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On the issue of sustainable development of tourism in the Black Sea countries

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Abstract. The article observes the relevance and substantiates the need to raise the problem of tourism development in the countries of the Black Sea region (Turkey, Ukraine, the Russian Federation, Georgia, Romania and Bulgaria) on the basis of sustainability. Systematization of approaches to the definition of «sustainable development of tourism», «sustainable tourism» and «tourism constancy» has conditioned the elaboration of a sustainable tourism

development model, the elements of which are the needs of tourists, tourism resources, tourism services, types of tourism, tourism activities, subjects - tourist, tourist enterprise, destinations and the state (management). It was determined that the achievement of sustainable tourism development in the country should be evaluated from the standpoint of meeting the needs of tourists and considering the factors such as security, sustainable tourism services, economic and environmental sustainability, socio-cultural sustainability, the country's basic sustainability and political and regulatory constancy. During the study, the needs of the tourist were identified (cognition, recognition and his acceptance of the cultural, historical, national heritage of the destination, the development of spiritual potential and self-development), which act as a driving force for the growth of demand for sustainable types of tourism. It was found that satisfying the physiological needs of a tourist, his staying in a safe environment, confirming his social, professional, family status is associated with mass tourism, and does not fully contribute to the achievement of sustainable development goals. It is determined that the development of tourism in the Black Sea countries is characterized by a high loading on tourist facilities and irregular tourist flows, the irrational use of natural resources, and the continuous expansion of infrastructure that allows only fragmentary observance of the principles of sustainable development. To assess the sustainability of tourism in the countries of the region, we used the author's methodology for ranking the factors of the tourism sustainability index. Calculations demonstrated that the most important factors for tourists in the Black Sea region are the factor of safety, tourism services and the basic state of stability of the country, which is based on the level of food technology usage; the presence of harmful industries in the country; unemployment rate in the country; the importance of tradition in everyday life; international openness safety factors, tourist services and the basic condition of stability of the country. Environmental sustainability and a sociocultural strategy have a moderate impact. In the ranking of the countries of the Black Sea region according to the calculated tourism sustainability index, Georgia took the first place, and Ukraine received the lowest indicator. By the method of cluster analysis, the countries of the Black Sea region were combined into three clusters. The first cluster was formed by Turkey - a country that has a developed system of mass tourism and actively contributes to its reorientation continuously. The second cluster includes Bulgaria, Romania and Georgia, which combine the processes of active development of traditional and sustainable tourism. In the third cluster, which includes Russia and Ukraine, the development of tourism on the principles of sustainability practically does not occur.

Keywords: sustainable development of tourism, mass tourism, Black Sea region, index of tourism sustainability

До питання сталого розвитку туризму країн Причорномор'я

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Анотація. В статті розкрито актуальність й обґрунтовано необхідність підняття проблеми розвитку туризму в країнах Причорномор'я (Туреччини, України, Російської Федерації, Грузії, Румунії й Болгарії) на засадах сталості. Систематизація підходів до визначення понять «сталий розвиток туризму», «сталий туризм» та «сталість туризму» дозволила розробити модель сталого розвитку туризму, елементами якої виступають потреби туристів, туристичний ресурс, туристична послуга, види туризму, туристична діяльність, суб'єктами – турист, туристичне підприємство, дестинація та держава (управлінський орган). Визначено, що досягнення сталого розвитку туризму в країні має бути оцінено з позиції задоволення потреб туриста

й враховувати такі чинники, як безпека, сталий туристичний сервіс, економічна й екологічна сталість, соціально-культурна сталість, базова сталість країни й політико-регуляторна сталість. В ході дослідження виокремлено сталі потреби туриста (пізнання, визнання та прийняття ним культурної, історичної, національної спадщини дестинації, розвиток духовного потенціалу та саморозвиток), які виступають рушійною силою зростання попиту на сталі види туризму. З'ясовано, що задоволення фізіологічних потреб туриста, перебування його в безпечному середовищі, підтвердження свого соціального-професійного, сімейного статусу пов'язано з масовим туризмом, і не повною мірою сприяє досягненню цілей сталого розвитку. Визначено, що розвиток туризму в країнах Причорномор'я характеризується високим навантаженням на туристичні об'єкти, нерівномірністю туристичних потоків, нераціональним використанням природних ресурсів, постійним розширенням інфраструктури, що дозволяє діяти на засадах сталого розвитку лише фрагментарно. Для оцінки сталості туризму країн регіону використано авторську методику ранжування чинників індексу сталості туризму. Розрахунки показали, що найважливішими для туристів в країнах Причорномор'я є чинники безпеки, туристичного сервісу та базового стану сталості країни, в основі якого лежить рівень використання складних технологій виготовлення харчових продуктів; наявність шкідливих виробництв на території держави; рівень безробіття в країні; значення традицій у повсякденному житті; міжнародна відкритість. Помірний вплив чинять екологічна сталість та соціокультурна стратегія. В рейтингу країн Причорномор'я за розрахованим індексом сталості туризму перше місце посіла Грузія, а найнижчий показник отримала Україна. Методом кластерного аналізу країни Причорномор'я було об'єднано в три кластери. Перший кластер сформувала Туреччина – країна, що має розвинену систему масового туризму і активно сприяє його переорієнтації в сталому напрямку. До другого кластеру увійшли Болгарія, Румунія та Грузія, які поєднують процеси активного розвитку традиційного і сталого туризму. В третьому кластері, в який увійшли Росія й Україна, розвиток туризму на принципах сталості практично не відбувається.

Ключові слова: сталий розвиток туризму, масовий туризм, регіон Причорномор'я, індекс сталого туризму

Introduction. For more than 10 consecutive years, Europe has remained the most visited region of the world. Thus, in 2017, the number of international tourist arrivals to European countries increased by 8 % compared with 2016, which brought international tourism receipts worth USD 519.2 billion and provided 37 million jobs (World Tourism Organization, 2018b).

A steady growth of statistical indicators for the development of tourism in the European tourist region is justified, first, by its natural geographic and cultural and historical attractiveness for tourists and, second, by the developed transport network that provides for the reachability of the region's destinations. It is this attractiveness that defines the extensive and intensive advancement of tourism infrastructure in destinations, resulting in the increasing tourism revenues.

The highest growth rates of direct revenues from tourism and travel among all European countries in 2017 compared to 2016 were as follows: Georgia – 21.3%, Turkey – 17%; in terms of the number of tourist arrivals in Europe – Turkey, 28.6%, Romania, 26.8%, Georgia, 26.2% (WTTC, 2018, a).

Such indicators of countries located around the Black Sea, on the one hand, justify their already existing opportunities according to the usage of their own tourism potential, that finds support from state authorities, business organizations, investors, public initiatives. On the other hand, it attracts attention to countries across the entire Black Sea region as a promising center for the development of mass international tourism in Europe. Countries in the Black Sea region, in addition to those above specified – Georgia, Turkey, Romania, include Bulgaria, Ukraine, and Russian Federation.

At the beginning of 1990s, the region's countries already had a relatively well-developed maritime infrastructure, which essentially has not changed since that time. However, there has been a great improvement in air traffic among the sea resorts of Turkey and Georgia, which has intensified tourist activities. Revitalizing the tourist destinations in Bulgaria and Romania was contributed to by their joining EU in 2007. However, over a decade, the countries in the region experienced political instability. Revolutions took place in Georgia in 2003, in Ukraine in 2004; Georgia was involved, and Ukraine has been involved since 2014 in a military-political conflict with Russian Federation. Turkey survived the failed military-political coup in 2016. The incident with the Russian plane in 2015 led to a fourfold decrease in tourist flows to Turkey from Russian Federation.

At present, there is a pressing need for a balanced, harmonious, uniform development of tourism in the region so that the economic development and the well-being of local residents, the development of culture, the environment, as well as meeting the needs of tourists, do not conflict with one another.

Analysis of recent research and publications. At the UN Conference on Sustainable Development "RIO + 20" in June 2012, the heads of countries noted the significant contribution of tourism, organized on the principle of permanence and aimed to create new jobs and the growth of international trade. Sustainable tourism, as one of the five components of the approved "The 10 Year Framework of Programs on Sustainable Consumption and Production Patterns" (High-level Political Forum on Sustainable Development, 2012), has been recognized as the leading tool for sustainable development of countries. It aims to

reorient society and consumer behaviour towards sustainable development.

The recognition and adoption by the international community of Sustainable Development Goals (SDGs) as guidelines and milestones in countries' development in 2015 changes the environment of the tourist business. Tourism accounts for 30% of world exports of commercial services, or 7% of world exports. The tourism industry, which develops at a high rate, also stimulates the generation of revenues by 53 related industries, which is equivalent to 10% of global GDP. The tourism business has created every eleventh workplace, every seventh – in the related sectors of the economy (World Tourism Organization, 2018, a). Development of tourism is accompanied by construction and improvement of basic, financial, technological infrastructure, by the increasing affluence of territories and by a decrease in poverty of local population. The former UN Secretary-General Ban Ki-moon believed that tourism is the most important industry in achieving the goals of sustainable development (World Tourism Organization, 2015). The tourist industry has a very high potential to help countries achieve the goals of sustainable development (SDGs).

The issue of «ensuring the sustainable models of consumption and production» (SDG 12), specifically a change and sustainable models of consumer behaviour, was investigated by Hall (2013), Shove (2014), analysis of consumer behaviour from the standpoint of social marketing, technologies, institutions, modes of management and service provision – by Hall (2016), Williams (2013). Environmental issues in tourism in the context of struggle against climate change (SDG 13), protection of the marine and coastal environment (SDG 14), protection of ecosystems and reducing a biodiversity loss (SDG 15), were addressed in the works by Wall & Badke (1994), Scott (2011), Weaver (2011), Lowe, Phillipson & Wilkinson (2013), Leyshon (2014), Scott, Gössling, Hall & Peeters (2015), Scott, Hall & Gössling (2016).

The development of tourism contributes to accomplishing SDGs 8, 12, 14 (World Tourism Organization, 2015), indirectly – all SDGs. To raise the awareness of society about the role of sustainable tourism for SDGs, to introduce the principle of sustainability into the practice of travel companies and related entities, to form a «sustainable» behaviour of tourists, the World Tourism Organization (UNWTO) announced 2017 to be the year of sustainable tourism. SDGs balance the environmental, social and ecological aspects of societal development to 2030.

The concept of sustainable development has led

to the formation in the field of tourism and travel of such concepts as: «sustainable development of tourism», «sustainable tourism», «sustainability in tourism». Defining the terminology is important to understanding and stating the issue on sustainable tourism and related policies (Bramwell, 2015), to forming views on «what matters and what does not, behind which lie ideas about how things work» (Harding & Blokland, 2014); the result of scientific discussions would include programs, as well as specific practical activities.

In 2004, UNWTO developed the concept of the sustainable development of tourism, which implies that the rules and practice of managing a sustainable development of tourism are universal for all types and directions, the principles of sustainability relate to the environmental, social and economic components of its development and must be balanced in order to guarantee the long-term development of tourism. The goals for sustainable development of tourism, formed by UNWTO, are to ensure economic feasibility, prosperity, employment, social justice, affordability of tourism, local control, welfare of the society, cultural richness, physical integrity, biological diversity, efficiency of use of tourist resources, environmental cleanliness of a host destination (United Nations Environment Programme. Division of Technology, 2005).

The start of a general debate on «sustainable tourism» is associated with B. Bramwell and B. Lane, who in 1993 proposed the interpretation, established the difficulties, benefits, and risks in its development (Bramwell & Lane, 1993). One of the common approaches considers sustainable tourism to be a type of tourism that ensures a caring, rational use of resources in the environment, preservation of the socio-cultural features of host communities, efficiency and viability of long-term economic processes, while a share of money from tourism activities is aimed at restoring tourist resources, improvement of technologies for providing tourist services. Sustainable tourism demonstrates the development of such types as: ecological, green, country, eco-tourism, socially responsible, agritourism (Krasnikova, Krupskiy & Redko, 2019).

Thus, sustainable tourism should ensure the following (United Nations Environment Programme. Division of Technology, 2005: 11–12):

- optimal use of environmental resources to preserve the natural environment and biodiversity;
- respect for the social and cultural heritage and traditional values of host communities;
- the long-term contribution of tourism to the development of local industries, which provides for

social and economic benefits for all stakeholders.

The aim of this study is to substantiate the determinants and ways for promoting the sustainable development of tourism in the countries of the Black Sea region. To achieve this, the model of the sustainable development of tourism that considers the needs of a tourist has been proposed, which systemized the elements, subjects, and metrics of tourism sustainability, aimed at accomplishing the sustainable development goals (SDGs) and developing the sustainable types of tourism.

Materials and methods. In the article we used methods of statistical analysis, mathematical methods for calculating the index of tourism sustainability in terms of meeting the needs of a tourist by our author's procedure.

To perform a study, we used 2 resources on Facebook: "Tourism business" was created in April 2014: by the time of the survey it had 1,745 subscribers (Tourism business, 2018); "Independent journeys around the world" was created in March 2013, it had 21,655 subscribers (Independent journeys around the world, 2018).

All the subscribers were sent a brief set of questions aimed at identifying people willing to take part in our research – it was of interest to 811 people, representing 3.3 % of the audience covered by these two resources. These people were sent a questionnaire. The participants were informed about the general purpose of the research, but the exact description was removed to reduce the social bias in responses. 697 responses were received (85 % of subscribers who received the questionnaire wishing to take part in the study). Next, we removed from the sample all incomplete answers and responses, which belonged to staff of enterprises of tourism and hospitality who could be termed "professionally shortsighted", so we were left with 426 responses (61.19 % of received questionnaires). These respondents, firstly, did not work at enterprises of tourism and hospitality, secondly, they expressed their opinions regarding the questions stated in the questionnaire, which, we assume, were the result of their personal experience related to travels.

After data cleaning, the sample contained 393 questionnaires – 56.38 % of the questionnaires returned (1.6 % – from subscribers to the resources). 69 % of the participants were women, 31 % – men. The average age was 37.21 years (SD=17.21).

In the questionnaire, participants of the survey had to estimate the level of 7 factors for 6 countries, based on our 10-point scale (1 – very low, 10 – very high). We included Turkey, Ukraine, Russian Federation, Bulgaria, Romania, and Georgia into the

group of countries in the Black Sea region.

Results and discussion. Since the beginning of the 20th century, mass tourism "led to the over-utilization of historical and natural objects" (Sydorenko, 2019). According to I. Petrasov, the negative consequences of tourism development, in addition to the environmental, could include a negative/destructive influence on the culture of local inhabitants, a growth of population density in tourist regions, worsening socio-economic tension, the practice of employing minors. The author points out that international tourism can act as a catalyst for the transition from the traditional to the so-called "European" lifestyle, which could cause social conflicts and lead to the loss of cultural customs by local population (Petrasov, 2001).

Thus, on the one hand, the growing needs of tourists have spurred the development of the tourism industry, on the other hand, the limited tourist resources of a host destination did not meet these requirements in full. According to R. Sharpley (2003), the concept of sustainable development of tourism "originated with the aim of reducing the negative effects of tourism that has become almost routine as a desirable and politically expedient approach to the development of tourism". The purpose of sustainable tourism is to provide a balanced, harmonious, even development of tourism so that the economic development and well-being of local residents, the development of culture, the environment, as well as meeting the needs of tourists, are not opposed. We believe that any kind of tourism can become sustainable provided the rendered tourist services satisfy the economic, socio-cultural, aesthetic needs of tourists, preserve cultural heritage, support the recovery of the environment, biological diversity and life-supporting systems at a destination. The sustainable development of tourism would make it possible to recover, while sustainable tourism – to increase and qualitatively improve, the tourist resources in the future, without any social, environmental damage to future generations. The model of the sustainable development of tourism is shown in Fig. 1.

The sustainable development of tourism "constantly improves the experience of a tourist" (Hashemkhani Zolfani, Sedaghat, Maknoon & Zavadskas, 2015), changes his/her needs and requirements to travel services. In our opinion, the defining criterion of sustainable tourism is to meet the needs of a tourist – knowledge, recognition, and his/her acceptance of the cultural, historical, national heritage of a destination, the development of spiritual potential and the self-development of a tourist. In this context, there is a naturally growing demand for travel services involving active, interactive, creative, authentic, unique, in-

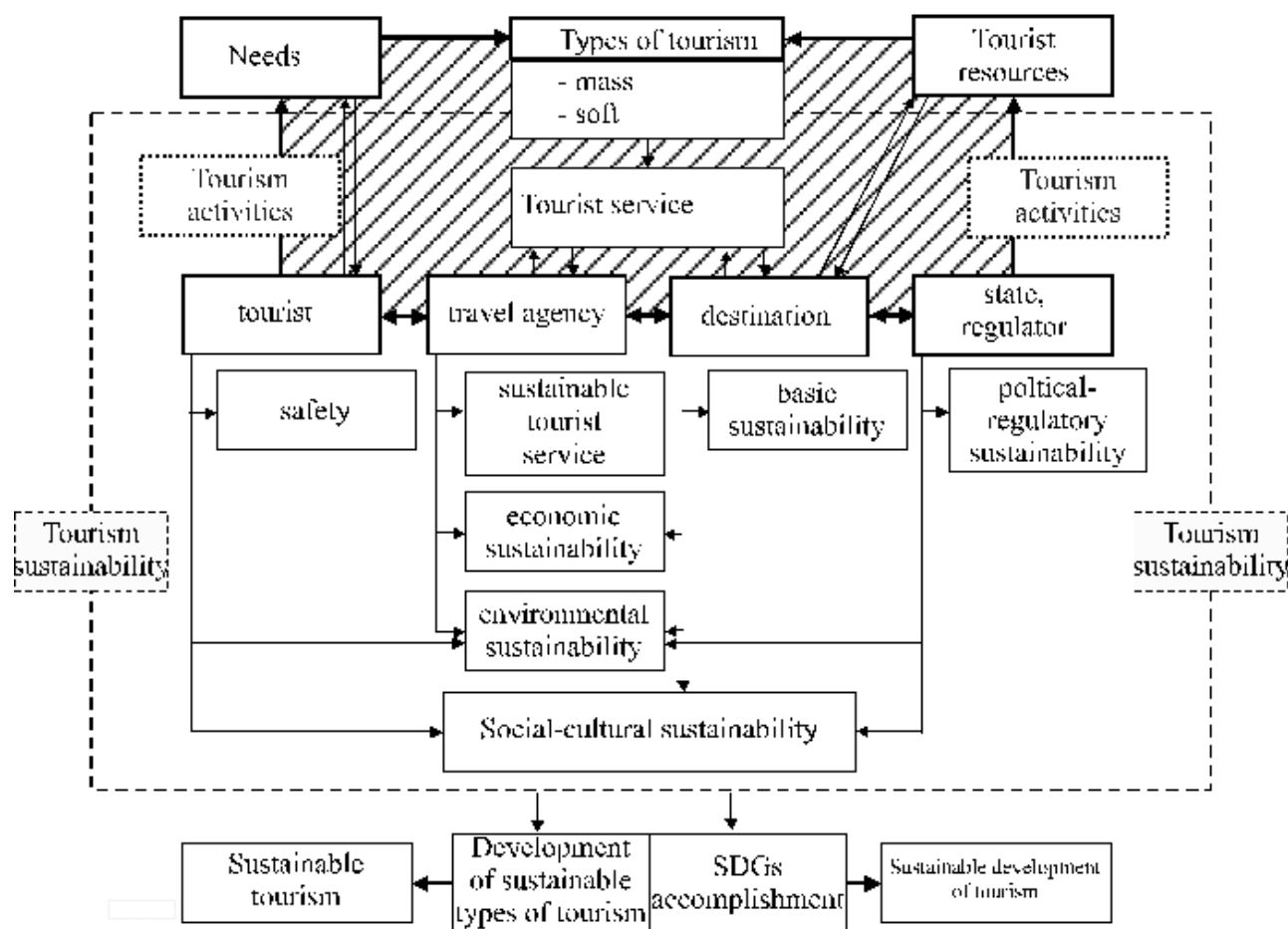


Fig. 1. Model of sustainable tourism development. Prepared by authors

teractive rest in harmony with nature. Using the pyramid Maslow et al. (1984) we identified the following needs for the conventional-technogenic tourist: physiological needs, being in a safe environment, confirmation of own social-professional, family status.

The concept of “sustainability in tourism” is associated with the overall positive balance of environmental, economic, and socio-cultural interactions among actors in the tourist business, mutual positive influence of tourists and locals on each other. The former Secretary General of UNWTO Taleb Rifai pointed to a possibility to promote the contribution of the tourism sector to the three “basics” of sustainability – economic, social, environmental. Kamphorst (2013) identified the fourth metric – cultural dimension of sustainability, Wray (2015) and Hartman (2016) supplemented the above with the fifth – management dimension. *Environmental sustainability* describes the preservation of the natural environment and biodiversity after providing tourist services. *Economic sustainability* is aimed at obtaining profits by implementing sustainable practices in the provision of tourist services. *Social sustainability* is associated with preservation of the social structure, the ways of life of local population, *cultural sustainability* is charac-

terized by respect, by keeping traditions, ceremonies, and the cultural heritage of countries. The relatively new concept of *management* of tourist activities examines those systems, modes, technologies that affect the implementation of more sustainable practices in tourism. We propose considering the *safety* and *basic constancy* of a destination as well. The factor of personal safety is important given the increasing influence of adverse events at different levels on the desire to travel in general and the choice of a tourist destination. The basic constancy of a country is formed by considering the following criteria: the level of use of sophisticated technologies for the manufacture of food; the presence of harmful enterprises on the territory of a country; the unemployment rate in a country; the importance of traditions in everyday life.

Tourist activities are an important source of income for countries in the Black Sea region. In 2017, the share of tourism in Turkey’s GDP amounted to 11.6%, in Bulgaria – 11.5%, in Georgia – 31%, in Ukraine – 5.7%, in Romania – 5.3%, and in Russian Federation – 4.8% (note the lowest indicator among all countries in the examined region). Thus, tourist arrivals in 2017 increased by 19.89%, 9.47%, 46.73%, 105.05%, 222.31%, respectively, in Turkey, the Rus-

sian Federation, Bulgaria, Romania, and Georgia as compared to 2010 (World Tourism Organization, 2018b). The only exception was Ukraine, tourist arrivals to which over the period of 2010–2017 declined by 32.89% as a result of the political crisis in the country, carrying out anti-terrorist operation in the territory of Donetsk and Luhansk oblasts and the annexation of the Crimea. This testifies to the priority of safety as a factor in the sustainable development of tourism and in the formation of the tourist image of the country.

By analyzing the dynamics of revenues from international tourism over 2010–2017, it should be noted that Georgia increased revenues by 3.17 times in 2017 compared to 2010, while this indicator for Ukraine fell by 66.71% during this period, and in Turkey it decreased by 1%. Almost all other countries in the Black Sea region demonstrated the steady dynamics of a gradual growth in revenues from tourism activities (Fig. 2).

Federation, and the shortest is in Bulgaria. In the travel and tourism competitiveness ranking in 2017, based on an indicator of road and port infrastructure, the Russian Federation held 78th place among 136 countries, Bulgaria – 73, Ukraine – 81, Georgia – 63, Romania – 92, and Turkey – 54 (World Economic Forum, 2017:44), indicating that poor quality of transport routes within the region.

Our analysis of tourism development in the Black Sea region's countries has revealed that the tourist activities in these countries are characterized by positive developments, which manifest themselves in the increased tourist activity by people from different parts of the world in these countries, in the growth of revenues from tourism in the budgets of the countries, the emergence of new infrastructure objects and which show the extensive development of mass (traditional) tourism. This development is characterized by the maximum load and overload on tourist facilities,

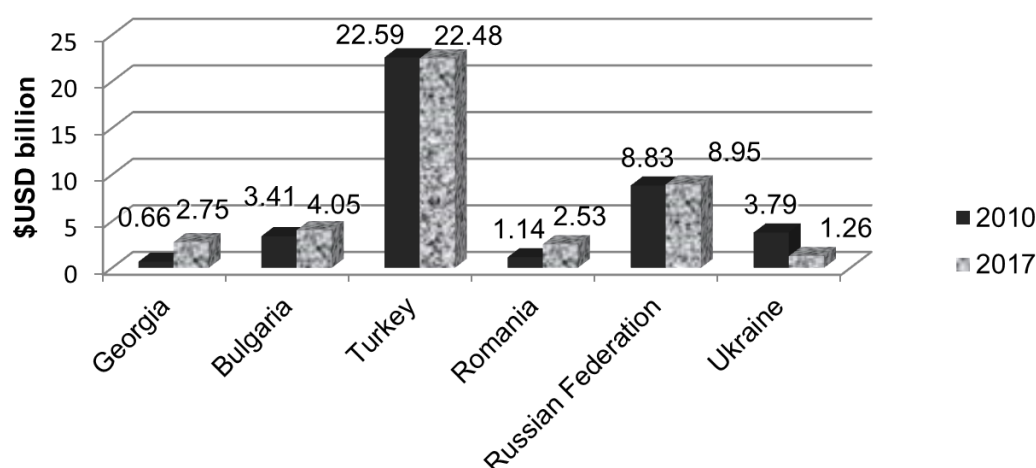


Fig. 2. The dynamics of revenues from tourism in the Black Sea region's countries between 2010 and 2017
Source: World Tourism Organization (2018 b)

Development of mass tourism predetermined the development of infrastructure in the countries. This is evidenced by the increase in the number of hotel facilities and their capacity. Georgia ranks first in terms of hotel accommodations in 2017 (18.22 places in hotels per 1,000 inhabitants in the country). The second place for this indicator is taken by Bulgaria (17.14), followed by the Russian Federation (7.76), Romania (5.74), Turkey (5.73), and Ukraine occupies the last place (3.12) (Table 1).

It is known that the indicator for stable development of the country's economy is the length of motorways. The motorways define the transport accessibility of a country and create conditions for domestic travel. Among the studied countries, the longest network of motorways is in the Russian

ties, by the irrational utilization of natural resources, by constant expansion of the infrastructure and by a relatively low price for the tourist product, which predetermines an increase in tourist flow.

The methodology that we devised makes it possible to assess the sustainable development of tourism in terms of meeting a tourist's needs (Stukalo, Krasnikova, Krupskiy & Redko, 2018a). It enables us to rank a country based on expert assessments for the following 7 factors: economic, social, environmental sustainability, safety, sustainability of the political and regulatory environment, tourist service, and the basic state of the country's sustainability. Advancing the study necessitated clarification of the title of the factor, originally denoted as a «tourist service», to designate it as «the sustainability of a tourist service».

Table 1. Indicators of tourism development in the Black Sea region's countries

Indicator	Georgia	Bulgaria	Turkey	Romania	Russian Federation	Ukraine
Number of country's objects ranked as UNESCO heritage sites, units: including	3	9	16	7	26	7
cultural	3	7	15	6	16	6
natural	-	2	1	1	10	1
Capacity of hotel accommodations in 2017, thousand beds	67.760	123.420	445.249	114.390	1137.000	133.4
Availability of hotel accommodations per 1,000 citizens in a country, places	18.22	17.14	5.73	5.74	7.76	3.12
Length of motorways, thousand km	19.1	19.5	385.8	84.2	1283.4	169.7
Share of tourism in the country's GDP in 2017, %	31.0	11.5	11.6	5.3	4.8	5.7
Share of state expenditures for tourism development in a country in 2017, %	3.4	3.3	0.5	1.8	2.7	5.1
Rate of growth (decline) in revenues from tourism over 2010–2017, %	222.31	46.73	19.89	105.05	9.47	-32.89
Rate of growth (decline) in revenues from international tourism over 2010–2017, %	317.45	18.73	-0.47	121.67	1.30	-66.71
Contribution of tourism to country's GDP, USD billion	4.682	6.58	98.4	11.185	76.1	5.452
Tourists expenditures, USD billion	2.98	4.502	31.3	2.87	14.4	1.618
Competitiveness index of travel and tourism in 2017	3.7	4.14	4.14	3.78	4.15	3.5
Place in the rating of competitiveness of travel and tourism in 2017	70	45	44	68	43	88

Source: CIA, 2018; Federal State Statistics Service, 2019; Galt & Taggart, 2018; SSC of Ukraine, 2019; Statista, 2018, a; Statista, 2018, b; World Tourism Organization, 2018, a; WTTC, 2018, b; WTTC, 2018, c; WTTC, 2018, d; WTTC, 2018, e; WTTC, 2018, f; WTTC, 2018, g.

Using such a title focuses attention directly on the importance of the sustainable development of tourism, rather than a simple increase in the number and coverage of countries engaged in tourist service.

Using the Saaty hierarchy method, the authors have ranked and arranged in descending order of importance 7 factors that affect the level of tourism sustainability (Saaty, 1984). Experts conducted a pairwise comparison of these factors in terms of importance based on a nine-point scale and compiled an appropriate matrix in which estimates imply the following: equal importance – 1; moderate superiority – 3; significant superiority – 5; strong superiority – 7; very strong superiority – 9; intermediate cases are graded by even number estimates: 2, 4, 6, 8. We compared the relative importance of left elements in the matrix with the elements at the top and, if a factor to the left is considered more important than the factor at the top, the cell records a positive integer, in the opposite case – fractional (Table 2). The relative importance of each factor in comparison with itself equals unity.

By applying a method of the geometric mean, we calculated the normalized estimate of the vector

(Table 2). To determine the coherence of priorities (satisfactory results from expert survey), we computed the index of coherence (0.09656273), whose value is compared with a reference (1.32). In our case, 0.09656273 is less than $0.1 \times 1.32 = 0.132$, that is the result is satisfactory.

In the course of an earlier study it was found that tourists had almost disregarded the importance of indicators that were included in the group of factors such as economic sustainability and the sustainability of the political and regulatory environment. That is, the factors that form the country's tourism income and the country's legislative standards for its sustainability are not an incentive for choosing a country by a tourist for travel. Factor of safety and basic state of sustainability – form more than 90 % of the influence (Table 2). The basic state of sustainability is understood by the authors as the assessment of the country by tourists according to the following criteria: level of using sophisticated technologies for manufacturing food products; existence of harmful productions on the territory of a state; unemployment rate in a country; importance of traditions in everyday life; international openness (rating of passport power)

Table 2. Determining the importance level of factors for the sustainability of tourism

Factor	Safety	Tourist service sustainability	Sustainability basic state	Environmental sustainability	Socio-cultural strategy	Sustainability of political and regulatory environment	Economic sustainability	Matrix eigenvector	Normalized vector estimate (factor weight)
Safety	1	2	3	5	7	8	9	3.9543838	0.35000616
Tourist service sustainability	1/2	1	3	5	7	8	9	3.2439209	0.28712242
Sustainability basic state	1/3	1/3	1	3	5	7	9	1.9442017	0.17208308
Environmental sustainability	1/5	1/5	1/3	1	3	5	7	1.0492414	0.09286932
Socio-cultural strategy	1/7	1/7	1/5	1/3	1	3	5	0.5735131	0.05076218
Sustainability of political and regulatory environment	1/8	1/8	1/7	1/5	1/3	1	3	0.3321950	0.029140288
Economic sustainability	1/9	1/9	1/9	1/7	1/5	1/3	1	0.2005846	0.01775392

Prepared by authors

(Stukalo, Krasnikova, Krupskiy&Redko, 2018 b).

Based on the received questionnaires, we calculated the average value of an expert estimate for each of the 7 factors for all 6 countries. Next, the average values were adjusted according to the weight of the factor (Table 2) to derive the total magnitude for a country's tourism sustainability index (Table 3).

Based on the questionnaires received, the average value of the expert assessment was calculated for each of 7 factors for all 6 countries. After that, the average values were adjusted in accordance with the weight of the factor (Table 2) and the total value of the author's tourism sustainability index (Table 3).

Georgia ranked first with a value for the index of country's tourism sustainability of 7.38, which, according to the rating of competitiveness of travel and tourism, took 70th place only (Table 1). The lowest level of tourism sustainability was demonstrated by Ukraine (4.85), which, in our opinion, was predetermined by the unstable political situation and the military conflict that directly involved the main Black Sea recreation area of Ukraine, the Crimea.

Such a situation in Ukraine defined the reduced experts' estimates for all factors, especially, the factor of safety. The practice of development of tourist activities matches the mood of experts in assessing: as

Table 3. The tourism sustainability index of the studied countries

Factor	Factors' values for countries					
	Georgia	Bulgaria	Turkey	Romania	Russian Federation	Ukraine
1. Safety	2.583	2.583	1.883	2.333	2.033	1.600
2. Tourist service sustainability	2.237	2.209	2.540	1.809	1.768	1.440
3. Sustainability basic state	1.166	1.125	1.190	1.085	1.012	0.870
4. Environmental sustainability	0.626	0.660	0.639	0.596	0.506	0.450
5. Socio-cultural strategy	0.386	0.383	0.419	0.312	0.276	0.250
6. Sustainability of political and regulatory environment	0.236	0.236	0.249	0.204	0.170	0.140
7. Economic sustainability	0.147	0.152	0.172	0.131	0.112	0.090
Tourism sustainability index for country	7.380	7.349	7.093	6.470	5.877	4.850
Rank in rating	1	2	3	4	5	6

Calculated on the basis of the author's technique

noted above, in contrast to other countries in the group, the main statistical indicators for tourism activities in Ukraine demonstrated a decline over the period of 2010–2017 (tourist arrivals – by one-third, revenues from tourism – by two-thirds).

Turkey, which ranks first in the region based on the statistical indicators for the development of tourism (tourist arrivals and revenues from tourism), was only the third among the countries for the index of tourism sustainability. In this case, the experts identified the highest level of sustainability of tourist service, as well as the sustainability basic state, socio-cultural strategy, economic sustainability, and the sustainability of political and regulatory environment, in Turkey among the region's countries. Only the safety level was ranked rather low, which led to the overall a third position in the ranking.

Bulgaria, a leader in terms of safety factor, was second in the ranking for the index of country's tourism sustainability. The country is outperformed by Turkey and Georgia by the level of sustainability of tourist service, but it is ahead of all the region's countries in terms of environmental sustainability. The Russian Federation, while being ahead of Turkey

based on the rating of competitiveness of travel and tourism (Table 1), won the penultimate 5th place for the index of country's tourism sustainability. Note that the assessment of experts, based on the factor of a socio-economic strategy, is not correlated with statistics on the number of UNESCO heritage sites in a country.

By using a cluster analysis, given the estimates of experts for the sustainability of tourism in the examined countries, we established 3 clusters (Fig. 3). The first cluster includes Russian Federation and Ukraine. The common attitude of experts towards these two countries is determined by the identity of the perception of the vocation by consumers in these countries and perception of them as two sides of the military confrontation. In addition, these countries are the outsiders for the dynamics of changes in the statistical indicators for the development of tourism industry; they, therefore, do not give the proper amount of attention to the development of sustainable tourism and tourism in general.

Turkey forms a separate cluster, which is predetermined by the fact that the experts perceive this country as the main "Black Sea region Mecca" of

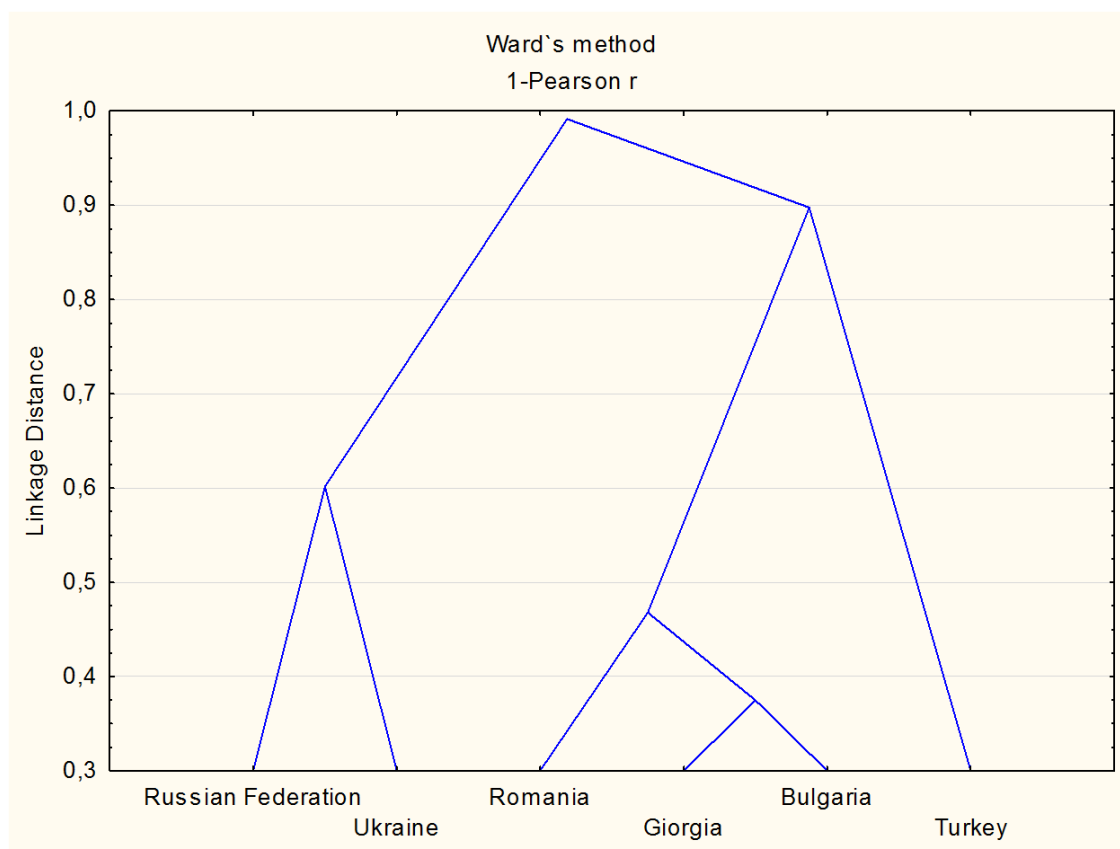


Fig. 3. Dendrogram of results from cluster analysis. *Prepared by authors*

Based on expert estimates

Cluster 1 – Russian Federation, Ukraine

Cluster 2 – Romania, Georgia, Bulgaria

Cluster 3 – Turkey + (Romania, Georgia, Bulgaria)

mass tourism where basic tourist needs are satisfied best. Romania, Bulgaria, and Georgia form the third cluster. These are the countries that actively develop their own tourism in a sustainable direction, and their positioning in the minds of tourists differs from the other two clusters, but is closer to the cluster of Turkey.

Conclusions. The results of testing the author's methodology for ranking the countries of the Black Sea Region according to the Tourism Sustainability Index from the standpoint of satisfying the needs of tourists indicate that tourists, while deciding on their travel destination, primarily pay attention to the safety of destination, the constancy of tourism services and the factor of basic stability of the country, that is, to the development factors of industrial tourism. Environmental sustainability and sociocultural strategy have a moderate impact on the tourism sustainability index in the studied countries, but do not affect the decision of the tourist to travel to this country.

The Black Sea countries are grouped into three clusters based on expert assessments of the tourism sustainability index in the studied countries. The first cluster is formed by Turkey, which focuses on international mass tourism and partially follows the principles of sustainable development to achieve its goals. The second cluster (Bulgaria-Romania-Georgia) has a high level of security and this directs its development towards sustainability, although it focuses mainly on the achievement of quantitative rather than qualitative indicators of tourism development. The third cluster was Russia-Ukraine, where the development of tourism on the principles of constancy practically does not occur, which requires improvement of tourism management mechanisms taking into account the impact of changes in the external and internal environment.

The trends formation of the tourism sustainability index in clusters 1 and 2 will go on taking into account their cultural authenticity, which is due to the growing role of active, interactive, creative, unique and harmonious types of recreation in these countries. For cluster 3, it is advisable not only to develop a strategy for the sustainable development of tourism, but also for its implementation at all levels of management and the transition to a service economy in this area of activity.

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