

ECOLOGICAL TOURISM PRODUCT DEVELOPMENT FRAMES IN ZAKARPATTIA REGION

Oleksandr Hladkyi, Valentyna Zhuchenko

INTRODUCTION

Ecological tourism is a tourism that includes travel to places with relatively untouched nature, with the aim of gaining insight into the natural and cultural-ethnographic features of a given area, which does not violate the integrity of ecosystems and creates such economic conditions in which the protection of nature and natural resources becomes profitable for the local people.

Ecotourism and recreational activities play an important role in national and regional economies, ensuring rational use and protection of the territory's natural, ecological, cultural, historical and informational resources. Due to the intensive development of the tourism industry, conceptual devices related to the field of tourism and recreation are being formed and improved.

Zakarpattia region is the only region of Ukraine that borders four countries of the Carpathian Euroregion – Hungary, Poland, Slovakia, and Romania. Due to its geopolitical location and natural climatic features, the region has extremely favorable conditions for the development of ecological tourism. The region is a unique ecological system of the Zakarpattia region Regional Center for Socio-Economic and Humanitarian Research of the National Academy of Sciences of Ukraine with a variety of terrain and climatic conditions.

The object of the research is ecological tourism in Zakarpattia region.

The subject of the research is ecological tourism product development frames in Zakarpattia region.

The purpose of the research is to analyze the current state of ecological tourism in the Zakarpattia region and to study the problems and prospects for ecological tourism product development in the Zakarpattia region.

To achieve the set goal, it is necessary to solve the following tasks: to define the essence and structure of ecological tourism; to outline ecological frames of tourism and recreational potential of Zakarpattia region; to research the development of ecological tourism services market in Zakarpattia region; to outline the main stakeholders involved into ecological tourism product development of Zakarpattia region; to define the main directions of ecological tourism product development in Zakarpattia region.

1. Ecological frames of tourism and recreational potential of Zakarpattia region

The Transcarpathian region is located in the extreme southwest of Ukraine, occupies the southwestern part of the Ukrainian Carpathians and the Danube lowland, borders on the north and southeast with the Lviv and Ivano-Frankivsk regions, and also with Romania (205.4 km), Hungary (130 km), Slovakia (98.5 km) and Poland (33.4 km).

In recent times, sustainable tourism has emerged as a global focal point, driven by the increasing environmental consciousness of travelers. Zakarpattia, endowed with abundant natural marvels and a profound cultural tapestry, stands at a crossroads where the preservation of its ecological treasures converges with the aspiration to unlock its tourism potential. This intricate equilibrium between safeguarding the environment and fostering tourism development holds growing significance, not just for Zakarpattia but also for regions worldwide grappling with similar challenges¹.

As of January 1, 2023, there are 34 objects of the nature reserve fund of national importance on the territory of Zakarpattia on a total area of 167,250 hectares, including: the Carpathian Biosphere Reserve, the national nature parks «Synevyr», «Enchanted Land», «Uzhanskyi», which make up 15.09% of the total area of its territory (Table 1).

Table 1

Dynamic featured of nature reserve fund structure in Zakarpattia²

Categories of territories and objects	As of 01.01.2022		As of 01.01.2023	
	Number	Area, hectares	Number	Area, hectares
Nature reserves	-	-	-	-
Biosphere reserves	1	58035,8	1	66417,4
National natural parks	3	99680,5	3	99680,5
Regional landscape parks	2	14961,9558	2	14961,95 58

Ecotourism infrastructure in natural reserve is formed using: 1) tourist routes; 2) visitor centers; 3) tourist information centers and points;

¹ Жук І. З. Актуальні проблеми та перспективи управління туристичною індустрією в Україні. *Актуальні проблеми та перспективи розвитку туризму в Україні: теорія і практика*. Матеріали міжнародної науково-практичної конференції. Київ, 2015. С. 68–70.

² Habchak N. F., Dubis L. F. Analysis of ecotourism infrastructure within the nature-protected areas of Zakarpattia (on the example of National Nature Park «Synevyr»). *Journal of Geology, Geography and Geoecology*. 2022. No. 31(1). P. 22–30. DOI: <https://doi.org/10.15421/112203>

4) ecological trails; 5) specially equipped recreational areas; 6) historical and cultural objects; 7) accommodation and food establishments for tourists; 8) tourist equipment rental points; 9) bicycle rental points and other types of ecological transport³.

It should be noted that ecological and educational trails and tourist routes have markings, traffic signs and information stands or tables. Gazebos, benches, signs, rain shelters, etc. are also often installed along them.

Recreational visits to protected areas cannot be too massive in terms of the quantity of visitors. There are certain rules and they limit the intervention of visitors in natural ecosystems, include certain permitted types of activities (photographing, observation, video recording)⁴.

Accommodation and catering facilities in the study area must be ecologically oriented, as evidenced by the certificates they have obtained or their membership in a certain network of ecological establishments. In the Zakarpattia region, such institutions are represented by mini-hotels and private estates, that usually designed in an ethnic style, and eco-products are popularized. An exception is establishments located in resort and tourist centers, because there are various types of establishments (in terms of size, purpose – wellness and treatment, skiing, entertainment, etc. are added), which do not always correspond to the concept of ecological tourism.

The integral indicator of its natural resource potential is 24.62‰ (Figure 1). According to this indicator, it ranks second in the Carpathian (97.58‰). Zakarpattia region is characterized by a unique landscape and biodiversity.

It is worth noting that in the structure of the NRP of Zakarpattia, water resources have the greatest potential (7.75‰). The region is characterized by a dense hydrographic network formed by 9,426 rivers. There are a large number of rivers and various streams: 152 rivers in the region have a length of about 10 km (Pinia, Rika, Tereblya, Vech, Sinyavka, Ozeryanka, Velyka Ugolka and others). Such rivers as Tisza, Uzh, Latoritsa, and Borzhava are more than 100 km long. The longest river is the Tisza, which is 240 km long within 26 regions and is a left tributary of the Danube. A number of rivers can be exploited for various types of water sports. Zakarpattia has 137 natural lakes, the largest and most famous of which is Synevyr. According to the origin of the lakes here, there are different types: freshwater lakes (Solone, Synevyr, Tereblyanske lakes), karov lakes (Maricheyka, Nesamovyte,

³ Биркович В. І. Сільський зелений туризм – пріоритет розвитку туристичної галузі України. *Стратегічні пріоритети*. 2008. № 1 (6). С. 138–143.

⁴ Деякі питання діяльності Державного агентства розвитку туризму: Постанова Кабінету Міністрів України від 24 грудня 2019 р. № 1162. URL: <https://zakon.rada.gov.ua/laws/show/1162-2019-%D0%BF#Text>

Brebeneskul), anthropogenic lakes (Solotvinske), volcanic (Lypchanske, Vorochivske, Sinye)⁵.

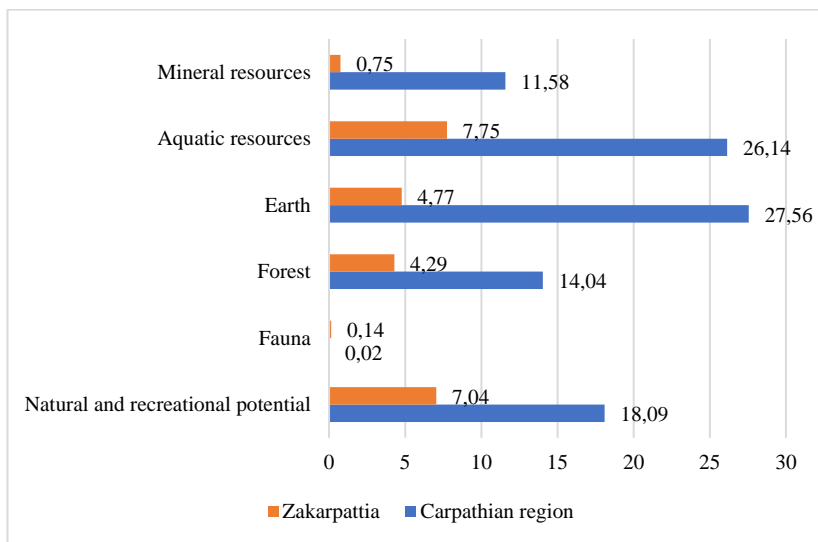


Figure 1. Natural resource potential of Zakarpattia as of 12.31.2021⁶

Balneological resources of Zakarpattia are various mineral and thermal waters. The region ranks first in Ukraine in terms of the quality and quantity of healing springs. There are 620 sources of mineral water, of which only a little more than 300 have been studied. The main deposits of carbonated hydrocarbonate and sodium waters are concentrated in the region. According to the gas composition, most of the mineral waters of Zakarpattia are carbonated (75.0%), nitrogen and nitrogen-methane waters (18.0%), sulfide (7.0%)⁷.

⁵ Жук І. З. Актуальні проблеми та перспективи управління туристичною індустрією в Україні. *Актуальні проблеми та перспективи розвитку туризму в Україні: теорія і практика*. Матеріали міжнародної науково-практичної конференції. Київ, 2015. С. 68–70.

⁶ Nabchak N. F., Dubis L. F. Analysis of ecotourism infrastructure within the nature-protected areas of Zakarpattia (on the example of National Nature Park «Synevyr»). *Journal of Geology, Geography and Geocology*. 2022. No. 31(1). P. 22–30. DOI: <https://doi.org/10.15421/112203>

⁷ Лендел М. А. Вплив макроекономічної ситуації на розвиток туристичної галузі Закарпатської області. *Науковий вісник Ужгородського університету. Серія Економіка*. 2018. Вип. 1 (51). С. 149–152. DOI: [https://doi.org/10.24144/2409-6857.2018.1\(51\).149-152](https://doi.org/10.24144/2409-6857.2018.1(51).149-152)

In the Svalyavsky district, such balneological resorts as Polyana and Solochyn are the most famous, here they treat patients with chronic diseases of the digestive organs. In the Shayan sanatorium, diseases of the liver, pancreas and intestines are treated. In the Kvasy sanatorium, diseases of the musculoskeletal system and the nervous system are treated, in the Karpaty sanatorium, diseases of the circulatory system and functional diseases of the nervous system are treated (Table 2).

Table 2

Balneological resources of Zakarpattia⁶

Districts	Natural mineral springs, unit	Artificial wells, unit	Working wells, unit	Thermal wells, unit	Sanatorium resort facilities, unit
Perechynsky	11	11	1	0	3
Mukachevsky	8	20	5	7	9
Svalyavskyi	17	70	24	7	10
Khustsky	40	41	6	3	7
Irshavskyi	10	9	0	8	4
Velikoberezhnianskyi	29	16	0	0	2
Mizhhirsky	90	25	5	0	3
Volovetskyi	8	0	0	0	-
Rakhivskyi	111	38	4	0	4
Tyachivsky	46	18	7	3	6

Thermal water deposits are located in the following settlements: Uzhgorod, Nizhnya Roztoka, Vilkhivka, Pasika, Ugolka, Zaluzh, Ivanivka, Ruski Komarivtsi, Harazdivka, Sinyak, Shayan, Bigan. The water temperature in the springs ranges from +18 to +80 C, the depth of the springs is up to 800 m. The thermal deposits in the city of Berehove are extremely valuable and unique – these are silicon-carbon dioxide-nitrogen-chloride-sodium waters with high mineralization. Their temperature reaches +30, and salinity 30‰. Such water has a beneficial effect on health, especially those who have cardiovascular diseases, varicose veins, problems with arthritis, osteochondrosis, as well as those who suffer from diseases of the central nervous system.

Zakarpattia is home for Ukrainians, Hungarians, Slovaks, etc. This diversity is celebrated through cultural festivals, music, dance, and cuisine, creating a unique and enriching experience for visitors. Visitors can immerse

themselves in the vibrant folklore of Zakarpattia through storytelling, music, and dance performances (Table 3)⁸.

Table 3

Cultural Heritage of Zakarpattia⁸

Aspect of cultural heritage	Description	Examples
Historical Significance	<ul style="list-style-type: none"> - Zakarpattia's location at the crossroads of Eastern and Western Europe. - Influence of various empires and kingdoms. 	<ul style="list-style-type: none"> - Uzhhorod Castle: Reflects centuries of history. - Palanok Castle in Mukachevo.
Cultural Diversity	<ul style="list-style-type: none"> - Diverse ethnic groups including Ukrainians, Hungarians, Slovaks. - Celebrated through cultural festivals, music, dance, and cuisine. 	<ul style="list-style-type: none"> - Sviatkovy Krosniy Festival: Showcases traditions of the region. - Unique cuisine blending flavors from various cultures.
Folklore and Traditions	<ul style="list-style-type: none"> - Rich folklore with legends, myths, and traditions. - Passed down through generations. 	<ul style="list-style-type: none"> - Hutsul Festivals: Celebrate music, dance, and crafts. - Ceremonial traditions, especially during weddings.
Architectural Gems	<ul style="list-style-type: none"> - Varied architectural styles, from wooden churches to grand palaces. - A reflection of historical eras. 	<ul style="list-style-type: none"> - Wooden Churches: UNESCO World Heritage Sites, e.g., Church of the Archangel Michael in Uzhok. - Shenborn Castle in Chynadiyovo: A grand palace showcasing opulence.

In conclusion, the Zakarpattia region's recreational potential is vast and diverse, making it a destination that can be enjoyed year-round. Whether you seek outdoor adventure, relaxation in thermal springs, cultural immersion, or a combination of these experiences, Zakarpattia has something to offer every traveler. As tourism in the region continues to evolve, it is essential to promote sustainable and responsible practices to preserve its natural beauty and cultural heritage for generations to come.

⁸ Тимчук С. Екологічний туризм як напрям соціально-економічного розвитку сільських територій. *Національна і регіональна економіка. Вісник THEU*. 2016. № 1. С. 35–41.

2. The development of ecological tourism services market in Zakarpattia region

The development of the ecological tourism services market in the Zakarpattia region is a noteworthy and dynamic process that reflects both global trends in sustainable travel and the unique ecological assets of the region. As travelers increasingly seek meaningful and eco-conscious experiences, Zakarpattia has emerged as a destination poised to meet these demands while preserving its natural beauty.

The hospitality sector is a key element of tourism industry potential. While the service sector is gradually recovering its growth rate, the hospitality industry remains challenging to manage. The difficult political and economic situation in 2022-2024 led to a decrease in the number of tourists, both foreign and domestic. Hotel owners had to cut costs because increasing the number of guests was impossible, prioritizing their own safety. The first half of 2022 marked a sharp decline in the hotel real estate market due to the unstable economic situation and armed conflicts in the east, south, and north of the country⁹.

Ecological tourism in Zakarpattia has different tourist infrastructure – from cheap, efficient and accessible homesteads to expensive ones with increased comfort. A family in rural estates in Zakarpattia gladly accepts tourists for a small fee, comfortably accommodates them, provides food and various services. There are 474 rural estates in Zakarpattia that invite tourists to their homes, providing them with accommodation and food services.

A significant number of rural estates are located in Svalyavskiy, Mizhhirskiy and Berehivskiy districts (68, 59 and 49 rural estates, respectively). If calculated as a percentage, 15.9% of all estates in Zakarpattia belong to Svalyavskiy district, 12.8% to Mizhhirskiy district, and 11.6% to Berehivskiy district. A small number of rural estates are located in such regions as Irshavskiy, Uzhhorodskiy, and Vynogradivskiy (10, 9, and 7 homesteads, respectively), as a percentage of the total number – 1.8%, 2.2%, and 1.4%¹⁰.

The concentration of rural estates in currently popular resorts (Berehiv district) is justified by the presence of various types of tourist activities (health, ecological, medical, wine, skiing, etc.). The region is also working on the issue of forming a network of tourist routes in the Zakarpattia, as well as taking into account routes to mineral water sources and other objects of

⁹ Жук І. З. Актуальні проблеми та перспективи управління туристичною індустрією в Україні. *Актуальні проблеми та перспективи розвитку туризму в Україні: теорія і практика*. Матеріали міжнародної науково-практичної конференції. Київ, 2015. С. 68–70.

¹⁰ Державне агентство України з туризму та курортів. URL: <https://www.tourism.gov.ua/>

interest to tourists. The regions of thermal waters, which are currently used for the organization of people's recreation, have their own potential.

Visiting centers of environmental protection institutions, information points, museums, open-air museums, separate collections, etc., are extremely important for ecological tourism. These objects satisfy the informational and educational needs of visitors and perform an educational function: in fact, they introduce people to the environment (natural, historical and cultural aspects). They often feature various maps and images, stuffed animals of local animals, herbariums, historical artifacts, and souvenirs. Such elements of the ecotourism infrastructure are aimed at popularizing the uniqueness of the visited territory.

The number of tourists visited Zakarpattia is presented in Table 4. During 2001-2021, the number of inbound (foreign) tourists, outbound tourists, and domestic tourists decreased in Zakarpattia. During 2018-2021, there were positive changes in improving their quality characteristics. This happened, firstly, due to the repurposing of a number of boarding houses for treatment in a sanatorium; second, due to the construction of new facilities with a small capacity of increased comfort and the reconstruction of sanatoriums with the conversion of rooms in the «deluxe» and «semi-deluxe» categories.

The hostilities reduced the offer on the Ukrainian hotel market, many accommodation facilities were closed for security reasons, demand for tourist services disappeared due to technical reasons and damage to the electrical network due to shelling. In general, the situation in the sector differs from region to region. The situation is calmer in the western regions of the country.

Currently, the Western part of Ukraine, in particular, the Zakarpattia region, is in the best conditions for sustainable development.

At the end of 2022, tourism in Ukraine continued to grow, despite the decrease in the number of international travelers. The focus market is changing, and the number of people traveling for work is significantly decreasing, but staying in classic hotels is still in demand. This applies to suburban hotel complexes, ski resorts and Carpathian ecotourism, for example, glamping¹¹.

In order to develop proposals and directions for further development, it is necessary to determine peak periods that ensure the maximum number of visitors and periods with a minimum number of visitors. In 2021, the network of health, recreation, and tourist facilities in the region included 511 facilities, of which: 23 were health facilities, 126 were recreation facilities, and 362 were tourist facilities (Table 5).

¹¹ Габчак Н. Слабкі та сильні сторони розвитку туристичної галузі Закарпатської області. Вісник Львівського університету. Серія Міжнародні відносини. 2016. Вип. 40. С. 67–74.

Table 4

Number of tourists visited Zakarpattia (persons)¹²

Years	Total number of tourists served by tour operators and travel agents	Including		
		inbound (foreign) tourists	outbound tourists	domestic tourists
2014	19892	515	12963	6414
2015	11625	6	9815	1804
2016	10656	13	7594	3049
2017	11601	68	7939	3594
2018	14652	102	10534	4016
2019	25348	183	18907	6258
2020	28044	114	19962	7968
2021	14669	-	12156	2513

Table 5

Network of health, recreation, and tourist facilities in Zakarpattia region¹³

Category	Number of objects
Health	23
Recreational	126
Tourist	362
Total objects	511

Over the past few years, the hotel business has experienced a lot: lockdowns, war and blackouts. Of course, all this affected the service, building communication with guests and operational procedures. In the meantime, the values of clients have also changed. Over the past few years, the issues of safety, cleanliness, contactless technologies have become very relevant for all hoteliers. And people's increased awareness of environmental friendliness, conscious consumption, health and self-care have set new standards for hotels. While the war made the issue of security as urgent as possible and brought it to a completely new level¹⁴.

¹² Habchak N. F., Dubis L. F. Analysis of ecotourism infrastructure within the nature-protected areas of Zakarpattia (on the example of National Nature Park «Synevyr»). *Journal of Geology, Geography and Geoecology*. 2022. No. 31(1). P. 22–30. DOI: <https://doi.org/10.15421/112203>

¹³ Департамент екології та природних ресурсів Закарпатської ОДА. URL: https://ecozakarp.at.gov.ua/?page_id=2087

¹⁴ Бейдик О. О. Рекреаційні ресурси України : Навчальний посібник. Київ : Альтерпрес, 2015. 400 с.

An important factor when choosing a hotel for guests is the presence of shelter and a clear algorithm of actions of the facility's employees in case of emergency situations. In addition, in modern conditions, the possibility of a flexible approach to the date of check-in, cancellation and refund plays a significant role. Now it is difficult for people to be sure of their plans for more than a few hours, so if the hotel goes to meet guests in this matter, this positively reflects on its occupancy¹⁵.

The occupancy rate is extremely important for all hotel enterprises, each structure tries to increase and improve this criterion to increase it (Table 6). After all, this factor has a direct impact on the profit of hotel establishments.

Table 6

**Ordinary indicators of hotel occupancy and transaction dynamics
in Zakarpattia region¹⁶**

	2021	2022	2023
Download by visitors, %	38	10	21
Growth in transaction dynamics, %	15	3	18

The data depict transactions of only working institutions in Ukraine for the period 2021-2023. Paying attention to the Zakarpattia region, trends in changes in the load index and transaction dynamics have signs of similarity with the processes of decline and growth in the Lviv region. Thus, we can observe a decrease in visitor downloads in 2022 by 28% compared to 2021. However, the situation is developing better and the indicator will increase by 11% in 2023 compared to the previous year¹⁶.

So, the development of the ecological tourism services market in the Zakarpattia region represents a significant opportunity for both sustainable tourism growth and environmental conservation. The region's stunning natural landscapes, cultural heritage, and thermal springs create a unique appeal for eco-conscious travelers seeking memorable experiences. By capitalizing on these assets and fostering cooperation among various stakeholders, including government authorities, tourism associations, businesses, educational institutions, and tourists themselves, the region can achieve a harmonious balance between economic development and environmental preservation. As travelers worldwide increasingly prioritize sustainable and responsible tourism, Zakarpattia's commitment to ecological

¹⁵ Бойко В. О. Сільський зелений туризм в Україні: проблеми та перспективи. *Агроесім*. 2020. № 22. С. 58–65. DOI: <https://doi.org/10.32702/2306-6792.2020.22.58>

¹⁶ Департамент екології та природних ресурсів Закарпатської ОДА. URL: https://ecozakarpat.gov.ua/?page_id=2087

tourism positions it for long-term success and positive contributions to the preservation of its natural beauty.

3. The main stakeholders involved into ecological tourism product development of Zakarpattia region

The development of ecological tourism products in the Zakarpattia region involves a diverse range of stakeholders, each playing a crucial role in shaping the sustainable tourism landscape (Figure 2).

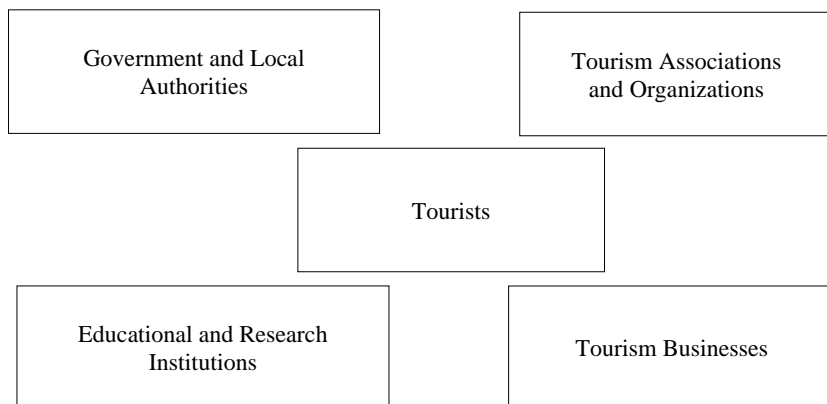


Figure 2. Main stakeholders involved into ecological tourism product development of Zakarpattia region¹⁷

These stakeholders include:

1) Government and Local Authorities

Local governments and regional authorities play a pivotal role in shaping tourism policies, regulations, and infrastructure development. They are responsible for implementing conservation measures, establishing protected areas, and ensuring that tourism activities adhere to environmental and cultural preservation guidelines. Their role encompasses policy development, regulation, infrastructure investment, and the overall facilitation of sustainable tourism practices. Government bodies at different territorial levels are responsible for creating policies that promote ecological tourism.

Ministry of Culture and Tourism collaborates with local authorities to draft policies that encourage eco-friendly tourism practices in Zakarpattia.

¹⁷ Гребеник В., Наумова О. Маркетинг на ринку туристичних послуг в умовах пандемії. *Збірник наукових праць ЛОГОС*. 2020. С. 42–43. DOI: <https://doi.org/10.36074/25.12.2020.v1.15>

Department of Tourism and Resorts of the Transcarpathian Regional Council has following functions and responsibilities:

- Tourism development planning – developing strategies and plans for the sustainable development of tourism in the region, taking into account the unique cultural, historical, and natural attractions.

- Promotion and marketing – implementing marketing campaigns and promotional activities to attract tourists to the Zakarpattia region. This may include digital marketing, participation in travel fairs, and collaborations with travel agencies.

- Infrastructure development – coordinating with relevant authorities to enhance tourism-related infrastructure, such as improving transportation networks, developing visitor centers, and maintaining tourist facilities.

- Collaboration with stakeholders – working closely with local businesses, hospitality providers, tour operators, and other stakeholders to create a cohesive and attractive tourism environment.

- Cultural and eco-tourism promotion – promoting cultural events, festivals, and eco-friendly tourism initiatives that showcase the region's unique offerings.

- Visitor services – providing information and assistance to tourists, including maps, brochures, and details about local attractions and services.

- Training and capacity building – offering training programs for local businesses and communities to enhance their skills in catering to tourists, ensuring a positive visitor experience.

- Regulatory oversight – implementing and enforcing regulations related to tourism activities to maintain standards and ensure the well-being of visitors.

- Collaboration with national tourism bodies – cooperating with national-level tourism organizations and government bodies to align regional tourism initiatives with broader tourism strategies.

Authorities in Zakarpattia have implemented regulations to limit the number of visitors to fragile ecosystems like the Synevyr Lake, preventing over-tourism and ecosystem degradation. Government tourism departments collaborate with local authorities to promote the region as an ecological tourism destination. They engage in marketing campaigns that emphasize Zakarpattia's natural beauty and cultural heritage¹⁸.

The Zakarpattia Tourism Information Center, supported by local authorities, actively promotes eco-friendly tours and cultural experiences to attract responsible travelers. Local authorities allocate resources for the construction and maintenance of infrastructure that supports ecological

¹⁸ Биркович В. І. Сільський зелений туризм – пріоритет розвитку туристичної галузі України. *Стратегічні пріоритети*. 2008. № 1 (6). С. 138–143.

tourism. This includes roads, trails, visitor centers, and waste management facilities. The Zakarpattia Regional Administration invests in the construction of hiking trails in the Carpathian Mountains, enhancing accessibility to natural attractions for eco-tourists.

2) *Tourism Associations and Organizations*

Tourism associations, both at the regional and national levels, advocate for sustainable tourism practices.

They provide support, resources, and expertise to businesses and communities involved in ecological tourism product development. They play a crucial role in advocating for sustainable tourism practices, providing resources and expertise, and fostering collaboration among various stakeholders.

Tourism associations actively promote sustainable tourism practices to their members and the broader tourism community in Zakarpattia. For instance, the Zakarpattia Tourism Association conducts workshops and seminars to educate local businesses on various eco-friendly practices. Such association aims to promote and develop tourism in a region by fostering cooperation between businesses, government bodies, local communities, and other relevant entities.

The potential roles and functions of a Zakarpattia Tourism Association include:

- The association could work on marketing and promotional activities to highlight Zakarpattia's unique attractions, cultural heritage, and tourism offerings.
- Facilitating collaboration between various tourism-related businesses, such as hotels, tour operators, and transportation services, to create integrated and seamless travel experiences.
- Encouraging and promoting sustainable tourism practices to preserve the region's natural and cultural resources for future generations.
- Providing training programs and resources for local businesses and communities to enhance their capabilities in catering to tourists.
- Representing the interests of the local tourism industry at various levels of government and advocating for policies that support responsible and sustainable tourism development.
- Organizing or supporting events and festivals that showcase the unique aspects of Zakarpattia, attracting visitors and creating economic opportunities for local businesses.
- Offering information and support services for tourists, including maps, guides, and other resources to enhance their experience in the region.

The Zakarpattia Ecotourism Association shares resources on responsible trekking in the Carpathian Mountains, helping tour operators and hikers minimize their environmental impact¹⁹.

3) Tourism Businesses

Accommodation providers, tour operators, restaurants, and transportation services are integral to the development of ecological tourism products. These businesses can adopt sustainable practices for eco-friendly tourism needs. They have a direct impact on the creation, promotion, and execution of eco-friendly tourism experiences.

So do hotels and lodges in Zakarpattia. For example, the Eco-Hotel «Voevodyno» in Zakarpattia utilizes solar panels for heating water and has a comprehensive waste recycling program.

There are 474 rural estates in Zakarpattia region that invite tourists to their homes, providing them with accommodation and food services. A large number of rural estates are located in the Mizhhirskiyi, Svalyavskiyi, and Berehivskiyi districts (68, 59, and 49 rural estates, respectively). If calculated as a percentage, the Svalyavskiyi district accounts for – 15.9%, Mizhhirskiyi – 12.8%, and Berehivskiyi – 11.6% of all estates in Zakarpattia. A small number of rural homesteads are located in such regions as Irshavskiyi, Uzhhorodskiyi and Vynogradivskiyi (10, 9, and 7 homesteads, respectively), as a percentage of the total number – 1.8%, 2.2%, and 1.4% (Figure 3).

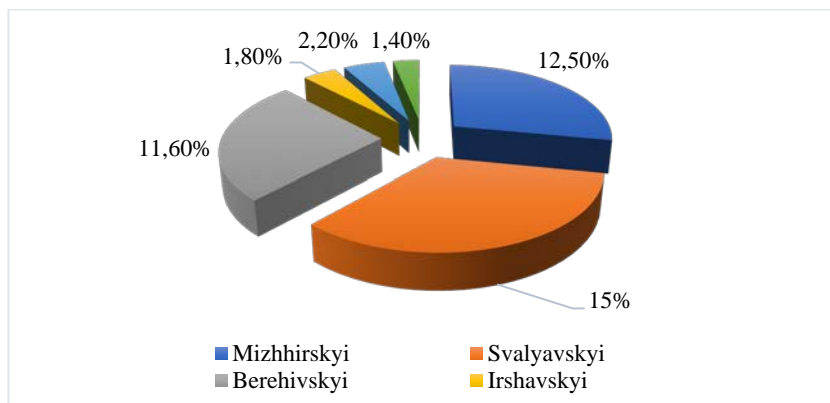


Figure 3. The structure of rural homesteads in the districts of Zakarpattia region²⁰

¹⁹ Бойко В. О. Сільський зелений туризм в Україні: проблеми та перспективи. *Агросвіт*. 2020. № 22. С. 58–65. DOI: <https://doi.org/10.32702/2306-6792.2020.22.58>

²⁰ Бойко В. О. Сільський зелений туризм в Україні: проблеми та перспективи. *Агросвіт*. 2020. № 22. С. 58–65. DOI: <https://doi.org/10.32702/2306-6792.2020.22.58>

The concentration of rural estates in currently popular resorts (Beregivsky district) is justified by the presence of various types of tourist activities (health, ecological, medical, wine, skiing, etc.). The region is also working on the issue of forming a network of tourist routes in the Zakarpattia region, as well as substantiating mineral water sources on such routes. The regions of thermal waters, which are currently used for the organization of people's recreation, have their own potential.

A feature of ecological tourism in Zakarpattia region is the opportunity to relax in nature not only during the annual vacation, but also during the weekend. At the same time, see the culture and life of the village, enjoy the harmony of natural resources and fresh air. Many tourists are happy to take part in village work, picking berries and mushrooms. Evenings for relaxation in an ecological tour are no less interesting – parties with Ukrainian traditions, dancing and singing can be organized for tourists²¹.

Tour operators play a significant role in designing and offering sustainable tours that focus on nature conservation and cultural immersion. Zakarpattia-based tour operators like «EcoZakarpattia regionns» specialize in guided eco-tours that explore the region's pristine landscapes and promote responsible travel.

Restaurants and eateries in Zakarpattia prioritize sourcing local and organic food products to support sustainable agriculture. Many restaurants, such as «Gutsulski Hutsul» feature traditional dishes made from locally grown ingredients.

Transportation companies are transitioning to eco-friendly alternatives, such as electric buses and vehicles, to reduce their carbon footprint. The «EcoTourCarpathians» transportation service offers eco-friendly transportation options for tourists exploring the region. These tourism businesses and organizations actively contribute to the development of ecological tourism products in Zakarpattia by adopting sustainable practices, creating responsible tourism experiences, and fostering a culture of environmental conservation in the region.

4) Educational and Research Institutions

Educational and scientific companies play a very important role in ecological tourism products development of Zakarpattia region. They contribute to the knowledge base, provide training, and conduct research to enhance sustainable tourism practices (Table 7).

²¹ Гребеник В., Наумова О. Маркетинг на ринку туристичних послуг в умовах пандемії. *Збірник наукових праць ЛОГОС*. 2020. С. 42–43. DOI: <https://doi.org/10.36074/25.12.2020.v1.15>

Table 7

Educational and Research Institutions in the Zakarpattia region²²

Name of Institution	Focus/Area of Expertise	Contribution to Ecological Tourism Development
Uzhhorod National University	Environmental Sciences, Cultural Heritage, Tourism Studies	Research, Training, and Advocacy Initiatives
Carpathian	Biosphere Reserve Biodiversity Conservation, Environmental Education	Conservation Efforts, Guided Tours
Institute of Ecology and Nature	Ecosystem Research, Environmental Impact Assessment	Environmental Research and Impact Assessment
Zakarpattia region Regional Academy	Sustainable Agriculture, Rural Development	Support for Sustainable Farming Practices

Research institutions, such as the Zakarpattia region regional environmental and naturalistic center for school youth, conduct studies on the region's ecosystems, biodiversity, and the impact of tourism. They provide valuable data and recommendations for the sustainable management of natural resources and protected areas.

Universities, research institutions, and environmental educators contribute to ecological tourism by providing knowledge and expertise. They offer training programs, conduct research on biodiversity, and educate tourists and locals about the importance of conservation.

The Center for Sustainable Tourism of the Ukrainian Carpathians is the hub for the commencement of two substantial projects in the region: the «School of Sustainable Tourism» and the «Hospitality Academy». This center plays a crucial role in fostering responsible tourism development, preserving the natural environment, and enhancing the quality of visitor experiences in the Carpathian Mountains. Key functions and activities of the Center for Sustainable Tourism include²³:

– Education and Training: the center offers a range of educational programs, workshops, and training sessions aimed at raising awareness about sustainable tourism principles. It provides guidance to local stakeholders, including businesses and communities, on adopting eco-friendly practices.

²² Департамент екології та природних ресурсів Закарпатської ОДА. URL: https://ecozakarpat.gov.ua/?page_id=2087

²³ Гребеник В., Наумова О. Маркетинг на ринку туристичних послуг в умовах пандемії. *Збірник наукових праць ЛОГОС*. 2020. С. 42–43. DOI: <https://doi.org/10.36074/25.12.2020.v1.15>

– Research and Data Analysis: researchers at the center conduct studies and collect data related to tourism’s impact on the environment, culture, and local economies. These findings help inform policies and strategies for sustainable tourism development.

– Policy Advocacy: the center actively engages with government authorities and policymakers to advocate for policies and regulations that support sustainable tourism. It provides evidence-based recommendations for creating a conducive environment for responsible tourism.

– Community Engagement: the center collaborates closely with local communities to understand their needs and aspirations regarding tourism. It ensures that tourism initiatives align with the interests of the Carpathian people.

– Promotion of Eco-Friendly Practices: it encourages businesses, including accommodations, tour operators, and restaurants, to adopt various eco-friendly practices²⁴.

5) *Tourists*

Tourists themselves are important stakeholders. Their preferences, choices, and behaviors impact the success of ecological tourism products. Tourists can support sustainable practices by respecting local cultures, minimizing waste, and choosing eco-certified accommodations and tours. Tourists are integral stakeholders in the development of ecological tourism products in the Zakarpattia region. Their preferences, behaviors, and feedback significantly influence the direction and success of eco-friendly initiatives (Table 8).

So, the development of ecological tourism products in the Zakarpattia region is a complex and multi-faceted endeavor that relies on the collaboration of various stakeholders. Government and local authorities play a crucial role in providing the necessary infrastructure and regulations to support eco-friendly tourism initiatives. Tourism associations and organizations help in promoting sustainable practices and coordinating efforts among businesses and institutions. Speaking of businesses, they are essential stakeholders as they directly provide services and accommodations to eco-tourists, contributing to the overall experience. Educational and research institutions add an important dimension by conducting studies and research to inform sustainable practices and provide training of ecological tourism education.

²⁴ Жук І. З. Актуальні проблеми та перспективи управління туристичною індустрією в Україні. *Актуальні проблеми та перспективи розвитку туризму в Україні: теорія і практика*. Матеріали міжнародної науково-практичної конференції. Київ, 2015. С. 68–70.

Table 8

Tourists' involvement in ecological tourism²⁵

Involvement Type	Description
Demand for sustainable accommodations	Choosing environmentally certified hotels like «Green Paradise Resort» known for its commitment to reducing its carbon footprint.
Participation in responsible activities	Engaging in tree-planting programs, wildlife conservation efforts, or supporting local artisans through purchases of traditional crafts.
Feedback and reviews	Sharing experiences through online reviews and social media, influencing potential visitors. Positive reviews for eco-tourism experiences encourage others to choose sustainable options.
Support for local communities	Participating in homestays, supporting local families directly, or visiting traditional craft workshops.
Advocacy for sustainable practices	Actively promoting responsible travel practices and sharing eco-friendly destination information within their networks.
Preference for eco-friendly transportation	Opting for low-emission transportation like electric bicycles or shared electric cars. Utilizing eco-friendly transportation services for exploring the region.
Responsible wildlife viewing	Observing wildlife in a non-intrusive manner, such as <u>birdwatching at the Tysmenytsia Ornithological Station.</u>
Responsible waste management	Disposing of waste responsibly using designated bins and recycling facilities. Participating in clean-up initiatives organized by local NGOs or businesses.
Embracing eco-tourism packages	Choosing specialized eco-tourism packages offered by tour operators focusing on sustainable experiences in Zakarpattia.

CONCLUSIONS

1. The ecological frames of tourism within the picturesque Zakarpattia region lay the foundation for a harmonious coexistence between nature, culture, and sustainable tourism. This enchanting corner of Ukraine, with its diverse landscapes, pristine natural reserves, and rich cultural heritage, offers an array of opportunities for both relaxation and adventure. The region's commitment to ecological preservation, as reflected in its eco-tourism initiatives, showcases a responsible approach to tourism development. By balancing the allure of its scenic landscapes with the preservation of its environmental and cultural treasures, Zakarpattia presents an exemplary model of how ecological frames can enhance the recreational potential of a

²⁵ Tourism 2020 Vision. URL: <https://www.e-unwto.org/doi/book/10.18111/9789284404667>

destination, making it an appealing and enduring choice for travelers seeking both natural serenity and cultural enrichment.

2. The development of the ecological tourism services market in the Zakarpattia region represents a promising avenue for sustainable economic growth and environmental preservation. As the world increasingly prioritizes responsible travel and eco-friendly experiences, Zakarpattia stands at the forefront of catering to these demands. With its pristine natural landscapes, diverse ecosystems, and rich cultural heritage, the region has the potential to become a beacon for eco-conscious travelers. However, this journey towards ecological tourism excellence requires additional efforts from various stakeholders. By embracing eco-friendly practices, preserving the environment, and offering authentic cultural experiences, Zakarpattia can not only enhance its tourism industry but also become a shining example of how tourism and ecological sustainability can go hand in hand, benefiting both the region and the global ecosystem.

3. The success of ecological tourism product development in the Zakarpattia region is intricately woven into the collaboration and commitment of its key stakeholders. Government and local authorities play a pivotal role in shaping policies that encourage sustainability and protect the region's natural and cultural treasures. Tourism associations and organizations act as catalysts for eco-friendly initiatives, advocating for responsible practices. Tourism businesses, by adopting and promoting sustainability, create memorable experiences for visitors. Educational and research institutions contribute valuable knowledge and training, while tourists themselves are instrumental in driving demand for eco-conscious experiences. Together, these stakeholders form a cohesive ecosystem that not only enhances the region's ecological tourism offerings but also paves the way for a more sustainable and responsible future, where Zakarpattia's natural beauty and cultural heritage remain cherished for generations to come.

SUMMARY

The essence of ecological tourism and recreational potential of the territory are explored. The current ecological frames of tourism and recreational potential of Zakarpattia region are investigated. Dynamic featured of nature reserve fund structure in Zakarpattia are disclosed. Natural resource potential of Zakarpattia is systemized. Balneological resources of Zakarpattia are defined. The main cultural heritage destinations in Zakarpattia used for ecological tourism are described. The development of ecological tourism services market in Zakarpattia region is substantiated. The number of tourists visited Zakarpattia with ecological purposes is calculated. The current network of health, recreation, and tourist facilities in Zakarpattia region is

systemized. The main indicators of hotel occupancy and transaction dynamics in Zakarpattia region are highlighted. The main stakeholders involved into ecological tourism product development of Zakarpattia region are investigated. The structure of rural homesteads in Zakarpattia region is defined. The main educational and research institutions connected with ecological and environmental investigations in the Zakarpattia region are explored. The main incises of tourists' involvement into ecological voyages are proposed. The brand-new ecological tourism product development in Zakarpattia region is substantiated.

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Information about the authors:

Oleksandr Hladkyi

Doctor of Geographic Science,
Professor at the Department of Tourism
and Creative Industries Management,
State University of Trade and Economics
19, Kyoto Str., Kyiv, 03100, Ukraine

Valentyna Zhuchenko

Candidate of Science (Economics),
Assistant Professor at the Department of Tourism
and Creative Industries Management,
State University of Trade and Economics
19, Kyoto Str., Kyiv, 03100, Ukraine