist Board. The initial question of the questionnaire was focused on evaluating the level of awareness regarding the carbon footprint of tourism among these regional organisations (see Table 1).

Table 1. Survey results on organisations' awareness of carbon footprint management and measurement

Researched issue	Positive response (%)	Negative response (%)
Awareness of carbon footprint issues in regional tourism organisations	65	35
Carbon footprint measuring	0	100
Carbon footprint management	70	30
Interest in measuring and managing their carbon footprint in the future	70	30

Source: Own elaboration.

Current status of carbon footprint measurement and management in tourism destinations

In the survey conducted among regional organisations, it was found that awareness of the carbon footprint associated with tourism exists among over half of the respondents. The second question was focused on whether the carbon footprint of tourism in various destinations is being measured and managed. Notably, it was indicated by all responding organisations that the carbon footprint of tourism in their areas is not currently measured. When asked about strategies for carbon footprint management, measures such as the electrification of public transport, minimisation of single-use plastics, utilisation of renewable energy sources, and the promotion of cycling and walking were included. It was reported by thirteen organisations that management of the carbon footprint of tourism has begun, with many attributing their affirmative response to the well-developed cycling infrastructure present at their destinations.

Destinations in central and eastern Slovakia, popular among tourists, are considered to be well-positioned to manage the carbon footprint of tourism effectively and to decarbonise the sector. The extensive forest cover in the region, serving as a natural carbon sink, suggests that carbon neutrality

could potentially be achieved relatively quickly in these areas. Additionally, initiatives to electrify public transport are being observed at many of these locations.

The fourth question in the survey aimed to assess interest in measuring and managing the carbon footprint of tourism in the future among regional tourism organisations. It is encouraging to note that significantly more than two-thirds of the responding organisations perceive the carbon footprint as an area of interest that will be addressed in the future. The final component of the survey was implemented to identify the necessary steps organisations need to take to begin addressing the carbon footprint of tourism. Insights were solicited on the actions required to create suitable conditions for the measurement and effective management of tourism's carbon footprint. The responses provided by organisations regarding the actions they consider essential for advancing their sustainability initiatives are summarised in Figure 1.

Figure 1. Organisations' views on resources needed to measure and manage the carbon footprint of tourism.

Source: Own elaboration, 2024.

The organisations' responses to the question of what their area organisation would need to be able to effectively measure and manage its carbon footprint were very similar. Responses such as financial provision, personnel resources, data to measure carbon footprint, technical assistance in the form of education and training on tourism carbon footprint, as well as a manual on measuring and managing tourism carbon footprint were among

the predominant responses. All these findings will help to develop suggestions and recommendations for future measurement and management of the carbon footprint of tourism at destinations in Slovakia.

In the case of regional organisations that did not respond to the created questionnaire, their websites were chosen to be surveyed. Mentions of the carbon footprint for tourism were searched on the websites of the regional organisations. The websites of the regional organisations were examined, but no direct or related mention of the carbon footprint of tourism, nor any efforts to minimise it, were found.

Prerequisites for the application of carbon footprint measurements at destinations

To begin measuring the carbon footprint of tourism in Slovakia, the proper measurement method must be chosen. To measure the carbon footprint of tourism as effectively as possible, a hybrid approach, combining both bottom-up and top-down methods, is recommended. A substantial amount of data is required to measure and quantify the carbon footprint of tourism. Some data are more readily obtained using a bottom-up approach, while other data are more accessible through a top-down approach. In Table 2, the distribution of methodological approaches used to measure the carbon footprint of tourism in Slovak destination locations is presented. The top-down approach was selected for sectors in which the use of the Tourism Satellite Account or other national statistics and findings is appropriate. The bot-

Table 2. Distribution of methodological approaches to measuring the carbon footprint of tourism by sector

Sector	Subsector	Methodological approach
Accommodation and other services	Accommodation services	Hybrid
	Catering services	Top-down
	Travel agency services	
	Cultural services	
	Sports and recreational services	
Road transport	Domestic tourism	Bottom-up
	Foreign tourism	
Air transport	Flights	Bottom-up
	Airports	
Waste	Solid waste from visitors	Bottom-up

Source: Own elaboration, based on [Global Environmental Facility 2015].

tom-up approach was selected for cases in which destination locations can collect data for calculating the sector's carbon footprint.

Based on the study of literature and case studies, as well as the knowledge of the mutual relationship between the climate crisis and tourism, the knowledge was applied as a good starting point for designing options to measure and manage the carbon footprint of tourism destinations in Slovakia. The general equation for the baseline level of GHG emissions from the tourism sector [1] according to Global Environmental Facility [2015] is as follows:

$$Total\ emissions_{co2}$$

$$\sum[(\boldsymbol{Accom\&other_{GHG} + Road_{GHG} + Rail_{GHG} + Air_{GHG} + Ship_{GHG} + Waste_{GHG})\ x\ GWP}] \quad [1]$$

$Accom\&other_{GHG}$ – total emissions from accommodation and other tourism services.
$Road_{GHG}$ – total visitor carbon dioxide emissions from road transport.
$Rail_{GHG}$ – total visitor carbon dioxide emissions from rail transport.
Air_{GHG} – total visitor carbon dioxide emissions from aviation.
$Ship_{GHG}$ – total visitor carbon dioxide emissions from shipping.
$Waste_{GHG}$ – total carbon dioxide emissions from visitor waste management.
GWP – global warming potential of carbon dioxide.

The global warming potential of carbon dioxide is always set at 1. This coefficient is utilised to compare the strength of different greenhouse gases in contributing to global warming. It expresses the extent to which a given greenhouse gas warms the Earth's surface. Carbon dioxide consistently maintains a global warming potential of 1 and is employed as the reference greenhouse gas because it is the most abundant greenhouse gas emitted by human activities and possesses the longest atmospheric lifespan [EPA, 2024].

As the measurement of the carbon footprint of Slovakia's tourism has not yet reached the same level as in other foreign countries, it is deemed irrelevant to examine certain indicators. In the adjusted formula, total carbon dioxide emissions from rail transport and from shipping are excluded. Carbon dioxide emissions from shipping have been omitted due to Slovakia's status as a landlocked country without access to the sea. Although cruises for tourism visitors are available in Slovakia, the size of the carbon footprint generated from these cruises is not considered significant. This indicator has also been excluded because the most frequently visited destination cities do not offer such cruises due to the absence of major watercourses within their territories. Additionally, the carbon footprint of rail transport has been excluded because of the lack of transport accessibility between some

of the larger tourist cities. It is believed that rail transport is not utilised by visitors to the same extent as private car transport or public bus transport.

The carbon footprint of accommodation and other facilities can be quantified using the hybrid principle. If a top-down approach were to be employed, data from the Energy Balance of Slovakia could be utilised. However, important data, such as the electricity consumption of tourism facilities, is not included in the Energy Balance of Slovakia. If data on the energy consumption of accommodation and other tourism facilities were available, it could then be used to determine the energy intensity of these services and calculate the carbon footprint. This would represent an appropriate solution for assessing the carbon footprint of visitor accommodation all across Slovakia.

If the focus is on specific destinations within Slovakia, a bottom-up approach is proposed. By utilising a bottom-up approach, annual electricity consumption can be monitored and recorded by accommodation and other facilities. An appropriate step would involve the creation of a database for businesses offering tourism services at the destination locations. It could be organised according to the regionalisation of tourism in Slovakia to ensure optimal clarity. The annual energy consumption of accommodation and other tourism facilities would subsequently be incorporated into the following formula [2]:

$$\sum_{i=1}^{n} (\boldsymbol{Activity_i \; x \; Emission \; factor_i}) \qquad [2]$$

$Activity_i$ – represents the electricity consumed by equipment (MWh).
$Emission\ factor_i$ – coefficient quantifying emissions by unit of activity.

The emission factor for electricity consumed in Slovakia is reported to be 0.252 (tCO2/MWh) according to the European Commission's declaration. This indicates that the consumption of 0.252 MWh of energy produces one tonne of carbon dioxide emissions. The same formula can be applied to measure the carbon footprint of drinking water consumption in tourism businesses. In this case, the activity component of the formula is replaced with the water consumption of the facilities, leading to the determination of the water emission factor, which, according to foreign literature, assumes values ranging from 0.34 to 0.46 kgCO2/m^3 [Brightest 2024]. However, a universal emission factor for water consumption is not yet available in Slovakia.

Measurements regarding the carbon footprint of road transport are considered more challenging and time-consuming than those for accommodation and other tourism services. Using a bottom-up approach, the average fuel consumption of tourism visitors and the distance travelled from their place of residence to their destination would need to be determined. Addi-

tionally, it would be required to ascertain whether the visitor's car is powered by a petrol or diesel engine, as the emission factors for these two fuels differ significantly. This information would be obtained through a bottom-up approach. For both domestic and international tourism, knowledge of the distance travelled by visitors from their place of residence is essential. Naturally, the carbon footprint of visitors arriving at a destination from a greater distance will be higher. The formula for calculating the carbon footprint of road transport at tourism destinations (for passenger cars) is as follows [3]:

$$\sum \boldsymbol{US_{pc} = Distance\ x\ Average\ fuel\ consumption\ x\ Emission\ factor_i} \quad [3]$$

US_{pc} – carbon footprint of passenger car transport in tourism destinations.
Distance – distance travelled, from place of residence to place of destination, given in km.
Average fuel cosumption – given in l/km.
Emission factor – coefficient for fuel by engine typology.

Collecting data on average fuel consumption is a time-consuming task for the destinations. The average fuel consumption can be calculated as: Fuel consumed (l) ÷ distance travelled (km) x 100. Destinations can reach this data by asking about their levels at accommodation establishments or tourist information centres. The development of a mobile application could also aid destination points in collecting this data from visitors. Emission factors for fuel consumption can be obtained from the CEPA 2020 document, which was supported by the European Social Fund. If visitors travel to the destinations by public transport using tour buses, their carbon footprint is measured as follows [4]:

$$\sum \boldsymbol{US_{Mt} = Distance\ x\ Number\ of\ passengers\ x\ Emission\ factor_i} \quad [4]$$

US_{Mt} – carbon footprint of mass transit visitors.
Distance – distance travelled from the place of residence to place of destination (given in kilometres).
Number of passengers – number of people travelling to destination.
Emission factor – coefficient for fuel according to engine typology.

The total road transport emissions of visitors arriving at a tourism destination [5]:

$$\sum \boldsymbol{US_{pc} + US_{Mt}} \quad [5]$$

To calculate the carbon footprint of airports, the following data is required: the airport's electricity consumption, the number of international visitors, the total number of visitors, the emission factor for electricity con-

sumption, and the emission factor for aviation fuel. Based on these data, a formula has been constructed to calculate the carbon footprint of airports in Slovakia [6]. This calculation method is modelled following the example of measuring the carbon footprint of tourism in the state of Montenegro [Global Environment Facility 2015]:

$$US_A = (Activity\ x\ Emission\ factor_i + \sum Fuel\ consumption\ x\ Emission\ factor_{ii})\ x\ \frac{Number\ of\ foreign\ visitors}{Total\ number\ of\ visitors} \quad [6]$$

US_A– airport carbon footprint.
Activity – electricity consumed at airport.
Emission factor$_i$ – emission factor for electricity consumption, 0.252 tCO2/MWh [European Commission, 2024].
Fuel consumption – aviation fuel consumption for period under consideration (e.g. 1 year), in tonnes.
Emission factor$_{ii}$ – aviation fuel emission factor, 3.16tCO2/t [IATA, 2022].

In the case of calculating the carbon footprint of air transport at tourism destinations, we face the problem of carbon footprint allocation. To date, it is not entirely clear how the carbon footprint of international flights is allocated to states. There is a general rule in the aviation world that works on a 'departure principle'. This means that the carbon footprint of a flight is allocated to the country in which the flight starts. The following formula for calculating the carbon footprint of flights is proposed by the authors of the current study [7]:

$$US_F = Distance\ x\ Number\ of\ passengers\ x\ Emission\ factor_i \quad [7]$$

US_F– carbon footprint of one flight (tCO2).
Distance – distance between airports (km).
Number of passengers – number of passengers arriving at destination from abroad.
Emission factor$_i$ – aviation fuel emission factor (3.16).

International visitors can also calculate their carbon footprint using online calculators that apply the proven per-person carbon footprint measurement to a given flight. The presently assumed approach to calculating the carbon footprint of both airports and flights is bottom-up. Next, focus is directed towards measuring the waste produced by visitors [8]:

$$US_W = Waste\ quantity\ x\ Emission\ coeficient_i \quad [8]$$

US_W– carbon footprint of waste generated by tourism visitors.
waste quantity – total amount of waste generated by visitors in tourism (kg).
Emission coeficient$_i$ – waste emission coefficient.

A bottom-up approach was implemented to determine the carbon footprint of visitor waste in tourism. In this case, the role of destinations and tourism businesses is to measure and monitor the waste generated by tourism visitors. It is also important to establish a uniform emission factor for the carbon dioxide emissions from visitor waste. Provided that destinations and tourism businesses have this data, they will be able to measure the carbon footprint of visitor waste generation.

Conclusion

In conclusion, a relationship has been identified between the climate crisis and the development of tourism globally. The carbon footprint of tourism has been recognised as a significant environmental threat. Through engagement with destination management organisations, insights were gained into how certain organisations in Slovakia are addressing the issue of tourism's carbon footprint. The specific needs for these regional organisations to begin a more thorough approach to addressing the carbon footprint of tourism were identified.

In the final part of the research, various options were provided for destinations to measure and manage their carbon footprint. It is important to note that all measures for evaluating and managing the carbon footprint are resource-intensive, requiring substantial financial, staffing and data commitments from the destinations. Without securing these critical variables, the journey toward sustainable tourism is likely to prove challenging.

The aim of this study was to investigate the awareness of DMO representatives about the carbon footprint and to propose an example for calculating the carbon footprint. Based on the survey of destination management organisations in Slovakia, it is hypothesized that unless the current state of funding, access to data and staffing levels for these organisations change, effective measurement and management of the tourism carbon footprint will remain unattainable. If sufficient financial resources were available to the regional organisations, data and staffing issues could be addressed. Finally, it is believed that providing technical assistance and adequate training in the measurement and effective management of the tourism carbon footprint is essential for destination management organisations wishing to enhance their sustainability efforts. Such support would contribute to ensuring the sustainable development of tourism in Slovakia.

Measuring the carbon footprint of tourism presents certain challenges that distinguish it from other economic activities. Unlike many other sectors, tourism involves a wide array of activities, such as transportation, accommodation, dining and recreational services, each contributing to emissions in a different manner. This diversity makes it difficult to devel-

op a standardised measurement approach that would allow to accurately capture the full scope of tourism-related emissions. Moreover, tourism is highly seasonal, with varying levels of visitor activity throughout the year — and this can lead to fluctuating emissions patterns. Additionally, the mobility of tourists and the widespread distribution of emissions across numerous stakeholders complicate efforts to assign specific emissions to entities or activities.

These unique characteristics highlight the need for tailored approaches to measuring the carbon footprint of tourism. In future research, these factors should be considered in order to develop more precise, context-specific methods for accurately assessing the environmental impact of tourism activities.

A limitation of this study is the absence of a comprehensive review and evaluation of existing methods for measuring the carbon footprint of tourism. Instead, the paper is focused on presenting a specific proposal for how such measurements could be implemented, based on the awareness of Destination Management Organisation (DMO) representatives. While this approach provides valuable insights into potential measurement methods, it does not cover the full spectrum of currently available methodologies. This gap highlights the need for further research to critically assess and compare existing carbon footprint measurement methods within the tourism sector.

Additional research in this area is also warranted. It should be noted that while reporting on the carbon footprint is currently the responsibility of large companies (those employing 500 people or more), starting 2026, small and medium-sized enterprises in some countries, such as Poland, will also be required to report their carbon footprints. It is important to consider the implications of such regulations in Slovakia, particularly in relation to tourism enterprises. This presents a significant area for future research, in which examining the capacity of tourism businesses to measure and report their carbon footprint, as opposed to regional or local tourism organisations, could provide valuable insights into how smaller players in the tourism sector might address sustainability challenges.

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Annex 1. Structured questionnaire

Measurement and control of carbon tracks in the target places dedicated to tourism in Slovakia.

Dear respondent,
We kindly invite you to participate in a short survey on the topic of measuring and managing the carbon footprint of tourism in Slovakia. The aim of the questionnaire is to gather insights from destination management organisations regarding their awareness, practices and future interest in addressing the carbon footprint of tourism destinations. The survey consists of 6 short questions and will take approximately 5 minutes to complete. Your participation is voluntary, and all responses will be treated confidentially and used solely for research purposes.
Thank you for your time and valuable input.
We wish you a pleasant day!

1. **Is there awareness regarding the issue of tourism–related carbon footprints within your destination management organisation?**
   – Yes
   – No
   If yes, please explain how:
2. **Does your regional tourism organisation measure the carbon footprint of tourism *(measurement emissions oxide carbon dioxide coming from the tourism sector)?***
   – Yes
   – No
   If yes, please explain how:
3. **Does your regional tourism organisation implement measures to reduce the tourism–related carbon footprint *(for example: electrification of transport, reduced use of plastics, use of renewable energy sources, promotion of cycling and pedestrian tourism at the destination)?***
   – Yes
   – No
   If yes, please explain how:
4. **Is your regional tourism organisation interested in addressing the issue of tourism–related carbon footprints in the future *(for example, by measuring and managing emissions effectively to support the sustainable development of tourism at the destination)?***
   – Text answer
5. **What do you think your regional tourism organisation would need to effectively measure and manage the tourism-related carbon footprint in the future?**
   – Text answer
6. **Name of the tourism management organisation.**
   – Short text answer

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EXTENDING THEORY OF PLANNED BEHAVIOUR WITH PERSONAL NORMS AND PAST TRANSPORT USAGE IN TOURIST PRO-ENVIRONMENTAL BEHAVIOR

Levent Soyalp*

Abstract

Purpose. The aim of this study is to identify the factors influencing pro-environmental intentions among tourists, which are essential for advancing sustainable tourism in light of the substantial environmental impacts associated with travel. By extending the Theory of Planned Behavior (TPB), the roles of personal norms are examined in this research as an additional predictor and past motorised transportation usage as a moderating factor.
Method. Data were collected from a sample of 302 tourists and analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate the extended TPB model and identify key determinants of pro-environmental intentions.
Findings. The results indicate that attitudes, subjective norms and perceived behavioural control all significantly influence tourists' pro-environmental intentions, with personal norms emerging as a particularly strong predictor. Additionally, past motorised transportation behaviour may act as a moderator, influencing the relationship between norms and behavioural intentions.
Research and conclusions limitations. While the findings offer valuable insights, the study is limited by its sample, which may not be fully representative of tourists from diverse cultural, environmental and geographical contexts. Future research should validate the model across varied settings to enhance generalisability and examine potential variations in pro-environmental behaviour across different contexts.
Practical Implications. In this study, the critical role is highlighted of fostering personal norms and considering past behaviour patterns to encourage sustainable tourism practices. Insights from this research can inform targeted strategies for the promotion of environmentally-responsible behaviours among tourists.
Originality. In contrast to prior studies, TPB is extended in this research by incorporating past motorised transportation behaviour as a moderator, providing a novel perspective on behavioural spillover effects. This approach offers a deeper understanding of the complex interplay between personal norms, past behaviours and pro-environmental intentions.
Type of paper. Research article.
Keywords: sustainable tourism, environmentally-friendly behaviour, pro-environmental behaviour, theory of planned behaviour, personal norm, past behaviour

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Introduction

Through economic growth and social development, tourism has the potential to enhance quality of life for both local residents and tourists. However, tourism also poses substantial challenges to environmental sustainability [Azam et al., 2018; Katircioglu et al., 2014; Lenzen et al., 2018; Mason 2003; Niezgoda 2023]. Tourism has been identified as a significant contributor to environmental degradation, accounting for approximately 8% of global greenhouse gas emissions [Lenzen et al., 2018]. Notably, tourism-related transportation constitutes the largest share of these emissions, responsible for 73% of the sector's total carbon footprint [UNWTO & ITF, 2019].

The industry is also a noteworthy contributor to environmental issues, including various forms of pollution and greenhouse gas emissions, with tourism-related activities accounting for approximately 5% of carbon emissions [Lenzen et al., 2018]. Consequently, consumer behaviour within tourism has become a critical area of study for promoting environmental sustainability.

Pro-environmental behaviour, which seeks to reduce negative environmental impacts or provide environmental benefits, is essential to achieve sustainability in tourism [Kollmuss and Agyeman, 2002; Steg and Vlek, 2009]. Integrating diverse theoretical approaches has shown promise in providing more comprehensive insights into pro-environmental behaviour in the context of tourism [O'Connor and Assaker 2021; Ribeiro et al., 2023; Soyalp 2024]. The personal norm is one of the essential determinants of pro-environmental behaviour, reflecting an individual's internalised values and moral obligations that drive environmentally-responsible actions [Lin et al., 2022]. Despite its importance, the role of personal norms within the TPB has been relatively underexplored in studies of tourists' pro-environmental behaviour.

Additionally, the role of behavioural spillover as a moderating factor remains underexplored [Liu et al., 2020]. Specifically, the moderating effect of past motorised transportation behaviour on the relationship between norms and tourists' pro-environmental behaviour has received limited attention. To address these gaps, the current study extends the TPB by examining the role of personal norms as an additional predictor and past motorised transportation usage as a moderating factor, thereby enhancing the model's applicability and depth in predicting tourists' pro--environmental behaviours.

Literature review

Pro-environmental behaviour and theory of planned behaviour

Pro-environmental behaviour, as defined by Kollmuss and Agyeman [2002], describes actions that consciously seek to minimise the negative impact of one's actions on the natural and built world [p. 240]. This conscious decision-making process underscores an awareness of environmental impacts and a willingness to act in ways that minimise harm. Individuals may choose to reduce their energy consumption, recycle waste or participate in community clean-up initiatives to lessen their environmental footprint. These behaviours demonstrate a deliberate intention to address environmental concerns and a sense of responsibility towards the planet. Building on this concept, Steg and Vlek [2009] described pro-environmental behaviour as a form of consumption that either minimizes harm to the environment or actively benefits it. This definition broadens the scope of pro-environmental behaviour, encompassing not only harm-reducing actions but also those that contribute positively to environmental health. This more expansive view suggests that environmental stewardship involves both reducing negative impacts and engaging in proactive measures to enhance ecological well-being. We can conclude that promoting or increasing pro-environmental behaviours may have positive influence on the environment we live in, making it an essential priority.

TPB is an extended version of the reasoned action theory, which does not include the perceived behavioural control variable [Fishbein and Ajzen 1977]. According to TBP [Ajzen 1985; Ajzen 1991], human behaviour can be effectively predicted through the integration of three primary determinants: attitude towards the behaviour, subjective norm and perceived behavioural control. These constructs collectively offer a comprehensive framework for understanding the motivational factors that drive individuals' decision-making processes, particularly in the context of pro-environmental behaviours within tourism settings [Goh et al., 2017; Clark et al., 2019; Wang et al., 2020]. Furthermore, the integration of the TPB with other models and variables can further enhance the understanding of tourists' pro-environmental behaviour [Chen and Tung 2014; Han and Kim 2010; Han 2015].

In the literature on the subject, it is indicated that the TPB provides a robust theoretical foundation for modelling tourists' pro-environmental behaviour [Lin et al., 2022; Zhang and Quoquab 2024]. Building on this foundation, in the current study, it is posited that the three primary variables of TPB are significantly associated with tourists' pro-environmental intentions. Based on this assumption, the following hypotheses are proposed.

H1: Attitude towards behaviour is significantly correlated with tourists' pro-environmental behaviour.

H2: Subjective norm is significantly correlated with tourists' pro-environmental behaviour

H3: Perceived behavioural control is significantly correlated with tourists' pro-environmental behaviour.

Significance of personal norms with regard to pro-environmental behaviours

Personal norms are defined as an individual's belief about whether acting in a certain manner is morally right or wrong [Bamberg et al., 2007]. Schwartz [1977] differentiated these types of norms from social norms, emphasizing that personal norms are rooted in an individual's internalised sense of remorse or guilt when failing to meet their own standards for specific behaviours. In a meta-analysis of 194 studies on factors influencing pro-environmental behavioural intentions among tourists and hospitality consumers, Lin et al. [2022] identified personal norms as the strongest predictor of pro-environmental behaviour. Similarly, De Groot et al. [2021] demonstrated that stronger personal norms are significantly associated with increased pro-environmental behaviours in the context of food and dietary choices. In the tourism context, Gao et al. [2022] found that personal norms directly influence pro-environmental behaviour. Furthermore, Esfandiar et al. [2021] identified personal norms as the primary driver of waste disposal behaviour in a national park setting. Based on these findings, the following hypothesis is proposed.

H4: Personal norms are significantly correlated with tourists' pro-environmental behaviour.

Behavioural spillover on pro-environmental behaviours

One of the spillover effects is so-called behavioural spillover and performing a behaviour may influence conducting another one. Spillover effects are defined as *the extent to which engaging in one behaviour influences the probability of conducting a subsequent behaviour* [Nilsson et al., 2017: p. 574]. The phenomenon of spillover effects, wherein various pro-environmental behaviours mutually influence each other positively or negatively, has been investigated by researchers [Lanzini and Thøgersen 2014; Ling et al., 2023; Truelove et al., 2016; Dolan and Galizzi 2015; Jessoe et al., 2021].

Liu et al. [2020] found a significant positive correlation between daily green behaviours and tourists' intention to engage in pro-environmental behaviours at their destination. Furthermore, their research suggests that

daily green behaviours act as a moderator, influencing the strength of the relationship between pro-environmental behavioural intention and actual pro-environmental behaviour.

Xu et al. [2020] investigated the spillover effect of pro-environmental behaviours within the contexts of both home and tourism in China. Their findings revealed a significant positive correlation between pro-environmental behaviours exhibited at home and those practiced during vacations. Gao et al. [2022] found empirical evidence indicating that daily green behavioural habits can also be transferred to different spatial contexts, such as tourism.

Bilynets and Cvelbar [2022] investigated the prevalence of pro-environmental behaviours across domestic and tourism contexts. Their research uncovered a discrepancy in behaviour, with a general decrease in pro-environmental actions observed within the tourism context. Additionally, they noted that individuals demonstrating a stronger commitment to pro-environmental behaviours in their domestic lives were more likely to maintain them as tourists.

In the current study, it is posited that previous motorised transportation use may negatively moderate the relationship between personal norms and pro-environmental behaviour, as well as between subjective norms and pro-environmental behaviour. Despite the potential of environmentally--friendly behaviours to mitigate environmental problems, the use of motorised transportation as well as its resulting carbon and other gas emissions remain among the most significant contributors to environmental issues in the context of tourism. This usage can, in fact, negatively affect individuals' inclination towards other pro-environmental behaviours. This phenomenon can be explained through the Cognitive Dissonance Theory [Festinger 1957]. When tourists are aware that their choice of transportation has a substantial environmental impact, this awareness may create a psychological conflict that weakens their commitment to engaging in or continuing other pro-environmental actions. As result, the following hypotheses are proposed.

H5: Past motorised transportation behaviour negatively moderates relationship between personal norms and tourists' pro-environmental behaviour.

H6: Past motorised transportation behaviour negatively moderates the relationship between subjective norm and tourists' pro-environmental behaviour.

All the proposed relationships are presented in Figure 1.

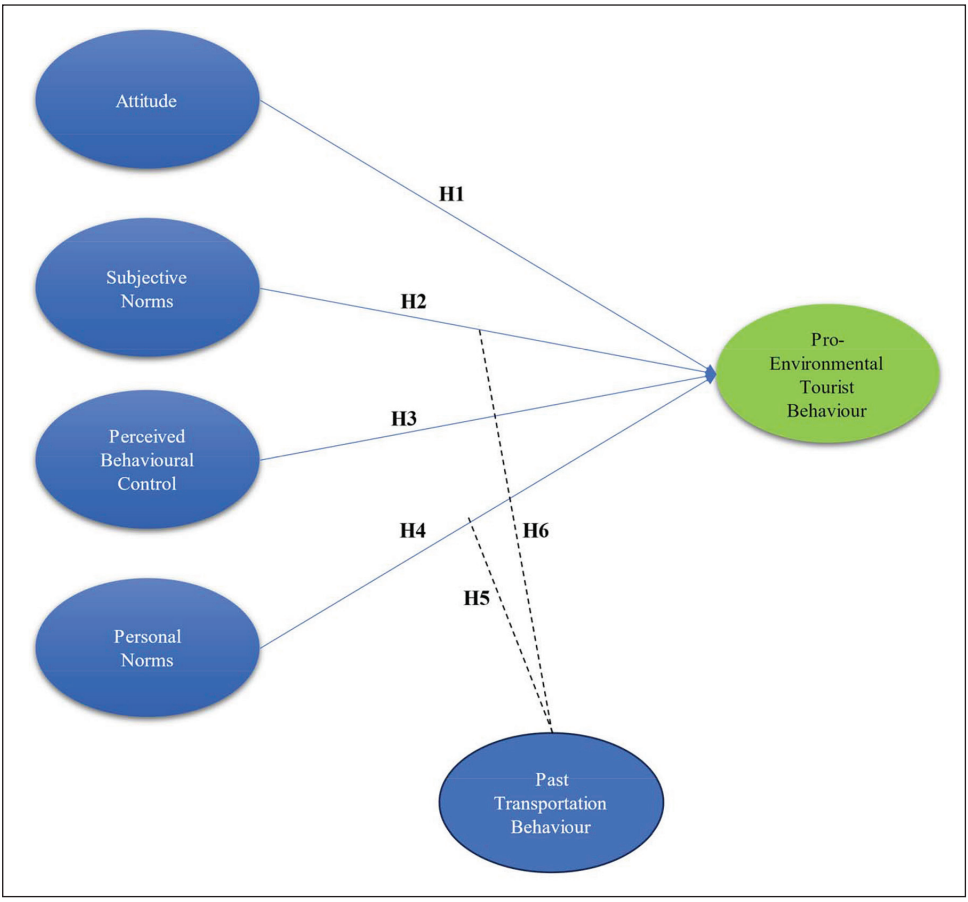

Figure 1. Proposed model for tourists' pro-environmental behaviour.
Source: Own study.

Method

In order to test the proposed relationships, an online survey using Google Forms was used to collect data from participants. This method was chosen to enhance accessibility, efficiency and data accuracy, while also reducing costs and minimising environmental impact. Participants were selected using a convenience sampling method, primarily due to the time and budgetary constraints of the trial.

Eligible participants were identified through the email pool of Poznań University of Economics and Business, as well as relevant Facebook groups. An email invitation was sent to university staff, and students were approached in person to encourage their participation. For Facebook groups, keywords such as "tourist", "destination", "tourist destination" and simi-

lar terms were used to locate appropriate groups for sharing the survey. In total, 100 participants were recruited through Facebook groups, and 202 participants from the university. Ultimately, 302 participants completed the survey. No monetary incentive was offered during the study.

Survey design

The survey consists of three main sections and begins with a welcome page that explains the study's purpose. It then proceeds with questions related to latent variables, and the final section contains inquiries about participants' demographics.

The adapted survey allowed to validate items from previous studies to measure latent variables and their relationships, ensuring consistency and reliability for the current study. Specifically, three items were used to assess subjective norms [Han 2015], two for personal norms [Jansson and Dorrepaal 2015], three for perceived behavioural control [Han 2015; Song et al., 2012], one item for attitude towards behaviour [Hansmann et al., 2020], and three items for pro-environmental behavioural intention [Han 2015]. These five constructs were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The second section contains three questions regarding past flight behaviour. Participants were asked, "In the last year [2022], how many times did you travel by plane as a tourist? Please indicate the flight duration". The question was divided into three categories: flights of less than three hours, flights lasting three to six hours and flights longer than six hours.

The final section includes demographic questions such as age, gender, country of residence, education level, income and dietary habits.

Participant profile

The survey included a total of 302 participants, whose demographic and socioeconomic characteristics are summarised below (Table 1). The majority of participants (49.34%) were between the age of 16 and 25, followed by those aged 46-55 (14.90%) and 26-35 (11.92%). The smallest age group comprised participants above the age of 65 (5.30%). In terms of gender distribution, females made up the majority of the sample (59.27%), while males represented 38.41%. A small proportion identified as non-binary (0.66%) or preferred not to disclose their gender (1.66%).

Educational attainment varied, with half of the participants (50.00%) holding a university degree, followed by 25.17% with a master's degree and 15.89% with a doctoral degree. A smaller share had only completed secondary school (7.95%) or pre- secondary school education (0.99%).

Income levels demonstrated diversity. The largest group (20.53%) preferred not to disclose their income, while 18.54% earned at least 100% more

than the minimum wage, and 15.89% reported having no salary. A substantial portion earned below or at the minimum wage (8.94% and 10.60%, respectively), while 12.58% earned 20% higher than the minimum wage, and 9.60% earned 50% higher.

Regarding dietary habits, the majority (71.52%) had no special dietary preferences. However, 11.92% identified as vegetarians, 4.30% as pescatarians, 2.98% as vegans and 9.27% reported other dietary preferences.

Table 1. Participants' profiles

VARIABLE		n	PERCENTAGE (%)
AGE	16-25	149	49.34
	26-35	36	11.92
	36-45	30	9.93
	46-55	45	14.9
	56-65	26	8.61
	>65	16	5.3
	Total	**302**	**100**
GENDER	Female	179	59.27
	Male	116	38.41
	Non-binary	2	0.66
	Prefer not to say	5	1.66
	Total	**302**	**100**
EDUCATION	Pre- secondary school education	3	0.99
	Secondary school	24	7.95
	University	151	50
	Master's degree	76	25.17
	Doctoral degree	48	15.89
	Total	**302**	**100**
INCOME	Below minimum wage	27	8.94
	Minimum wage	32	10.6
	%20 higher than minimum wage	38	12.58
	%50 higher than minimum wage	29	9.6
	%80 higher than minimum wage	10	3.31
	%100 or more higher than minimum wage	56	18.54
	I do not have a salary	48	15.89
	Prefer not to say	62	20.53
	Total	**302**	**100**

CITIZENSHIP	Polish	163	53.97
	British	18	5.96
	Turkish	9	2.98
	Canadian	7	2.32
	French	5	1.66
	USA/American	12	3.97
	German	8	2.65
	Other European (e.g. Austrian, Dutch, Spanish, Swiss)	20	6.62
	Other (e.g. Australian, Bangladeshi, etc.)	60	19.87
	Total	**302**	**100**
EATING HABITS	No special preferences	216	71.52
	Other	28	9.27
	Pescetarian (eat plants and only fish meat)	13	4.3
	Vegan (eat only plant-based products, none animal-based)	9	2.98
	Vegetarian (do not eat meat, but eat animal-based products)	36	11.92
	Total	**302**	**100**

Source: Own study.

Data analysis

Descriptive statistics performed using SPSS (Statistical Package for Social Sciences) software (version 28), while structural equation modelling was conducted with Smart-PLS 4.0 software [Ringle et al., 2024].

Structural Equation Modelling (SEM)

In the study, partial least squares structural equation modelling (PLS-SEM) was used to assess the proposed model. PLS-SEM is generally used for non-normal distributed data or small sample size [Hair et al., 2017]. The study follows the recommendations of Hair et al. [2021] for structural equation modelling.

The initial step in the partial least squares structural equation modelling involves assessing the measurement model, which includes evaluating the reliability and validity of the items and constructs. This process ensures that the indicators accurately measure the underlying latent variables. The outer loadings matrix assesses the relationships between indicators and their respective latent constructs in partial least squares structural equation modelling (PLS-SEM). An outer loading of 0.708 or higher is typ-

ically considered acceptable [Hair et al., 2019], indicating that an indicator explains more than 50% of the variance in the construct. In this analysis, attitude (ATTI1) and past motorised transportation usage (FLY3), which consist of only one item each, naturally have loadings of 1.000. Perceived behavioural control (CONT1, CONT2, CONT3) shows loadings of 0.893, 0.627 and 0.816, with CONT2 slightly below the threshold. The subjective norm (INJ1, INJ2, INJ3) and pro-environmental behavioural intention (INT1, INT2, INT3) constructs have loadings exceeding 0.708, suggesting strong indicator reliability. Personal norms (PERS1, PERS2, PERS3) similarly exhibit high loadings between 0.826 and 0.880. Overall, almost all the items meet or exceed the 0.708 threshold, supporting the measurement model's reliability and validity (Table 2).

Table 2. Outer loadings of items

	ATTITUDE	FLYING	PB CONTROL	PERSONAL NORMS	PRO-INTENTION	SUBJECTIVE NORM
ATTI1	1.000					
CONT1			0.893			
CONT2			0.627			
CONT3			0.816			
FLY3		1.000				
INJ1						0.870
INJ2						0.932
INJ3						0.918
INT1					0.847	
INT2					0.842	
INT3					0.817	
PERS1				0.826		
PERS2				0.873		
PERS3				0.880		

Source: Own study.

Cronbach's alpha values for all constructs exceeded the acceptable threshold of 0.70, ensuring adequate internal consistency reliability. Specifically, Cronbach's alpha for perceived behavioural control (0.724), personal norms (0.824), pro-environmental behavioural intention (0.785) and subjective norm (0.893) confirms that the items within each construct are sufficiently interrelated. In terms of composite reliability, both rho_a and rho_c are used as additional measures of construct reliability. For all constructs, composite reliability values were well above the rec-

ommended threshold of 0.70, with perceived behavioural control showing a rho_a value of 0.877 and rho_c of 0.827, personal norms with a rho_a value of 0.827 and rho_c of 0.895, pro-environmental behavioural intention with rho_a of 0.790 and rho_c of 0.874, and subjective norm with rho_a of 0.909 and rho_c of 0.933. These values indicate a strong level of internal consistency and confirm that the indicators adequately capture the latent constructs. Furthermore, the average variance extracted (AVE) for all constructs exceeds the recommended minimum value of 0.50, indicating that the constructs capture a significant amount of variance from their respective indicators. The AVE values for perceived behavioural control (0.619), personal norms (0.740), pro-environmental behavioural intention (0.698) and subjective norm (0.823) all support the convergent validity of the constructs, as each construct explains a substantial portion of the variance in its associated items. All of the results are presented in Table 3.

Table 3. Construct reliability and validity

	CRONBACH'S ALPHA	COMPOSITE RELIABILITY (RHO_A)	COMPOSITE RELIABILITY (RHO_C)	AVERAGE VARIANCE EXTRACTED (AVE)
PERCEIVED BEHAVIOURAL CONTROL	0.724	0.877	0.827	0.619
PERSONAL NORMS	0.824	0.827	0.895	0.740
PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION	0.785	0.790	0.874	0.698
SUBJECTIVE NORM	0.893	0.909	0.933	0.823

Source: Own study.

Next, the discriminant validity of the constructs was assessed using both the Fornell-Larcker criterion [1981] and the heterotrait-monotrait (HTMT) ratio. According to the Fornell-Larcker criterion [Fornell & Larcker 1981], the square root of the AVE for each construct should be greater than the highest correlation of that construct with any other construct in the model. As shown in the results, no issues of discriminant validity were detected, and the Fornell-Larcker results are presented in Table 4.

Similarly, the HTMT results further confirm that there are no concerns regarding discriminant validity for this study and all of the values are less than 0.85 threshold [Henseler et al., 2015], with the HTMT results provided in Table 5. The results indicate sufficiency for further analysis.

Table 4. Fornell-Larcker criterion results

	ATTITUDE	FLYING	PB CONTROL	PERSONAL NORMS	INTENTION	SUBJECTIVE NORM
ATTITUDE	1.000					
FLYING	-0.008	**1.000**				
PERCEIVED BEHAVIOURAL CONTROL	0.311	0.010	**0.787**			
PERSONAL NORMS	0.367	-0.010	0.375	**0.860**		
PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION	0.461	0.056	0.330	0.457	**0.836**	
SUBJECTIVE NORM	0.308	0.007	0.331	0.367	0.362	0.907

Source: Own study.

Table 5. Heterotrait-monotrait ratio (HTMT) results

FLYING <-> ATTITUDE	0.008
PERCEIVED BEHAVIOURAL CONTROL <-> ATTITUDE	0.330
PERCEIVED BEHAVIOURAL CONTROL <-> FLYING	0.071
PERSONAL NORMS <-> ATTITUDE	0.404
PERSONAL NORMS <-> FLYING	0.033
PERSONAL NORMS <-> PERCEIVED BEHAVIOURAL CONTROL	0.413
PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION <-> ATTITUDE	0.518
PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION <-> FLYING	0.063
PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION <-> PERCEIVED BEHAVIOURAL CONTROL	0.382
PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION <-> PERSONAL NORMS	0.563
SUBJECTIVE NORM <-> ATTITUDE	0.323
SUBJECTIVE NORM <-> FLYING	0.009
SUBJECTIVE NORM <-> PERCEIVED BEHAVIOURAL CONTROL	0.349
SUBJECTIVE NORM <-> PERSONAL NORMS	0.424
SUBJECTIVE NORM <-> PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION	0.426

Source: Own study.

Results

To prevent problems with collinearity, the Variance Inflation Factor (VIF) was checked. All the values totalled less than critical threshold value of 5.0. Moreover, only the value for the INJ2 item was higher than 3.0. These results provide evidence there is no collinearity problem for the proposed model (Table 6).

Table 6. Results of collinearity statistics (VIF)

	VIF
ATTI1	1.000
CONT1	1.369
CONT2	1.419
CONT3	1.685
FLY3	1.000
INJ1	2.328
INJ2	3.215
INJ3	2.790
INT1	1.600
INT2	1.728
INT3	1.604
PERS1	1.679
PERS2	1.958
PERS3	2.068
FLYING x SUBJECTIVE NORM	1.000
FLYING x PERSONAL NORMS	1.000

Source: Own study.

As an indicator for the exploratory power of the model, adjusted R-square was checked. The value of adjusted R-square was equal to 0.335. Then, the model was bootstrapped by following Streukens and Leroi-Werelds [2016] recommendations in PLS-SEM and 10,000 bootstrap were implied in one-tail for the study. According to the empirical results, Hypotheses 1, 2, 3 and 4 were supported. Also, hypothesis 5 had a 0.054 *p*-value and was slightly higher than the threshold *p*-value. Therefore, it can be evaluated as partly supported. All the path coefficients and *p*-values are presented in Table 7.

Table 7. Path coefficients and p-values

	ORIGINAL SAMPLE (O)	SAMPLE MEAN (M)	STANDARD DEVIATION (STDEV)	*t*-TATISTICS (|O/STDEV|)	*P*-VALUES
ATTITUDE -> PRO-ENVIRONMENTAL BEHAVIOURAL INTENTION	0.291	0.284	0.052	5.630	**0.000**
PERCEIVED BEHAVIOURAL CONTROL -> PRO ENVIRONMENTAL BEHAVIOURAL INTENTION	0.098	0.107	0.057	1.708	**0.044**
PERSONAL NORMS -> PRO ENVIRONMENTAL BEHAVIOURAL INTENTION	0.250	0.252	0.057	4.354	**0.000**
SUBJECTIVE NORM -> PRO ENVIRONMENTAL BEHAVIOURAL INTENTION	0.156	0.155	0.058	2.687	**0.004**
FLYING X PERSONAL NORMS -> PRO ENVIRONMENTAL BEHAVIOURAL INTENTION	-0.152	-0.156	0.094	1.605	0.054
FLYING X SUBJECTIVE NORM -> PRO ENVIRONMENTAL BEHAVIOURAL INTENTION	0.078	0.067	0.065	1.211	0.113

Source: Own study.

Discussion

This study is focused on tourists' pro-environmental behaviours and their influencing factors by utilising an extended version of the TPB that includes personal norms and past motorised transportation behaviour.

Firstly, the proposed model was tested empirically, and four predictors yielded significant results, underscoring its potential effectiveness as an integrated framework for analysing pro-environmental behaviour. This model incorporates both personal and social norms alongside past behaviours, allowing for a more holistic understanding of the factors influencing tourists' pro-environmental behaviour. By bridging individual psychological influences with contextual and habitual factors, the model extends the predictive capacity of traditional frameworks, offering a comprehensive approach that is well-aligned with current literature. Such integration supports the study's contributions to the field, demonstrating how both normative and behavioural dimensions interact to shape sustainable tourism practices more accurately and effectively.

Secondly, the behavioural spillover effect has been demonstrated in the literature, serving various roles, including that of a moderator between intention and actual pro-environmental behaviour [Liu et al., 2020]. However, the current study allows to expand upon this understanding by proposing an additional role for past behaviour, specifically concerning motorised

transportation, as a moderating factor between norms and pro-environmental behaviour. This innovative approach is partly supported by the empirical results, which suggested that past motorised transportation behaviour influences the strength and direction of the relationship between personal and social norms and pro-environmental behaviour. By highlighting this additional moderating role, the study contributes to a deeper comprehension of how past actions can impact current behavioural intentions, thereby enriching the discourse on behavioural spillover within the context of sustainable tourism practices.

Thirdly, two theoretical explanations of Cognitive Dissonance Theory [Festinger 1957] and Moral Licensing Theory [Miller and Effron 2010] help clarify the psychological mechanisms behind this moderation. From a cognitive dissonance perspective, tourists who are aware of the environmental consequences of their transportation choices, such as flying or frequent car use, may experience internal conflict when these behaviours contradict their self-perception as environmentally-responsible individuals. Although environmentally-friendly actions have the potential to mitigate ecological problems, continued reliance on high-emission transport remains one of the most critical contributors to environmental degradation in tourism. This conflict may result in psychological discomfort, which, in turn, weakens individuals' motivation to engage in other sustainable behaviours. As a result, the influence of personal and social norms may be diminished when tourists attempt to reduce dissonance by disengaging from further pro-environmental actions. In contrast, in Moral Licensing Theory, it is suggested that past motorised transportation behaviour, such as plane usage, may act as a justification mechanism that undermines the normative drive to behave sustainably. Tourists may rationalise such unsustainable choices by referencing their previous environmentally--friendly behaviours, thereby preserving a positive self-image. For example, a tourist who regularly recycles or avoids plastic may justify a recent flight by viewing their overall impact as balanced. This form of self-licensing reduces the perceived need to align future behaviours with personal or social norms, weakening the intention to act sustainably. In this context, past unsustainable transportation behaviour serves as a negative moderator, reducing the effectiveness of normative influences on pro-environmental behavioural intention.

Together, these theoretical perspectives allow to highlight how past behaviour can either create psychological tension or serve as a rationalisation strategy, both of which limit the strength of normative pressures in shaping pro-environmental actions. Addressing these psychological processes is essential for understanding and promoting more consistent sustainable behaviour in contexts of tourism.

Conclusions

In this study, an extended version of the TPB was tested by incorporating personal norms and past motorised transportation behaviour as moderating factors. This approach is pioneering in its application of past behaviour as a moderator between social and personal norms and pro-environmental behaviours. Specifically, the inclusion of past motorised transportation behaviour offers valuable insights into the predictors of other pro-environmental ones, as such those may influence the likelihood of adopting sustainable practices in tourism.

Expanding TPB with essential determinants such as personal norms and past behaviours provides a more detailed understanding of pro-environmental behaviours, applicable not only in tourism, but also in broader contexts. Future research may benefit from applying this extended TPB model across diverse cultural settings to examine potential differences in the influence of past behaviours and norms on environmental actions. Furthermore, the integration of past behaviours, specifically regarding transportation, may enhance the scope of future research, given the significant impact of carbon emissions associated with transportation activities. By acknowledging the role of past transportation behaviour, researchers can better understand how previous travel choices influence current pro-environmental intentions and actions. This consideration is particularly relevant in the context of climate change and environmental sustainability, as transportation is a major contributor to greenhouse gas emissions. Therefore, expanding the research horizon to include past transportation behaviour may provide valuable insights into strategies for reducing carbon footprints and promoting more sustainable travel practices among tourists.

Firstly, it is important to acknowledge the limitations associated with self-reported behaviour, as the discrepancy between stated intentions and actual behaviour remains a well-documented concern in the literature [Juvan and Dolnicar 2014; Elhaffar et al., 2020]. Secondly, the use of the convenience sampling method and the specific cultural background of the participants may have influenced the empirical results, thereby limiting the generalisability of the findings to broader populations. Thirdly, the use of the 5-point Likert scale in the survey may have constrained the sensitivity of the measurement items, potentially limiting the ability to capture more nuanced responses. Therefore, the findings should be interpreted with caution, taking the possible gap between participants' reported intentions and their actual behaviours into account.

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LEGACY AS A TOOL OF SUSTAINABLE DEVELOPMENT IN THE MEETINGS INDUSTRY – A CASE STUDY OF THE 61ST ICCA ASSOCIATION CONGRESS IN KRAKÓW (POLAND)

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Abstract

Purpose. The aim of this paper is to identify the possibilities of using the legacy of the associations' meetings to support sustainable development. An example of the 61st ICCA Association Congress in Kraków (Poland) was used to identify good practices that can be implemented in other meetings.
Method. A case study of the 61st ICCA Association Congress in Kraków (Poland) was conducted to achieve the research objective. The activities planned as a legacy of the event were the main focus of the research. To investigate the selected case, a critical review of academic and grey literature was conducted, along with action research and analysis of secondary sources.
Findings. During the 61st ICCA Association Congress in Kraków (Poland), a variety of activities was planned. These actions can be divided into three groups – economic, social and environmental – reflecting the main pillars of sustainable development. However, it appears that legacy holds the greatest potential to support social sustainability. Moreover, the authors propose two approaches to understanding legacy as well as a framework for the legacy planning and implementation process to bridge the gap between theory and practice.
Research and conclusions limitations. The analysis was narrowed only to the case of one meeting, which limited the ability to draw general conclusions. In addition, a local context is important when it comes to an event's legacy, and therefore, many practices may not apply to other meetings and their locations. However, the study can contribute to increased knowledge of business events' legacy and sustainability, and the identified good practices can inspire organisers of other meetings.
Practical implications. As an example, the 61st ICCA Association Congress shows how the event organiser and representatives of the host city should cooperate to support the sustainable development of the destination through the meeting's legacy. Examples of activities that can serve as good practices for future events are also presented.
Originality. Previous studies have been mainly focused on the legacy of sports events, overlooking other categories, including those business-related. Association meetings have great potential in supporting sustainable development in regions by leaving a legacy for the host city, as the example of the ICCA Congress in Kraków proved. This point has not been highlighted by researchers to date.
Type of paper. Case study.

Keywords: legacy, meetings industry, business events, sustainable development, MICE.

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Introduction

In a competitive arena, companies need to pay more and more attention to sustainability. According to Davidson [2019, p. 368], this is due to the growing "pressure from a diverse range of internal and external stakeholders, who expect higher levels of accountability and transparency with regard to firm's economic, social and environmental performance". This pressure is increased by law regulations in many countries, and there is a growing concern in society about environmental and social issues. Entities operating in the business tourism market, among others, have to confront this situation.

Moreover, business tourism, sometimes called the MICE or the business events sector, is seen as a form of tourism that can positively influence the development of a destination. This is a result of the fact that business tourists tend to spend more than people travelling for personal purposes [Foley et al., 2013]. Nevertheless, the direct impact on the local economy is only 'the tip of the iceberg' regarding the economic effects that events can generate [Foley et al., 2013, 2021]. The potential positive social and environmental consequences [Foley et al., 2014; Heitmann & Lóránt 2010; Tan et al., 2024 etc.] should also not be disregarded. Therefore, business events can contribute to regional sustainable development based on the three main pillars of sustainability [European Commission, 2024].

A business event's contribution to local development may be even greater due to a legacy. This term has been widely analysed in the context of sporting events [see Kietlinski 2021; Preuss 2007, 2015; Ramchandani et al., 2015; Thomson et al., 2013; Tichaawa 2016 and numerous others], but for a long time, it was not investigated in the context of business events. Thus, this paper is focused on a particular type of business events—association meetings—and its aim is to identify the possibilities of using legacy to support sustainable development. Research also has a practical purpose: to investigate the legacy planning process and recognise legacy activities during the 61st ICCA Congress that could be implemented in other meetings.

Literature review

Definitions and dimensions of event legacy

The term 'legacy' is difficult to define and, as Cashman [2006, p. 15] argues, "no satisfying definition of any type of 'legacy' is available". This is due to several reasons. Firstly, the word 'legacy' in English has several meanings [Leopkey and Parent 2012; Mangan 2008]. Secondly, none of these meanings have been considered appropriate in the context of events. Mangan [2008] cites the meanings of legacy quoting the New Shorter Oxford English Dic-

tionary: ”(1) a tangible or intangible thing handed down by a predecessor; (2) a long-lasting effect of an event or process; (3) the act of bequeathing”. The first and third meanings refer to the term’s etymology, “property left by will”. An attempt to define legacy in this context is discussed by Preuss [2007], pointing out that what remains after an event “is not the property of the event organisers”. Furthermore, ‘leftovers’ can be left unintentionally (not by will). A third reason for the difficulty of defining legacy relates to the diversity of events. Events vary in size, scope, type, etc. [Getz 2008], and according to Dickson [2010, p. 235], “different events will create different legacies”.

For these reasons, the authors of the definitions collected by Thomson et al. [2013] use various terms to describe the concept including benefits, improvements, impact, effects and structures. From other papers, the following can also be added: consequences [Hiller 2006], outcomes and spin-offs [Coakley and Souza 2013]. Furthermore, Horne [2007, p. 86] refers to legacy as “known unknowns”, which allows to highlight the unpredictable nature of legacy. Additional difficulties are provided by the authors’ approach to the terms ‘legacy’ and ‘impact’. Some researchers treat them as synonyms and do not clearly distinguish between them [e.g. Kassens-Noor et al., 2015], while others strongly emphasise the different nature of the two terms [Dickson 2010; Preuss 2015].

Despite the above terminological intricacies, probably the most comprehensive and most quoted [e.g. Dawson and Jöns 2018; Dickson 2010; Gold and Gold 2013; Grix et al., 2017] definition was created by Preuss [2007, p. 211]: “Irrespective of the time of production and space, legacy is all planned and unplanned, positive and negative, tangible and intangible structures created for and by a sporting event that remain longer than the event itself”. This definition can also be applied to other types of events, but despite its elaborated content, it still does not explain the essence of legacy, probably due to the use of the rather general word ‘structures’. However, in a further publication, Preuss [2015, p. 652] specified that “legacy should be seen as structural changes that affect the city’s location factors”. From the authors’ point of view, this approach captures the nature of legacy much better, especially since location factors are understood by Preuss as the characteristics of a given city that influence its choice as a place to do business, live, travel or host other events—and the overall effect of change is an increase in quality of life [Preuss 2019].

With Preuss’ 2007 definition, the basic dimensions of legacy can be identified: (1) planned/unplanned, (2) positive/negative (later completed by Preuss [2015] with neutral), (3) tangible/intangible. When defining legacy, Preuss abstracted from time and space, but pointed out that these are relevant when planning and measuring legacy [Preuss 2015, 2019]. Dickson [2010] added that legacy can vary spatially and temporally, and can arise before, during and after an event. According to Coakley & Souza [2013], a distinction can also be made between legacy in a narrow sense, referring to

a specific domain of the event (e.g. sport), and a broad sense, going beyond this domain. Alejziak [2016] went further and, in addition to the dimension resulting from the nature of the event, mentioned also economic, social and other dimensions. The last one may include issues such as politics, ecology, demography, psychology or security. Dickson [2010], Leopkey and Parent [2012] and Preuss [2015] listed different types or themes of legacy, which can be narrowed down to four main dimensions: economic, social, environmental and other. This approach links legacy to sustainability. Preuss [2015] differentiated between the two terms, emphasising 'change' in the case of legacy and 'dynamic equilibrium' in the case of sustainability. The authors of this paper believe that, of course, the concepts of legacy and sustainability are not the same, but can complement each other. Furthermore, Coakley and Souza [2013, p. 581] underlined that "If legacies and development are to be equitable and sustainable, they must be planned, funded, organised, and strategically connected with existing social structures and the everyday lives of local populations".

Legacy of business events

Business events have great potential to create a sustainable legacy. This is because they can generate significant positive effects for the region in which they are organised, e.g. because they are mainly concentrated in urban areas, they complement the tourist season [Davidson 2019] and business tourists tend to spend more on average, in comparison to leisure tourists [Foley et al., 2013]. A specific part of business tourism is the association meetings segment, which includes conferences and congresses organised by non-profit organisations that bring together representatives of a particular profession, industry, etc. The members of the associations meet regularly (annually, biennially, etc.) and the location for the next event is chosen through a bidding competition, in which cities compete to win the rights to host a specific congress [ICCA, 2009; UNWTO and ETC, 2015]. This bidding process is similar to how the next host of the Olympic Games is selected.

The main actors in the meetings market are associations, known as event hosts, participants (members of the association and others interested in a particular issue), local suppliers (venues, hotels, catering providers, etc.) and intermediaries who may act on behalf of suppliers or the buyer (the association). The first group includes convention bureaux, which represent cities and local service providers and are often involved in the preparation and presentation of the offer. The second consists of professional congress organisers (PCOs) who are responsible for organising the event on behalf of the host [Davidson 2019; ICCA, 2009; UNWTO and ETC, 2015].

The legacy of meetings and other business events has not been the focus of researchers for a long time. It was not until Foley et al. [2013] examined

what lies beyond tourism spending and argued that the effects of meetings also include at least knowledge expansion, networking, building relationships and collaboration, showcasing and destination reputation. Non-economic legacies (social, environmental and cultural) have also been studied by Tan et al. [2024]. Foley et al. [2014] focused on relationships, while Foley et al. [2021] indicated that social effects affect individuals and communities, and although benefits are initiated during the event, they are cumulative over time. Furthermore, as observed by Tham [2022], legacy can be implemented at any step of a business event organisation process. Examples of legacy at different meetings were already discussed in the literature [see Foley et al., 2019; Kit and Siew 2022; Tham 2022]; however, despite guidelines [OECD, 2023], the papers lack a consistent approach to this topic. As Foley et al. [2021] argued, this issue requires further research because identifying and measuring legacy benefits different stakeholders.

This view is also shared by various destinations where the importance of legacy is recognised. Examples include Copenhagen and the United Kingdom, which have developed their documents to support the creation of legacy projects [Copenhagen Legacy Lab, 2023; Visit Britain, 2022]. Nonetheless, the understanding of the term differs from the academics' definition. In both documents, legacy is treated as a tool, which excludes unplanned activities. In the Copenhagen Legacy Lab's document [2023], it is emphasised that through legacy, meetings are intended to serve the needs of the community and support the objectives of the association and local stakeholders. This approach is consistent with the idea of sustainable development. Furthermore, the authors of Visit Britain's report [2022] disagreed with Preuss [2015], stating that legacy is: "a gift, something that was produced and inherited from a past action or decision", while the change brought about by these actions means 'impact'. Thus, while defining these two terms, two different perspectives can be assumed: the creator of the legacy and the beneficiaries. Summarising, there is a discrepancy between the way legacy is understood by researchers and by representatives of the meetings industry. In addition, a research gap in the literature was identified regarding the possibility of supporting sustainable development through legacy.

Method

Several methods were used to reach the research purpose, which was to identify the possibilities of using the legacy of the associations' meetings to support sustainable development. The first step was a critical literature review, which helped to understand what is already known about legacy [Jesson and Lacey 2006]. An academic and grey literature was collected and critically evaluated [Grant and Booth 2009] to provide answers to three re-

search questions: What is the legacy? What are its dimensions?; and, How can it support sustainable development?.

As a final step, action research was conducted. This is a problem-solving-oriented research attempt that "derives from direct engagement with real and complex problems in natural contexts and in social situations" [Cassell et al., 2018; p. 290]. One of the authors took part in solving the problem of planning and implementing the legacy of an association meeting. This provided primary data on the process of congress organisation and the actions related to the legacy. Such an attempt may help in bridging the theory-practice gap [Adams and McNicholas 2007] that was indicated in a literature review. The secondary data, alike ICCA's Sustainability Report and the summary of the Congress prepared by the Kraków Convention Bureau, were also used in the analysis.

A single, intensive case study was investigated in the paper [Eriksson and Kovalainen 2016]. The case of Kraków (Poland) and the 61st ICCA Congress was chosen on purpose [Silverman 2017] and for three main reasons: (1) event host, (2) location, and (3) context.

Firstly, the International Congress and Convention Association (ICCA) is one of the key institutions in the meetings industry [Lockstone-Binney et al., 2024; Šušić and Mojić 2014], known for its reliable information and statistics (Celuch, 2015). Established in 1963, it advocates for the international association and governmental meetings industry. With over 1,000 members in more than 100 countries, the Association not only provides data but also supports communication, education and business development within the meetings industry. Additionally, legacy and sustainability are listed in the guiding principles of this entity [ICCA, 2024].

Secondly, Kraków has been regularly listed in the ICCA ranking and became the first Polish city to host a congress of this institution. In addition, it was the first city in the country to develop a strategy document: "A Sustainable Tourism Policy for Kraków in the Years 2021-2028" [Walas 2023], indicating a strong awareness of the local authorities and of the industry regarding the significance of sustainable development.

Thirdly, the bidding process took place during the COVID-19 pandemic, which posed a major organisational challenge, and the event itself was the first to be held on-site after the pandemic. The situation was not made any easier by the proximity of the military conflict across Poland's eastern border—Russia's aggression against Ukraine—which could have affected attendance at the event.

The issues mentioned above suggest that the 61st Congress could be used as a reference point, and perhaps as an example of best practice for other Polish cities, as well as locations abroad. The preparations and the event itself took place in extremely challenging conditions (pandemic, military conflict), which presented an additional organisational predicament. This is an interesting issue to investigate from both a theoretical and practical perspective.

Case of the 61st ICCA Congress

The 61st ICCA Congress was held on 6-9 November 2022 in Kraków under the slogan "Together we can". Over 960 attendees from 80 different countries took part in the event. The main venue was the ICE Kraków Congress Centre, but some programme elements were located at other Kraków sites. Moreover, nearly 50 companies and other entities, led by the Kraków Convention Bureau (KCB), contributed to organisation of the Congress, with the strong support of the Ministry of Sport and Tourism, the Polish Tourism Organisation and the Poland Convention Bureau. ICCA representatives also confirmed it was the first time that a national carrier, LOT Polish Airlines, was involved in the event.

The decision to bid for the ICCA Congress in Kraków was made in 2020 during the COVID-19 pandemic, when travel was difficult and organising meetings was impossible. The city, usually bustling with life, was depopulated. Therefore, it was extremely problematic to prepare an attractive bid, as the ICCA board of directors could not visit the sites in person and evaluate the city's proposal. That is why, to showcase Kraków's key assets and conference facilities to the board, two virtual inspection visits were scheduled. Using a modern television studio to live broadcast the material and involving almost 30 partners, the organising committee recorded four films lasting almost five hours. The last inspection, conducted live in front of the ICCA Board, was accompanied by a Q&A session and in October 2021, Kraków's bid turned out to be the winning one, beating competitors such as Athens and Bangkok.

The Congress, scheduled for November 2022, was supposed to be a meeting that would give hope for a return to normality, fostering tourism revival after the COVID-19 pandemic. In February 2022, however, the war in Ukraine broke out, which put a question mark on the implementation of the event almost six months before its start. The negotiations were under enormous time pressure, but the idea of being a community in this extremely difficult time ultimately prevailed over budget calculations and ICCA upheld its original decision to host the event in Kraków.

Results

The ICCA Association, setting trends in the meetings industry, measures its Congresses' environmental, social and economic impact. That is why activities related to sustainability, CSR and legacy projects already appeared at the stage of creating the bid and were implemented during the Congress two years later. The bid included two out-of-the-box sessions showcasing local potential and DEI (diversity, equity and inclusion) projects; CSR and sus-

tainability ideas including planting the ICCA tree and ICCA Young MICE Forum, projects regarding volunteering, well-being and local cuisine. Moreover, during the preparations for the congress, the City received guidelines on 'sustainability goals'. These concerned, e.g. reducing the use of plastic, segregating waste, implementing regional products and vegetarian dishes in menus, providing wellness zones in the facility or planning campaigns aimed at residents.

Providing the guidelines was a part of the Sustainability Roadmap – a process consisting of five steps: (1) plan, (2) assess, (3) implement, (4) measure and (5) improve. The first step involved co-creating a vision for the event with local partners, defining objectives and developing an action plan. Twelve goals were identified under four main areas (Table 1). During the second step, supplier assessment was carried out and, among others, a sustainable event policy and performance improvement plan (PIP) were prepared. Next, the implementation of the activities began. The process culminated with the measurement of impact and performance. The very last step included the identification of good and bad practices as well as recommendations for possible improvements.

Table 1. Congress sustainability goals

Goal areas	Goals
1. Waste management	1. Works towards eliminating single-use plastic, polystyrene and PVC in all areas of the Congress
	2. Decrease waste sent to landfill to less than 30%, and increase recycling to +50%
	3. +60% of all signage and branding to be made from more sustainable materials
2. Engagement	4. Integrated attendee communication about Congress sustainability approach and attendee role - prior, during and after the Congress
	5. Industry Partner Engagement through sustainability sponsorship opportunities
3. Journey to Zero Emissions	6. 90% of local transportation to be more sustainable (public or electricity-powered)
	7. +70% of food served is vegetarian
	8. 70% of food is locally sourced (less than 160km)
4. Inspire Action and Positive Impact	9. Integrate Sustainability Content as part of the Congress Program (at least 30% of all content)
	10. Integrate CSR activities to the event program
	11. Contract at least 1 social enterprise as a supplier to the event
	12. Integrate wellness activities throughout the Congress

Source: [ICCA, 2022].

Although legacy was not highlighted among the sustainable objectives of the Congress, it can be seen in particular in the fourth area: Inspire Action and Positive Impact. As the Congress legacy, five actions were planned and implemented:

1) **Meetings with students:** Thanks to a grant from the Ministry of Sport and Tourism, it was possible to organise lectures for over 150 students from Kraków's leading universities, representing a variety of faculties (entrepreneurship, foreign trade and tourism, business tourism). The knowledge-sharing initiatives and the inspiration sessions for local communities were practical examples of how an expert congress can come out of closed meeting rooms, thus, demonstrating the living legacy of the 61st ICCA Congress in Kraków.
2) **Volunteers:** The involvement of volunteers in complex, multidimensional events provides benefits for both volunteers and the event organisers. The local committee aimed at making young, committed and professional people part of the ICCA Congress. That is why 40 volunteers were present at the airport, Kraków's train station, at hotels, various reception and information desks of ICE Kraków Congress Centre, assisting whenever and wherever needed. This was a great opportunity for them to gain some valuable professional experience and acquire new skills as well as competencies. In fact, one of the Congress volunteers was offered a job during the Congress itself.
3) **Inviting young leaders from Poland and the region - investment in the future of the meetings industry:** Thanks to KCB's initiative, the organisational support of the Poland Convention Bureau and funding obtained from the EU project "Malopolska - Meeting destination", the Congress was attended by 20 young representatives of the MICE industry from Poland, Austria, Iceland, Sweden, France and Ukraine. They also participated in the ICCA-organised "Forum for & by Young Professionals", a session organised especially for them: FROM EVENT MANAGEMENT TO EVENT EXPERIENCES - A TRANSFORMATION JOURNEY, chaired by Krzysztof Celuch, Ph.D.
4) **ICCA trees along the ICE Kraków Congress Avenue:** Since 2017, important international congresses have been commemorated with trees planted along the Congress Avenue. The 61st ICCA Congress saw the 36th tree planted next to the ICE Kraków Congress Centre. Representatives of the city attended the tree-planting ceremony, the ICCA association and the Polish Tourism Organisation. The Congress Avenue trees are living monuments to the congresses hosted by the city of Kraków. They also symbolise the city's overall approach to organising large-scale events in the spirit of sustainable development.
5) **ICCA Congress in an urban space:** To reach out to residents with information about the event, special flags with the Congress's brand-

ing were hung in Kraków's Main Square, and Congress posters were visible at tram stops, on ticket machines and public-transport television. Moreover, the Congress was accompanied by KCB's original exhibition in one of the city's main squares, devoted to the history of business meetings in Kraków.

In addition, other activities in line with sustainable development were conducted. These included:

- 1.5 tons of clothes - In cooperation with Team Kraków for Ukraine, the Congress participants helped sort winter clothes, which were then transported to those in need.
- 200 litres of soup - Delegates from Africa, Central Europe, Spain and Portugal prepared and pasteurised 200 jars of Ukrainian borscht in the kitchen of one of Kraków's restaurants. The soup was donated to the headquarters of the Soup for Ukraine organisation.
- The Liban Quarry clean-up – The largest group of attendees took part in cleaning up the Liban Quarry, the site of a former Nazi forced labour camp. Delegates were divided into two groups: the first cleaned up the trash inside the quarry, while the other cleaned up the site of the former wartime Nazi German camp, KL Plaszów. Delegates were accompanied by city guides who recounted the story of this place.
- A warm gesture towards senior citizens – A group of attendees took part in a Polish handicraft workshop. Under the guidance of a local artist, delegates made brooches inspired by the traditional costume of Kraków. Taking part in an express Polish language lesson, they also wrote greeting cards for seniors. The gifts were then given to residents of the Nursing Home on Helclów Street (est. 1878).
- Christmas gifts for children (part of the Gift of Love campaign) - Delegates supported a secondary school dormitory (housing 150 students from Ukraine) in the Nowa Huta District. A large basket, placed by the reception desk of the ICE Kraków Congress Centre, was filled up with Christmas gifts during the Congress: mugs and thermal bottles, baseball caps, candy or cosmetics brought by the delegates.
- Donations to the Polish Humanitarian Action - During the registration, delegates made voluntary donations to the Polish Humanitarian Action. In addition, a charity run was organised and the ICCA association donated an additional €2,500 to support their work in Ukraine.

Moreover, in the Congress programme, two so-called out-of-the-box sessions were organised to familiarise the delegates with specific issues, inspire and allow meeting experts in a given field. During the first session—'Sky Full of Heat: Passion, knowledge, experience'—held in the main building of the Museum of Polish Aviation, Sebastian Kawa, the world gliding champion, encouraged delegates to search for non-obvious solutions in professional contexts. The second workshop session—'Make the Change Together – Diversity

Hub'—was primarily aimed at engaging participants and making them more sensitive to the issue of equality in the event design and implementation.

In the final stages of the Sustainability RoadMap, all the efforts were summarised in the 2022 Sustainability Measurement Report. The report concluded that seven of the 12 objectives (Table 1) were fulfilled. The relevant data for the two goals (No. 3 and 8) were not collected. Only a sustainability sponsorship was not achieved and the waste management objectives were partially met. This phase seems to be the most difficult for the city and local suppliers, as the ICCA Congress was one of the first events to measure carbon footprint, and the scope of the data collected has been quite limited so far.

Furthermore, in its evaluation of the event, the ICCA identified key successes of the Congress's organisation. Its list included, among others: a conference ticket provided by the City, which allowed delegates to travel free of charge by public transport based on an ID, water dispensers from Kraków's waterworks at the main venue, digital signage used during the Congress or creation of cosy atmosphere by use of potted plants. The ICCA also appreciated the above-mentioned charity actions and well-being initiatives, such as creating the Wellness Lounge (a dedicated, comfortable space for participants to relax and refresh) and planning morning sports activities as part of the Congress programme.

Discussion

Despite the extensive literature on legacy, it is difficult, based on existing definitions, to identify which actions undertaken can be considered legacy and which cannot. Operational identification of specific examples can be of great importance both theoretically (planning and conducting research) and practically (assessing the impact of particular events). In the case of the 61st ICCA Congress, the organisers identified five projects, but it seems that more actions can qualify as the legacy of this event. Therefore, all actions with sustainable character that could constitute a legacy of the ICCA Congress were first collected in Table 2. Then, each action was considered through the dimensions of legacy, viz:

- tangible or intangible nature [Preuss 2007],
- scopes of impact: economic, social and environmental [Alejziak 2016; Tan et al., 2024; Tham 2022], which are in line with the main areas of sustainable development,
- a link to the meetings industry as a core Congress field [Alejziak 2016; Coakley & Souza 2013],
- as well as the time dimension that is the stages of the organisation process [before, during or after the Congress – Dickson 2010; OECD, 2023; Tham 2022].

Table 2. Sustainable actions at different stages of the Congress

Time	Action	Tangible / Intangible	Area of sustainability *	Meetings industry-related
Before Congress	***Selection of Kraków as Congress destination***	I+T	Ec	yes
	Organising Congress in line with ICCA Sustainability RoadMap	I+T	Ec+En+S	yes
	Christmas gifts for children	T	S	no
	Donations for Polish Humanitarian Action	T	S	no
During Congress	***Charity run for Polish Humanitarian Action***	T	S	no
	Liban Quarry clean-up	T	En	no
	Congress's tree planting	T	En	yes
	Congress in urban space	I	S / Ec	yes
	Meetings with students	I	S / Ec	yes
	Forum for & by Young Professionals	I	S / Ec	yes
	Volunteer engagement	I	S / Ec	yes
	Workshop with senior citizens	I	S	no
	Cooking 200 litres of soup for refugees	T	S	no
	Collecting and sorting winter clothes for refugees	T	S	no
	Wellness Lounge	T	S	no
	Morning runs and walks in Congress programme	I	S	no
	One-third of programme, sustainability-focused	I	Ec+En+S	yes
	Out-of-the-box sessions	I	S+Ec	yes
	Singing songs together with Polish and Ukrainian children	I	S	no
	Free of charge public transport	I	En	no
After Congress	***Sustainability report***	I	Ec+En+S	yes
	Declaration of diversity, equality and inclusivity in Congress industry	I	S	yes
	Sustainability workshops for meetings industry professionals	I	Ec+En+S	yes

*Ec – economic, En – environmental, S – social

Actions identified as legacy.

Source: Author's elaboration.

A similar number of activities was classified as tangible and intangible (Table 2). The tangible activities mainly included charity events that provided material assistance to those in need, and pro-environmental activities with visible effects, such as cleaning up the Liban Quarry and planting a tree. Intangible activities were focused on opportunities to gain new

knowledge, experiences and skills. Social actions were dominant in Table 2, with only a small number of eco-friendly activities. However, this does not indicate negligence of the organisers, as environmental activities were integrated into the entire process of organising the Congress. Only a few economic activities were identified, almost all closely linked to bolstering the meetings industry. It may be concluded that legacy supports a social impact of the meeting that probably could not be achieved in other ways during the organisation process.

However, the listed actions were not classified as planned or unplanned, nor as positive, neutral or negative [Preuss 2007]. Following Coakley & Souza [2013], it was assumed that achieving sustainability goals at events requires planned actions, expected to bring positive results. Nevertheless, the last two actions (the Declaration of DEI and sustainability workshops) were not directly planned in connection with the Congress. Still, the event has inspired city and meetings industry representatives to intensify efforts in the area of sustainability.

The authors concluded by discussing which actions could be considered the legacy of the Congress. The definitions found in the literature have only been partially useful, as they often do not align with the realities of the meetings market. This is because they were created in the context of the Olympic Games, the scale of which is incomparable to most business events. Therefore, industry representatives develop their solutions. As legacies, the authors decided to recognise those activities that targeted the needs of the local community (sharing the Copenhagen Legacy Lab's point of view) and/or contributed to a change [Preuss 2015], those supporting Kraków's competitiveness in the international meetings market (selected actions are marked in bold and italics in Table 2). The listed activities were focused mostly on support for Ukrainian refugees, or increasing knowledge and skills among young people and raising awareness of sustainability in the meetings industry.

Due to the dissonance between the theoretical and practical understanding of legacy, the authors propose two complementary contexts for understanding the legacy of meetings (but also other events):

1) operational, which is more tool-based,
2) and strategic, referring to the traditional understanding of the term in the literature.

Legacy, in operational terms, refers to all the planned activities aimed at meeting the needs of the local community. These activities represent a minimal, and perhaps temporary, contribution by the event host and participants to improve quality of life in the city. They are concrete, address the needs of specific stakeholders and their effects can be easily measured. Examples from the ICCA Congress: workshops with senior citizens, meetings with students and cooking soup for refugees.

Legacy, in strategic terms, is related to the long-term consequences of the event and the changes that have taken place in the destination as a result of hosting it. The term 'strategic' is appropriate for both the host and the city. The association or other organiser should ask themselves: what would they (or their event) like to leave behind in the destination? On the other hand, city representatives should have a clear vision of destination development and consider which events can support the chosen development path. Legacy, in this sense, however, is difficult to measure due to the long time horizon, and its identification requires deep knowledge of the local circumstances and the event's field. The sustainability awareness in the meetings industry and further actions in line with the Sustainable Development Goals (SDGs) can be considered the strategic legacy of the Congress.

The authors also emphasise the importance of site selection for a meeting's legacy, an action that has not been highlighted in the literature so far. The choice of meeting location can significantly impact the development of a specific field or industry. The 61st ICCA Congress is a great example of this. Despite the outbreak of war near Poland, the decision to organise the Congress in Kraków helped to boost meetings industry after the COVID-19 pandemic and demonstrated that Kraków is a safe place to host business events. Therefore, legacy planning should begin during the bidding process (Table 3).

Table 3. Process of legacy planning and implementation

<table>
<tr><th>TIME</th><th>HOST – Association</th><th>CITY</th></tr>
<tr><td>Bidding process</td><td>Sustainability directions in Request for Proposals (RFP)
+
Association's legacy goals</td><td>Recognition of local needs
+
Legacy propositions in bid</td></tr>
<tr><td rowspan="2">Before event</td><td colspan="2">Joint goal setting for the event</td></tr>
<tr><td rowspan="2">Supervision and support</td><td rowspan="2">Implementation of objectives</td></tr>
<tr><td rowspan="2">During event</td><td></td></tr>
<tr><td colspan="2">Measurement</td></tr>
<tr><td rowspan="2">After event</td><td colspan="2">Evaluation</td></tr>
<tr><td>Feedback</td><td></td></tr>
</table>

Source: Author's elaboration.

Legacy planning should start at the beginning of the congress organisation process (Table 3.). In the request for proposals (RFP), the association should express its expectations related to sustainable development, and declare its own legacy goals. Such issues could also be addressed in the rotation policy and, one of the site selection criteria may be the extent to which

the congress will contribute to the city's development. In addition, the city (usually a convention bureau with the support of suppliers) should identify local needs and provide proposals for legacy activities in the bid[1]. Once a host destination has been selected, objectives for the congress should be set jointly. The goals are implemented by local entities, with the host overseeing and supporting them if necessary. Together they should measure the results and evaluate the event in light of achieving (or not) the objectives. An additional step for the city can be the host's feedback about what it considers success and what needs to be improved.

Conclusions

After analysing the legacy of association meetings in the context of sustainable development, it might be stated that legacy can be a tool for creating more sustainable events. As the example of the 61st ICCA Congress shows, its planning should be part of the wider process of meeting organisation sustainability. After case study analysis, legacy seems to be most supportive of the social area of sustainability. However, eco-friendly activities can be included in legacy and actions that develop the local economy by fostering the sector or the field to which a particular meeting relates. Such a situation occurred during the event in Kraków. For this to happen, legacy needs to be planned already at the stage of the bidding process. On the one hand, it is necessary to take the specific activities that will be included in the timetable in the pre-, during and post-event phases (an operational legacy) into account and, on the other, assume that they will be accompanied by a guiding thought/vision that should contribute to a specific change in the host location (a strategic legacy).

This research is among the first comprehensive studies on the legacy of business events, particularly concerning sustainable development. It offers a thorough understanding of the legacy scope and planning process at the 61st ICCA Congress. Based on this event, the authors pointed out that the former approach to legacy derived from sports events did not fully suit the context of association meetings. Moreover, they proposed two points of view on understanding legacy as well as a path of legacy planning and implementing processes that may be adopted in other studies and meetings.

However, the legacy of business events requires further research as the topic is still little recognised in the literature. Investigations in this area could include a comparative study of practices in different cities, a detailed analysis of the legacy process regarding diverse associations and an evaluation of legacy actions from the perspective of various stakeholders. It may

[1] After the ICCA Congress, the KCB initiated a bank of legacy projects.

be particularly important to consider the point of view of the local community, and whether activities meet their needs. In addition, it is also worth exploring what associations and companies as meeting hosts think of legacy and how greatly they are willing to commit to improving quality of life within the destination chosen for their event.

The authors acknowledge the limitations of the study. Analysing a single event prevents broad generalisations but has provided deep insight into the circumstances, planning process and the legacy's elements. The specific examples of activities can inspire the organisers of future congresses. Additionally, they can use the ICCA as a model for guidelines and their implementation, particularly regarding the event's sustainability. The example of Kraków also demonstrates how to overcome a significant challenge and continue to develop rather than become complacent.

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DISCUSSION, ESSAYS, SCIENTIFIC REPORTS AS WELL AS POLEMICAL AND INFORMATIONAL ARTICLES

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REPORT FROM THE 7TH INTERNATIONAL "PHYSICAL ACTIVITY IN THE MOUNTAIN AREAS IN POLAND AND THE WORLD" SCIENTIFIC CONFERENCE, SZKLARSKA PORĘBA, 27-29 NOVEMBER 2024

Patrycja Ozga-Gwóźdź*, Stanisław Matusik**

On November 27–29, 2024, Szklarska Poręba became the place of an exceptional meeting of scientific communities, tourism practitioners and enthusiasts of mountain activity. The 7th edition of the International Scientific Conference under the slogan "Physical Activity in the Mountain Areas in Poland and the World", organised by the Department of Recreation and Tourism of the Academy of Physical Education in Wrocław and the Karkonosze Local Tourism Organisation, once again confirmed its high rank on the map of scientific events in Poland.

The conference was held at Hotel Kryształ, located in the heart of a mountain town that perfectly fits into the theme of the conference, the main goal of which was to provide a multi-faceted approach to physical activity undertaken in mountain areas in Poland and around the world. Participants could follow the conference on-site and online, and the presentations were given in Polish and English.

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The conference was attended by over 120 stationary and online participants, which resulted in over 70 conference presentations. All the most important Polish scientific centres dealing with tourism research and teaching were represented. The thematic scope included socio-economic, psychological, natural, cultural, health and physiological aspects of undertaking physical activity in mountain areas.

The ceremonial opening of the Conference was lead by the Vice-Chairman, Dr. Piotr Zarzycki, Ph.D., Prof. of AWF Wrocław, together with the Honorary Chairman of the Organising Committee, Assoc. Prof. Dr. Wojciech Wiesner, Ph.D., Prof. of AWF Wrocław. At the very beginning of the conference, it was emphasized how important the exchange of experiences and interdisciplinary discussion on the challenges and opportunities for the development of mountain activity is for the academic community and the tourism industry.

The conference programme included four plenary sessions, during which scientific achievements were presented, as well as experiences gathered in undertaking various forms of tourism, recreation and sports in the mountain environment (among others, teaching experiences). In addition to Poles, participants had the opportunity to listen to presentations by speakers with rich scientific achievements from the USA, Czech Republic, Slovakia, Germany, Austria, Italy, Spain, Portugal, Hungary, Ukraine and Norway.

Plenary session No. 1 was devoted to three discussion panels, which concerned: the side effects of sports training in mountain conditions, technological conditions of organising physical activity in the mountains and the spa values of towns located in mountain areas. The aim of this session was to present selected mountain areas of Lower Silesia with high tourist attendance in light of the latest research carried out in 2023 and 2024. The speakers touched upon aspects of tourist attendance, the impact of human activity on the natural environment and the diversity of forms of physical activity in the mountains.

Plenary session No. 2 was held under the slogan "DCS Polana Jakuszycka – an opportunity for the development of sports and tourism in Lower Silesia and Poland". It was attended by representatives of regional and local government authorities as well as tourist and sports organisations: Jerzy Pokój (Chairman of the Lower Silesian Regional Assembly), Paweł Popłoński (Mayor of Szklarska Poręba), Jakub Feiga (Director of the Lower Silesian Tourist Organization Office), Wojciech Gęstwa (Director of the Lower Silesian Sports Center), Maciej Pawłowski (Bieg Piastów Association), Grzegorz Sokoliński (Karkonosze Local Tourist Organisation) and Aneta Stosik (expert at Wrocław University of Physical Education).

In line with the tradition of previous conference editions, stationary participants had the opportunity to take part in an additional programme, which was a study visit to the Polana Jakuszycka Lower Silesian Sports

Centre. One of the topics was the phenomenon of this place and the events organised there of national and world rank in terms of the past and future. This visit aimed to present the activities of the Centre as an important place on the map of Poland with regard to various forms of active tourism, as well as in terms of the directions related to the development of athletes and tourists. An additional goal of the visit was also to promote this place, and the discussion initiated on site also touched on "difficult" aspects related to creating awareness regarding environmental protection and attitudes promoting responsibility and care for natural resources. The Polana Jakuszycka DCS Centre is also a place enabling advanced training simulating various conditions in the mountains (temperature, atmospheric pressure, humidity, terrain slope) and is richly equipped with research equipment allowing to improve athletes' training techniques, further providing unique data to scientific researchers.

Participants of the 7th Conference at the Polana Jakuszycka Lower Silesian Sports Centre[1].

Plenary session No. 3 entitled "The world of mountains in a practical dimension" included three subsequent discussion panels: the methodology of sports training in the mountains, the tourist attractiveness of the Karkonosze and other mountains of Lower Silesia as well as various forms of physical activity in the mountains. This session was more practical in nature and was devoted to the diagnosis of conditions with respect to active tourism in the mountains: socio-economic, geographical-biological, educational and organisational. The speakers included well-known figures from the world of Himalayan mountaineering, alpinism, skiing, rock climbing and winter sports, which added exceptional dynamics and authenticity to the session. The speech by Janusz Gołąb, an outstanding Himalayan climber, turned out to be extremely exciting, as he spoke in an interesting way about the challenges associated with conquering the eight-thousander Gasherbrum

[1] This and many other photos can be found in the photo gallery at: https://aktywnoscwgorach.awf.wroc.pl/27-29-listopada-2024/ [accessed: 20 May 2025].

– a mountain located on the border of China and Pakistan. The lectures in this session were focused on presenting the greatest advantages and threats during the implementation of these extreme forms of high-mountain climbing, as well as key aspects of organising expeditions or preparing for world-class events.

Plenary Session No. 4 was held in two thematic blocks and focused on specialist forms of mountain tourism. The first was concentrated on the role of women in winter sports training structures, pointing to the changing gender dynamics in this environment ("Women in the ranks of training staff in winter sports"). The second was centred around the issue of accessibility of mountain areas for people with disabilities, presenting modern solutions and good practices of integration through sport and recreation ("Mountain areas as a place of accessibility for people with disabilities").

The conference was not limited to the presentation of research results. It also became a space for an intensive exchange of experiences between science and practice, thanks to the great number of invited guests: mountaineers, Olympians, representatives of associations, clubs and economic entities. Its most important assumption was to create a multi-faceted platform for the presentation of the latest research and scientific work carried out at domestic and foreign academic centres. This dialogue between theory and practice was one of the strongest points of the event. As announced by the organisers, the content of selected papers is to be published in the form of a scientific monograph and in four journals: Journal of Kinesiology and Exercise Sciences, Human Movement, Studia Periegetica and Folia Turistica.

The honorary patronage over the event was assumed by, among others, the Secretary of State at the Ministry of Sport and Tourism – Piotr Borys, the Marshal of the Lower Silesian Voivodeship – Paweł Gancarz, the Chairman of the Lower Silesian Voivodeship Assembly – Jerzy Pokój, the President of the Polish Tourism Organisation – Rafał Szmytke and His Magnificence the Rector of the University of Physical Education in Wrocław – Assoc. Prof. Dr. Tadeusz Stefaniak, Ph.D., Prof. of the University of Physical Education Wrocław. The conference was officially closed by representatives of the Organising Committee and the Scientific Committee, expressing gratitude to all participants and hope for continued cooperation and an equally inspiring meeting during the next, 8th edition of the conference.

The 7th International "Physical Activity in the Mountain Areas in Poland and the World" Conference was remembered by the participants as an exceptional event in terms of content as well as organisation, and also because of the engaging, pleasant and direct atmosphere among the participants and organisers. It was an excellent example of the synergy of science and practice, passion and love for the mountains.

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A BOOK REVIEW: "MANAGEMENT OF YACHT PORTS IN THE ASPECT OF SUSTAINABLE YACHTING TOURISM" BY ALEKSANDRA ŁAPKO

Adam R. Szromek*

The book by A. Łapko, a recognised author who often takes up the subject of marinas in her scientific publications, was published by Wydawnictwo CeDeWu in Warsaw in 2024 in Polish under the title *"Zarządzanie portami jachtowymi w aspekcie zrównoważonej turystyki żeglarskiej"*. This monograph is a monothematic study, scientific in nature, concerning marinas and the process of managing them in the context of sustainable sailing tourism. The book contains six chapters preceded by an interesting *Introduction*, and ends with a summary and a list of tables and figures. The work was prepared based on 336 literature items and 68 netographic sources, 26 legal acts and three other studies.

In the content of the *Introduction* and subsequent chapters, the Author formulated her intentions and undertook their implementation. Referring to them in detail, it should be noted that the author, based on a review of the literature and the content of legal acts, formulated a hypothesis that marinas, through the implementation of sustainable development

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goals, contribute to supporting the implementation of the assumptions of sustainable sailing tourism. The criterion that limited the research scope was the capacity of marinas expressed in the number of berths (>50), which allowed the author to eliminate marinas and marinas for megayachts. The research problem was formulated as a question – *how can sustainable development goals be implemented at the level of marina management?* However, the main aim of the work was to indicate a possible way of implementing the objectives of sustainable development by marinas. It was divided into auxiliary – cognitive and detailed methodological goals and two application solutions. For cognitive purposes, the author attempted to identify and assess specific possibilities of implementing the principles of sustainable development.

To achieve the formulated goals of the work, the author used diverse research methods. These included a critical analysis of literature, analysis of documentation and Internet resources. In the process of carrying out basic empirical research, the author applied the diagnostic survey method, in which she implemented an original research tool in the form of a research questionnaire included in the *Appendix*. Experts selected by the author played an important role in designing the study.

The work comprises six chapters: the first two are theoretical, the following two are theoretical-analytical, and the last two are research-based and applied.

In the first chapter, the author focused on theoretical issues of management, including the concept of management, and especially, on the organisational function, gradually narrowing the scientific argument towards managing organisations in the context of achieving its goals. The author discussed these issues based on the systemic concept of organisation and Leavitt's model. This issue was successfully developed in the second chapter entitled *Yacht Ports as Organisations – Adaptation of Leavitt's Model*.

The second chapter, however, is of different nature than the first, as it focuses the reader's attention to the subject of the research. This chapter contains the adopted definition and classification of marinas as well as elements of the marina organisation system. The author summarizes the literature review on marinas and organises the knowledge according to the adopted division, taking such issues as: *Goals, Technology, People, Structure and Management* into account.

In chapter three, another aspect of this scientific work is taken up, i.e. the issue of sustainable development, considered in the context of application in sailing tourism. In it, the author carries out an analysis of 17 sustainable development goals and 169 detailed tasks assigned to them, developing a discussion especially of those that can contribute to the sustainable development of marinas. In the discussion on sustainable development, the tripartite division of dimensions regarding its impact, known from tourism

textbooks, and used many times earlier in the literature, is used. The author's objectivity deserves recognition, as she cites not only opinions supporting the implementation of sustainable development, but also critical opinions and the possible ideological influence on this concept, which indicates the author's mature approach to the undertaken issue.

In chapter four, issues are addressed which are related to sustainable development in the direct context of the subject matter discussed in terms of human capital, technology and the system of certification as well as categorisation of marinas. The author mainly focuses on waste management in marinas, which seems to be a narrowing of the idea of sustainable development to the environmental aspect. It may be worth discussing the implementation of other sustainable development goals, e.g. in the scope of the aforementioned cultural heritage at a regional level, covering the heritage of local sailors and fishermen together with the work tools they use, adopted traditions and customs, etc.

Chapter five is of research nature and mainly includes the presentation of empirical research results obtained on the basis of trials conducted in 14 Polish and 25 Croatian ports. The author examined employee training systems, port infrastructure in the aspect of adaptation to the needs of various user groups and websites of marinas. The analysis also included legal acts regulating waste management in ports and the offer of the examined ports located in Poland and Croatia.

Chapter six is entitled: *"Recommendations for Entities Managing Marinas Taking the Assumptions of Sustainable Sailing Tourism into Account"*. It is in the form of conclusions from the obtained research results. The author presents numerous lists, among them, detailed proposals for actions to implement the goals and tasks of sustainable development by marinas (Fig. 19) and a model of a marina's structure developed on the basis of Leavitt's model considering the recommended actions (Fig. 23). A weak point of this chapter and the entire work is the very limited discussion of the formulated conclusions in light of the cited scientific literature. The author used analytical thinking skills to create many graphs and tables presenting recommendations for marina managers, but the work lacks references to other authors and management concepts used in the area of sustainable development. One of the key achievements of the author is her proposal for the definition of *sustainable marina management* (SMM) included both in chapter six and in the extensive *Conclusion*. The author understands sustainable marina management (SMM) as a *set of integrated management activities undertaken in all functional areas of the marina, which are aimed at minimising the negative impact of the marina on the environment, supporting local communities and ensuring economic benefits*.

To conclude, the substantive content of the monograph should be assessed very positively, which indicates its application and scientific use-

fulness. The scientific monograph by A. Łapko contributes to the development of management and quality sciences in the aspect of implementing the assumptions of sustainable development in sailing tourism. The work addresses key issues of implementing the goals of sustainable development in marinas, taking into account their specificity and conditions. It also provides many recommendations for practitioners implementing sustainable marina management. The proposal for a definition of *sustainable marina management*, which takes into account both the environmental (ecological) and economic and social dimensions, also deserves recognition.

To sum up, it should be noted that the scientific monograph submitted for review has been properly developed, and the knowledge contained therein is generally derived from new studies, which emphasizes its usefulness for the reader. The content of each chapter is created thoughtfully and thoroughly. The author made every effort to ensure that the monograph is useful to both students and scientists as well as management practitioners by providing them with knowledge in the field of marina management.

* * *

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PROFESSOR GRZEGORZ GOŁEMBSKI (MAY 24TH, 1947 – MAY 28TH, 2025) PROFESSOR OF ECONOMICS, POZNAŃ UNIVERSITY OF ECONOMICS AND BUSINESS, POLAND

Egon Smeral*

As Secretary General of the **Tourist Research Centre (TRC**), I must express my deep sadness at the passing of our member**, Professor Grzegorz Golembski**. He was an outstanding scientist in the field of tourism economics and related subjects. As a member of **Modul University Vienna**, I would also like to point out that our university has recognised his valuable contributions to the progress and research of tourism economics for many years.

He played an active role in fostering connections with the international tourism research community. He joined the International Association of Scientific Experts in Tourism (AIEST) in 1987 and the Tourism and Travel Research Association in 2000. In 2005, at our 40th meeting in Bruges, he became a member of the TRC. As well as contributing to our TRC meetings, I emember him finding time for a joke or an anecdote about daily practice in the tourism industry.

Professor Grzegorz Golembski was born in Poznań. He earned his Master's degree in Economics from the Poznań University of Economics (now Poznań University of Economics and Business) in 1969. In 1973, he became one of the first scholars in Poland to defend a doctoral dissertation in tourism economics. After defending his habilitation thesis titled "Deter-

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minants of Applying Marketing to a Centrally Planned Economy", in 1981, he obtained a Dr. hab. (Assoc. Prof.) degree in Economics from the Department of Production and Trade Economics. In 2000, he was awarded the title of Full Professor by the President of the Republic of Poland.

From 1999, he held the Chair position of the Department of Tourism at the Poznań University of Economics and Business. Professor Golembski was deeply committed to training new professionals to work in the tourism industry. He was one of the first people in Poland to create and promote tourism economics as a distinct academic curriculum.

His research interests covered a wide range of topics, including tourism economics, tourism markets, the operations of tourism enterprises and the development of tourist regions. Throughout his career, he successfully combined theoretical knowledge with practical business experience.

From 1999 onwards, he organised annual seminars on current topics in Polish tourism development, collaborating with the Poznań International Fair. In 2003, he established the Tourism Experts' Forum, an ongoing series of meetings bringing together academics, industry professionals and government representatives at various levels, and he served as Chairman of its Scientific Council.

He was awarded the Silver and Gold Cross of Merit in recognition of his services to the nation and its citizens. In 2006, he received the National Education Committee Medal, and in 2012, he was honoured with the Long-Term Work Medal.

Grzegorz, our colleague, was widely respected by academics and industry professionals alike. He was considered an authority in his field. A leading figure in Polish tourism, he set its direction and contributed to its development.

We are proud to have had such a colleague, whose influence on academia was outstanding. Farewell, Grzegorz.

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INFORMATION AND INSTRUCTIONS FOR AUTHORS

GENERAL INFORMATION FOR AUTHORS PREPARING ACADEMIC ARTICLES

1. The Editorial Office accepts for publication only original empirical and review papers that address tourism from interdisciplinary points of view, such as theory of tourism, cultural anthropology, philosophy, sociology, geography, law, psychology, history, economics, management, and marketing.
2. Submitting a paper for publication is construed as transferring the copyright to the Editorial Office. This means that neither the paper nor a part of it can be published in other journals or digital media without the Editorial Office's written permission.
3. The article should be prepared according to the **"Instructions for authors preparing academic articles"**, found below. Otherwise, the article will be sent back to the Author(s) for correction.
4. Do not provide personal data or any other information that could enable identifying the Author(s). Instead, provide personal data in a separate **Author Form**, available on the Journal's website, and submit it together with the article.
5. The paper, together with a filled Author Form, should be submitted to the Editorial Office's e-mail address: **folia.turistica@awf.krakow.pl**.
6. The Editorial Office will not accept papers that show signs of scientific dishonesty, such as *ghostwriting and honorary (guest) authorship*, for publication. The Editorial Office will disclose any recognized cases of dishonesty; this includes informing institutions employing authors, scientific associations, etc.
7. All papers are reviewed by at least two independent reviewers (the review form is available on the Journal's website) and maintaining full anonymity. In other words, a double-blind review process will be implemented; otherwise, the reviewers are obliged to sign a declaration that there exists no conflict of interests between them and the authors of the paper. The Editorial Board will accept the paper for publication or reject it based on the reviewers' opinion. This procedure is in accordance with guidelines provided by the Ministry of Science and Higher Education.
8. The Editorial Office reserves the right to modify the style makeup of submitted papers.
9. The author of the paper will receive an electronic version of the Journal issue in which the article was published, free of charge.

Instruction for Authors Preparing Academic Articles

I. PREPARING TEXT

1. The volume of submitted papers should not exceed 20 pages of normalized manuscript, i.e., 40,000 characters (one author's sheet).
2. Text files should be created in the Word 6.0–XP editor in DOC format.
3. Page setup:
   - paper size: A4;
   - margins: all margins 2.5 cm;
   - line spacing: 1.5.
4. Title: use 14-point Times New Roman font, bold. Capitalize the entire title. Insert a 14-point line of space following the title.
5. Abstract in English: between 1500 and 2000 characters (including spaces); use 10-point Times New Roman font.
6. The abstract should comprise the following, clearly separated (presented in the form of a list) parts:
   - Purpose.
   - Method.
   - Findings.
   - Research and conclusions limitations: comment on the representativeness of your research and its potential limitations due to cultural, environmental, geographical, or other conditions.
   - Practical implications.
   - Originality: describe how your research (results and opinions) differs from other publications on the subject.
   - Type of paper: specify whether your article presents empirical research or theoretical concepts or whether it is a review, a case study, etc.
7. Key words: 3-6. Insert a 12-point line of space following the key words.
8. The paper should include elements listed below. Titles of elements may be changed if justified by content. Furthermore, especially in the case of review articles, the paper may have a more complex structure, i.e., it may comprise more elements or have a given element subdivided further (such as the Literature Review section).

   A) For empirical papers:
   - **Introduction** (subject of research, aim of the article, and justification of the aim),
   - **Literature review** (a review of Polish and foreign publications presenting the aim of the article and describing current knowledge on the subject matter),
   - **Method** (aim of empirical research, research hypotheses and questions, and a description of methodology and how the research was conducted)
   - **Results** (research results, including the answers to the research hypotheses and questions),
   - **Discussion** (a discussion of the study results in view of results obtained by other authors in Polish and foreign publications on the subject matter),
   - **Conclusions** (conclusions from the study results and their discussion, including practical implications and suggested directions for further research on the subject),
   - **References**.

   B) For review papers:
   - **Introduction** (subject of research, aim of the article, and justification of the aim),
   - **Literature review** (a review of Polish and foreign publications related to the aim of the article describing current knowledge on the subject matter),
   - **Discussion** (a discussion of current knowledge on the subject matter, including critical analysis based on Polish and foreign publications),
   - **Conclusions** (conclusions from the discussion, including its practical implications and suggested directions for further research on the subject),
   - **References**.

9. Headings of each part of the paper: use 12-point Times New Roman font, bold, centered. Number the parts with Arabic numerals. Insert a 12-point line of space following each heading.
10. Running text: use 12-point Times New Roman font and 1.5 line spacing. First line indent: 1 cm. Use tools available in the editor to format the text rather than the space bar, as using space bar makes markup and typesetting difficult.
11. Do not use the bold face, capitals, and underlining in the text. Italics should only be used for titles listed in the footnotes and the References section and for letter symbols in the running text. Insert a space after punctuation marks, not before them.
12. Use an en dash (–) to indicate breaks in a sentence and between numbers that denote close values not provided precisely (such as time periods); do not use a hyphen (-) or an em dash (—). Examples of use:
    - "Secondly – as tradition dictates – every student should wear formal attire tomorrow".
    - "The years 1914–1918, or the times of World War I, is an extremely important period in the history of Europe".
    - "Relevant information can found on pages 12–24 of the aforementioned publication".
    - Most waters in the area of Wysowa belong to the sodium-bicarbonate type and have a high concentration of carbon dioxide.
13. Footnotes can be used (sparingly) to complement the running text: use 10-point Times New Roman font with 1.0 line spacing.
14. References in the running text should be formatted according to the Harvard System (i.e., provide the last name of the author of the quoted or referenced publication, the year of publication, and the page or pages you refer to in square brackets within the running text). Do not place a comma between the name and the year. If two or more publications are referenced in the same parentheses, separate them with a semicolon.
15. The References section, located at the end of the article, should only include texts that are quoted or referred to in the article. References should be given in an alphabetical order with full bibliographic descriptions. Guidelines for and examples of bibliographic descriptions can be found in Part III of these instructions.

II. PREPARING TABLES AND ILLUSTRATIONS

1. Tables and illustrations (figures, charts, and photographs) should be included in separate files and described in detail. Mark their locations in the running text through centered titles, as in the example below:

Tab. 1. Tourist activity inhibitors
Tabela 1. Inhibitory aktywności turystycznej

2. The entire article should use the division into tables and figures (i.e., everything that is not a table, e.g. charts, diagrams, or photographs, is considered a figure). Refer to figures in the abbreviated form ("Fig.").
3. Place titles of tables above tables, and titles of figures below figures.
4. Write the titles of tables and figures in 10-point Times New Roman font.
5. Under each table/figure provide its source (using 10-point Times New Roman font).
6. Figures should be scanned at a resolution no lower than 300 DPI (optimal resolution is 600 DPI) and saved as line art files in TIFF format.
7. Charts should be created in black. Gray tints or textures are allowed.
8. Digital photographs should be saved in TIFF or JPEG format at full resolution. Do not use compression.
9. If the article includes figures, tables, etc. taken from other academic papers, the author is obliged to obtain a reprinting permission. The permission should be sent to the Editorial Office together with the article and other attachments.

III. PREPARING THE REFERENCES SECTION

1. The References section, located at the end of the article, should only include texts that are quoted or referred to in the article. References should be given in an alphabetical order with full bibliographic descriptions.
2. References to papers of different types should be prepared to according to the guidelines below. Note that all references should be provided in a single list (the division into types, found below, is meant only to provide examples of referencing different sources).
3. For two or more papers written by the same author and published in the same year, add subsequent lowercase letters to the year, as in: (2014a), (2014b), etc.
4. List Internet sources (webpages) for which the appropriate elements of a full bibliographic description cannot be provided in a separate Internet Sources section. The list should provide URL addresses of the referenced webpages in alphabetical order, described as in the following sample:
   – http://www.unwto.org/facts/eng/vision.htm (08.09.2014).
5. For articles to be published in the English issues of the Journal, provide English translations of the titles of non-English publications (in square brackets), as in the following sample:
   – Winiarski, R., Zdebski, J. (2008), *Psychologia turystyki* [*Psychology of Tourism*], Wydawnictwa Akademickie i Profesjonalne, Warszawa.

Sample references to different types of papers in the References section

A. Books:

Urry J. (2001), *The tourist gaze*, Sage, London.
McIntosh R.W., Goeldner Ch.R. (1986), *Tourism. Principles, Practices, Philosophies*, John Wiley & Sons, New York.

B. Edited books and joint publications:

Ryan C., ed., (2003), *The Tourist Experience*, Continuum, London.
Alejziak W., Winiarski R., eds. (2005), *Tourism in Scientific Research*, AWF Krakow, WSIZ Rzeszow, Krakow-Rzeszow.

C. Chapters in edited books and joint publications:

Dann G.M.S. (2002), *Theoretical issues for tourism's future development*, [in:] Pearce D.G., Butler R.W., eds., *Contemporary Issues in Tourism Development*, Routledge Advances in Tourism, International Academy for the Study of Tourism, London, New York, pp. 13-30.

D. Articles in scientific journals:

Cohen E. (1979), *A Phenomenology of Tourism Experiences*, „Sociology", Vol. 13, pp. 179–201.
Szczechowicz B. (2012), *The importance of attributes related to physical activity for the tourism product's utility*, „Journal of Sport & Tourism", Vol. 18 (3), pp. 225–249.

E. Articles in trade magazines and trade newspapers:

Benefits tourism not OK (2014), [in:] „The Economist", Nov 15th.

F. Papers without a stated authorship, including research reports and statistical yearbooks:

Tourism Trends for Europe (2006), European Travel Commission.
Tourism Highlights. 2010 Edition (2011), UNWTO.

G. Legal acts:

Act on Tourism Services, of 29 August 1997, Dz.U. of 2004, No. 223, item 2268, as amended.

H. Publications available on the Internet:

International tourism on track to end 2014 with record numbers, http://media.unwto.org/press-release/2014-12-18/international-tourism-track-end-2014-record-numbers (20.12.2014).

GENERAL INFORMATION FOR AUTHORS PREPARING ACADEMIC REVIEWS AND POLEMICS

1. Only original reviews of Polish and foreign monographs, academic articles, and handbooks, as well as other types of academic and didactic papers, such as research reports, doctoral theses, and habilitation theses, will be accepted for publication.
2. The Journal publishes reviews of papers on the theory of tourism, as well as papers that address tourism from the viewpoint of cultural anthropology, philosophy, sociology, geography, law, psychology, economics, management, marketing, and other academic fields and disciplines.
3. Submitting a paper for publication is construed as transferring the copyright to the Editorial Office. This means that neither the review nor a part of it can be published in other journals or digital media without the Editorial Office's written permission.
4. The article should be prepared according to the **"Instructions for authors preparing academic reviews and polemics"**, found below. Otherwise, the article will be sent back to the Author(s) for correction.
5. The review should be submitted to the Editorial Office's e-mail address: folia.turistica@awf.krakow.pl.
6. The Editorial Team reserves the right to modify the style makeup of submitted reviews.
7. The Author of the review will receive an electronic version of the Journal issue in which the review was published, free of charge.

Instruction for Authors Preparing Academic Reviews and Polemics

1. Text files should be created in the Word 6.0–XP editor in DOC format.
2. Page setup:
   - paper size: A4;
   - margins: all margins 2.5 cm;
   - line spacing: 1.5.
3. Name of each Author: use 12-point Times New Roman font, bold. Insert a 12-point line of space following the name(s).
4. Provide each Author's academic degree or title, affiliation (i.e. name of the institution represented by the Author, in this order: university, faculty, department, etc.), phone number, and e-mail in a footnote. Footnote formatting: use 10-point Times New Roman font and 1.0 line spacing.
5. Samples of title formatting:
   1. REVIEW OF "INTERNATIONAL TOURIST ORGANIZATIONS" BY WIESŁAW ALEJZIAK AND TOMASZ MARCINIEC.
   2. AN OPINION ABOUT "POLAND'S MARKETING STRATEGY IN THE TOURISM SECTOR FOR 2012–2020".
   3. RESPONSE TO THE OPINION…

   etc.
6. Title: use 14-point Times New Roman font, bold. Capitalize the entire title. Below the title, provide a full bibliographic reference for your article, including ISBN and the date of submission to the Editorial Board.
7. Format the titles of responses to reviews or other forms of academic polemics according to the guidelines above (e.g. Response to the Opinion…).
8. Insert a 14-point line of space following the title.
9. Headings of each part of the review (if appropriate): use 12-point Times New Roman font, bold, centered. Number the parts with Arabic numerals. Insert a 12-point line of space following each heading.

10. Running text: use 12-point Times New Roman font and 1.5 line spacing. First line indent: 1 cm. Use tools available in the editor to format the text rather than the space bar, as using space bar makes markup and typesetting difficult.
11. Do not use the bold face, capitals, and underlining in the text. Italics should only be used for titles listed in the footnotes and the References section and for letter symbols in the running text. Insert a space after punctuation marks, not before them.
12. Use an en dash (–) to indicate breaks in a sentence and between numbers that denote close values not provided precisely (such as time periods); do not use a hyphen (-) or an em dash (—). Examples of use:
    - "Secondly – as tradition dictates – every student should wear formal attire tomorrow".
    - "The years 1914–1918, or the times of World War I, is an extremely important period
    - in the history of Europe".
    - "Relevant information can found on pages 12–24 of the aforementioned publication".
    - "Most waters in the area of Wysowa belong to the sodium-bicarbonate type and have a high concentration of carbon dioxide".
13. Footnotes can be used (sparingly) to complement the running text: use 10-point Times New Roman font with 1.0 line spacing.
14. Illustrative materials (tables and figures) should be formatted according to the same guidelines as academic articles (see **"Instructions for authors preparing academic articles"**).
15. References in the running text should be formatted according to the Harvard System (i.e., provide the last name of the quoted or referenced publication, the year of publication, and the page or pages you refer to in square brackets within the running text. Do not place a comma between the name and the year. If two or more publications are referenced in the same parentheses, separate them with a semicolon.
16. The References section, located at the end of the article, should only include texts that are quoted or referred to in the review. References should be given in an alphabetical order with full bibliographic descriptions, prepared according to the same guidelines as for academic articles (see **"Instructions for authors preparing academic articles"**).

Folia Turistica is a specialist forum for exchanging academic views on tourism and its environment, in its broadest definition. It is one of Poland's leading academic periodicals, published continuously since 1990. The magazine publishes articles in the field of tourism studies, from a broad interdisciplinary perspective (humanist, economic, geographical/spatial, organizational, and legal issues etc.). Apart from articles presenting the results of empirical research, the journal includes original theoretical, overview, and discursive pieces. The separate headings contain research reports, announcements, and bulletins, reviews of academic works, information on conferences and symposia, and discussions and polemics.

Folia Turistica **is indexed in the ERIH Plus (European References Index for the Humanities and Social Sciences), Information Metrix for the Analysis of Journals (ICDS for 2021 = 4,5), and Index Copernicus International (ICV for 2023 = 100.00). It is also indexed on the Polish Ministry of Education and Science List of point-earing academic publications. In the parametric system of evaluating academic work, authors and the institutions they represent receive 40 points for publishing works in the journal.**

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