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# FORMATION OF PRINCIPLES OF SOCIO-ECONOMIC DEVELOPMENT OF INCLUSIVE TOURISM AS A MULTIFUNCTIONAL SYSTEM

The object of research is the problem of formation of principles for the development of inclusive tourism as a new multifunctional scientific and practical direction, is considered within the framework of the socio-economic sphere. One of the most problematic places for the implementation of this direction is the theoretical and methodological substantiation of the principles of development and implementation of inclusive tourism, which is just beginning to be studied from the point of view of economic efficiency and social protection, appearing in the market of tourist services. In this regard, a significant factor remains the complexity of solving socio-economic problems related to both inclusive tourism and scientific areas related to it, together create an inclusive environment and ensure the systematic development of a new direction.

The analysis of the current state of inclusive tourism in the world is carried out, the principles and priority tasks for the development and implementation of this direction are determined on the example of Ukraine. For the unstable social and economic spheres of Ukraine, the procedure for adapting inclusive tourism is complicated by the impact of implementation risks and is a complex and lengthy procedure.

During the study, 7 principles of social rehabilitation of people with inclusion were used, which formed the basis of the general concept of development and implementation of inclusive tourism. For their implementation, the factors that contribute to the adaptation of persons with disabilities through inclusive tourism and factors that limit or influence the possibility of organizing inclusive tourism have been identified. Thanks to this, a methodologically informative segment of the development of an inclusive environment is provided and a procedure for assessing both social and economic risks of the project becomes possible. Only if there is a state strategic program for the long-term development of inclusive tourism and a thorough analysis of key risks, it is possible to avoid problems in the future.

In comparison with similar well-known methodologies, the proposed approaches allow minimizing risks in the process of creating an inclusive environment and predicting the electoral reaction and socio-economic aspects of introducing inclusive tourism.

**Keywords:** social and economic development, inclusive tourism, inclusive middle class, people with disabilities, functional system.

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# 1. Introduction

Tourism, as a multifunctional system for the provision of tourist services, has long become one of the main segments of the economy of many countries of the world. Tourism provides comfortable recreation, high-quality health improvement and professional treatment, creates conditions for cooperation and education abroad. Having an extensive system of tourist enterprises around the world, important issues are being addressed to create a comfortable environment for all segments of the population, including people with inclusion (elderly people, persons with disabilities of various nosologies, large families, overweight people, etc.).

Therefore, in recent years, the issues of creating and introducing inclusive tourism as a modern scientific and practical direction have been raised quite often, which would satisfy all the requirements and wishes of inclusive tourists in the process of receiving tourist services.

Considering inclusive tourism as a direction of sociology and economics, we understand that in order to detail the processes of providing rehabilitation services, it is necessary to have a sample (template) of those types of tourist services that can be used in regional tourism. It should be mentioned that people with disabilities (blind, deaf, dumb, spinal, cerebral palsy patients, etc) need special attention in the process of organizing a tourist trip. Each

of the nosologies has its own method of social behavior, medical indicators of treatment and adaptation, a list of recreational areas that have (or had) a natural recreational resource and clearly prescribed recommendations for their use [1]. And the success of this project depends on how prompt, reliable and complete this information is.

Let's analyze the current state of inclusive tourism in the world and define the principles and priority tasks for the development and implementation of this direction on the example of Ukraine. Experts suggest that the demand in the tourism market «accessible to all» in Ukraine will grow in the coming years. Reliable and timely information depends on the development of a methodological base (principles, factors and functions) to create an adapted environment for people with inclusion, will allow to build a unified state system of social and economic protection of the population of Ukraine [2].

When implementing the project of introducing inclusive tourism into a multifunctional socio-economic system, there are certain difficulties and problems associated with the influence of various kinds of risks. It is possible to ensure an increase in the efficiency of adaptation of this direction by controlling the risk management of the project. Thus, the study and modeling of the process of introducing inclusive tourism as a project for the socio-economic development of the regions of Ukraine is an urgent problem and requires further solutions.

# 2. The object of research and its technological audit

The object of research is the problem of formation of principles for the development of inclusive tourism as a new multifunctional scientific and practical direction, is considered within the framework of the socio-economic sphere. Principles, factors and functions are considered not as a separate problem that needs to be addressed, but as a methodological part of a multifunctional system as part of a socio-economic segment.

So, one of the most problematic areas is the study of the risks of introducing inclusive tourism as a socio-economic project, which include: economic, social, technological and organizational and managerial risks. The problem can be attributed to poorly studied, which, in turn, provides a large field of activity for further research.

# 3. The aim and objectives of research

The aim of research is to form the principles of socioeconomic development of inclusive tourism as a multifunctional system.

To achieve the set research aim, the following objectives have been identified:

- 1. Analyze international experience in the implementation of inclusive tourism.
- 2. Determine the principles, factors and functions of the socio-economic development of inclusive tourism in Ukraine as a methodological base and practical prospects for the introduction of a new scientific direction.

# 4. Research of existing solutions to the problem

The research of scientists from various scientific fields is devoted to the study of the theoretical and methodologi-

cal aspects of the development of inclusive tourism. These works describe the types, forms, functions, socio-economic problems and possible variations of the prospective introduction of inclusive tourism into a multifunctional system of providing tourism services. Taking into account the versatility of the tourism sector and the development of areas of tourist services, it is possible to solve comprehensively the problems of rehabilitation of people with inclusion, especially those with disabilities.

Among the main directions for solving the problem of the development and implementation of inclusive tourism, identified in the resources of the world scientific periodicals, can be highlighted [2, 3], but they do not consider the complexity of the approach to providing assistance and did not consider this assistance in the form of tourist services. The focus is on the cognitive impairment that causes dementia – difficulties in daily or social life.

In work [4] it is proved that inclusive tourism is a segment of social tourism, which, however, is practically not developed in Ukraine. But with a well-planned strategy, verified economic calculation and consistent implementation, the use of this direction can be promising.

The work [5] is devoted to the socialization of people with disabilities, but there is an unresolved issue of their full adaptation to the modern environment. In more detail this topic is disclosed in studies [6, 7]. However, they do not focus on an integrated approach to solving the problem of providing tourism services for inclusive tourists. Separate works are devoted to problems related to the adaptability of few mobile groups to society [8, 9]. But the typification of people who fall under the category of people with limited mobility is not provided.

An alternative solution to the problem of the development of inclusive tourism as an integral part of the modern socio-economic environment, outlined in [10, 11], where, according to the authors, the development of this direction is promising, but the specific mechanisms of its implementation have not yet been finally formulated.

Many authors researching the topic of the development and implementation of inclusive tourism in the tourist and socio-economic systems focus on the problems of various nature and complexity that hinder the systematic process of the development of inclusive tourism. Thus, in work [12], the author draws on international experience and considers inclusive tourism as a concept in which people of different ages and abilities feel welcome as clients and guests. But there remains the question of the practical adaptation of inclusive tourism to society.

Thereby, the results of the analysis allow to conclude that we have a scientific basis for the development of inclusive tourism within the socio-economic sphere as a multifunctional system, but each scientist considers this direction in the context of his scientific interests. Therefore, the research is fragmented, which gives rise to a comprehensive study of applied issues, requiring a constructive solution.

# 5. Methods of research

General scientific and special research methods were used during the work:

 analysis and synthesis – for a preliminary analysis of international experience on the formation of an inclusive environment and to prove the relevance of the introduction of inclusive tourism in the form of statistical monitoring information, with the formation of a problem, definition of goals, assumptions and risks;
– system – planning the development and implementation of inclusive tourism with an emphasis on the methodological component (principles, functions, factors) to study the features of adaptation of people with inclusion to the socio-economic conditions of modern society;

- analogies and comparative comparison to determine the characteristics of the introduction of inclusive tourism, the ratio of statistical assessments in the system of providing rehabilitation services in the field of tourism as an integral economy;
- method of decomposition for decomposition of factors contributing to the adaptation of persons with disabilities and factors of limitation or influence on the possibility of organizing inclusive tourism in Ukraine.

# 6. Research results

The Inclusive Tourism Concept is based on seven principles of social rehabilitation, which were formulated by wheelchair architect Ron Mace and his colleagues from North Carolina State University and formed the basis for the development of an inclusive tourism system in the countries of the world more than 30 years ago [13]. These principles included:

- availability of the use of the environment;
- selectivity of forms, means, tools in use;
- ease of use of livelihoods;
- availability, scientific character, conciseness and truthfulness of information provision;
- tolerance for their mistakes and delusions of their environment;
- slight physical effort to overcome space;
- presence of the necessary nonspatial environment.

However, the listed principles do not solve the problem of the internal psychological fear of inclusive tourists in front of «unsuitable environment and possible discomfort», which is one of the reasons for the low demand for inclusive tours, even abroad. Experts believe that another significant reason is the low level of the formation of regional market demand for travel for inclusive tourists, which directly depends on the income-expenditure ratio in the system of economic relations.

According to the requirements adopted by ETAN (East Timor & Indonesia Action Network), tourism «accessible to all» categories of inclusive tourists, and primarily people with disabilities, must include a number of requirements presented in Table 1.

Until 10 years ago, the tourism industry indirectly paid attention to people with disabilities and therefore the inclusive environment was limited by the number of specialized rehabilitation centers «for guests in wheelchairs» and «accessibility» badges in several resorts around the world. Modern hotel establishments of world resorts are focused on any social segment of tourists and therefore offer «rooms for wheelchair users» or «guests in wheelchairs» and even ... «for people with disabilities».

Despite such significant shifts, in the opinion of world experts, the awareness of the inclusive audience about the availability of adapted hotels, comfortable accommodation in hotels, excursion and leisure services, and the like remains insufficient. Information about the recreation for inclusive tourists and in most travel companies, associations

of people with disabilities and other related organizations is not always sufficient. The largest number of travel companies that are currently already able to provide services for people with inclusion (LID) with various nosologies are concentrated in the United States and Western Europe.

In recent years (2014–2020), the development of this area has been observed in almost all developed countries, with the practical provision of tourist services for inclusive tourists, including for wheelchair users. Inclusive tourism includes the availability of a whole range of amenities on beaches, in hotels, in transport, during excursions, in catering establishments and the like. To obtain a positive result, certain tasks are being solved (Table 2).

 $\begin{tabular}{ll} \textbf{Table 1} \\ \textbf{ETAN requirements for inclusive categories of tourists} \\ \end{tabular}$ 

ETAN requirements	Characteristics of requirements
Barless	Infrastructure, architecture and facilities
Transport	Air, land, sea, river, rail
High quality	Professional provision of services by service personnel of hotels, restaurants, excursion bureaus, travel agencies, professional support by medical (rehabilitation specialist) or social worker, etc.
Additional tourist options (entertainment, exhibi- tions, attractions, etc.)	The opportunity for all tourists to participate in these activities and events, regardless of the type of inclusion and type of nosology (except in cases of medical contraindications)
	The most accessible, truthful, local information for all segments of the population

Note: developed based on data from [13]

Table 2

Perspective tasks for the development of inclusive tourism

Item No.	Description of the task
1	Improvement and development of a modern theoretical base
2	Creation of a new classification of types of inclusive tourism, according to the modern level of development of Ukrainian society
3	Formation of the object-subject basis of research
4	Clarification of historical features associated with the development and implementation of inclusive tourism
5	Improvement of the conceptual and terminological base
6	Formation of a new concept of recreation, according to the Ukrainian mentality, taking into account world practices and realities of development, as well as the characteristics of the Ukrainian society

Note: developed based on data from [13]

Considering the world experience in the development of inclusive tourism, certain conclusions are drawn on the complexity of the approach of specialists in the tourism industry in attracting persons with disabilities to the public environment. In Ukraine, let's propose to consider inclusive tourism with the use of rehabilitation and social programs (travel, tours, animation and excursion programs, master classes in nature, etc.). This approach has the prospect of developing progressive methods, which are already taking their first steps, having their own concepts, approaches, forms and features.

The promising goal of the development of inclusive tourism is to create a tourist environment in which all tourists can take an active part, regardless of their physical characteristics, needs, age, physical and material capabilities.

Studying the problems of the development of inclusive tourism in the world, it is necessary to pay attention to those factors that influence the formation of a new tourism segment, namely: *socialization* (development of new methods and techniques for the work of travel agencies for inclusive groups of tourists in the presence of socio-economic programs and subsidies), *communication* (integrated adaptation to communication), *recreation or rehabilitation* (restoration of vitality and health at the level of an ordinary rehabilitator) and *life support* (integration into society on the basis of creating equal opportunities for self-realization).

The results of previous studies in the world and studies of Ukrainian scientists to determine the factors limiting or influencing the possibility of organizing inclusive tourism can be systematized and summarized in Table 3.

**Table 3**Factors limiting or influencing the organization of inclusive tourism

Factor	Characteristic of the influencing factor
Physical condition of potential tourists	Disability, limited mobility
Financial situation of potential tourists	Insufficient funds for tourist travel, lack of special vehicles for tourist trips, inflated prices for accommodation facilities, the presence of bureaucratic obstacles
Lack or weak development of measures for social support of tourism and recreation	Limited range of travel services available to a certain group of people with inclusion, lack of the necessary motivation for people of inclusive categories to participate in travel
The problem of poor awareness of obtaining a tourist product	Advertising and information development in the tourism segment is not stable

Note: developed based on data from [4, 14]

Taking into account the current state of society in the world and in Ukraine in particular, it is necessary to state the rapid growth in the number of people in need of social and special assistance. According to generally accepted international standards, they are referred to various inclusive categories, and if to talk about the tourism sector, then to the category of inclusive tourists.

In the Ukrainian interpretation, inclusive tourists include people of three main groups:

- social group (elderly, overweight people, Chernobyl victims, pregnant women, large families, etc.);
- persons with disabilities of all nosologies (in Ukraine –
   132 nosologies);
- people with a «war syndrome» (military personnel, Afghanistan veterans, military veterans, displaced persons from the zone of hostilities) [15].

The subjects of the socio-economic segment of the regional development of inclusive tourism are:

- social professionals social workers, workers in the tourism sector and related industries, labor experts, occupational therapists, sociologists, representatives of social security agencies, lawyers, representatives of enterprises, trade union organizations;
- specialists in the field of economics, management and marketing, regulating financial and communication issues of development and implementation of inclusive tourism;
- specialists in the field of regional management of economic development and administration processes;

- education professionals social educators, sign language interpreters, psychologists;
- professionals of the health-improving sphere physicians, rehabilitologists, physiotherapists, specialists in physiotherapy exercises and sports, psychotherapists, trainers-rehabilitologists [14].

These categories of specialists together will be able to create a powerful complex of rehabilitation services for inclusive tourists, but for this it is necessary to determine the theoretical and methodological foundations for the application of inclusive tourism, within the framework of a socio-economic study of the regions of Ukraine.

# 7. SWOT analysis of research results

Strengths. The strength of this study is the modeling of the risk management process for the project for the introduction of inclusive tourism as a new interdisciplinary direction. In the process of its development, special attention is paid to rehabilitation measures, which make it possible to expand the range of social rehabilitation assistance. At the same time, the financial and economic profitability of the project is taken into account and the issues of complex (non-standard) assistance to people with inclusion are resolved through regular travel, master classes, tourist events of varying complexity, interesting leisure activities, and the like.

So, the principles proposed in this work make it possible to determine the priority ways of scientific activity in the direction of the development and implementation of inclusive tourism. The priority remains its state funding and the development of regulatory and legal documents. These documents are intended to regulate the relationship between rehabilitants (people with inclusion) and the side of providing complex professional services (medical rehabilitation centers, social services, financial institutions, travel agencies and excursion bureaus, transport companies and enterprises of the hotel and restaurant industry).

Compared to analogs, the proposed study makes it possible to predict possible risks and losses, thereby eliminating the factor of surprise.

Weaknesses. The analysis carried out in the work shows that Ukraine faces a difficult task of financial and economic substantiation of the process of introducing a new direction into the system of rehabilitation assistance to people with inclusion. At the same time, the risk factors associated with the implementation of the project cannot be excluded.

Thereby, the following groups of risks can be attributed to the risks of introducing inclusive tourism as a socio-economic project: economic, social, technological and organizational and managerial. Analysis of the factors and factors limiting or influencing the possibility of organizing inclusive tourism in Ukraine made it possible to identify certain shortcomings, in particular, the weak side of the proposed approach is the complexity and duration of the implementation of this complex scientific direction. In addition, it is necessary to take into account the rather high cost of this process, starting with the equipment (restoration or construction of a new) material and technical base, continuing the training of rehabilitation specialists of various specializations (doctors, psychologists, sports rehabilitation therapists, sociologists, etc.). As well as the creation of an inclusive environment (natural, architectural, tourism, economic, social).

*Opportunities*. It should be noted that in the future, the process of development and implementation of inclusive

tourism in the socio-economic system of regions of Ukraine requires the creation of an algorithm for managing an inclusive environment, using tourism services as a sphere, is multifunctional and scientifically formed.

It should be noted that this algorithm will help unify statistical data on the number of people with inclusion, predict the financial burden on the economy of the regions and the country as a whole, and calculate the economic balance between the cost and revenues. The result of the introduction of inclusive tourism is the restoration of the physical, emotional, psychological state of people who have undergone rehabilitation thanks to tourist services and returned to normal life in society (except for people with disabilities). As a result, the state returns to the work of a specialist in a particular sector of the economy.

Threats. The threats to risk management of the introduction of inclusive tourism into the socio-economic system of Ukraine include the fact that even the proposed approaches are not technology, which allows avoiding losses in general due to the influence of various kinds of risks. In particular, for the negative impact on the object of research of causes and factors of limitation or influence on the possibility of organizing inclusive tourism in Ukraine. The situation is complicated by the fact that not all threats can be preliminarily identified and minimized.

## 8. Conclusions

- 1. The international experience of introducing inclusive tourism as a multifunctional scientific and practical direction has been analyzed. Attention was focused on social assistance and state funding of the process of comprehensive rehabilitation of people with inclusion through tourism services.
- 2. The principles, factors and functions of the socioeconomic development of inclusive tourism in Ukraine as a methodological basis for the practical development of a new scientific direction have been determined. The data obtained will help guide stakeholders in the mechanism for creating an inclusive environment and in identifying possible risks in the process of project implementation.

## References

 Bielousova, N., Skorostetska, O. (2020). Development of inclusive tourism in Ukraine. Current issues of inclusive tourism introduction in Ukraine and other countries. Poznan, 36–52.

- Asmaryan, A. A.; Gorokhov, A. A. (Ed.) (2021). Perspektivy razvitiya ekonomicheskogo potentsiala turizma posredstvom inklyuzivnogo turizma. Buduschee Nauki – 2021. Kursk, 46–49.
- Dektyareva, A. V., Gorgodze, T. E. (2020). Inklyuzivniy turizm: tselevaya auditoriya i barery razvitiya v Rosiyskoy Federatsii. Upravlenie sotsialno-ekonomicheskim razvitiem regionov: problemy i puti ikh resheniya, 131–140.
- Sigida, E. A., Lukyanova, I. E. (2015). Invalidnost i turizm: potrebnost i dostupnost. Moscow: INFRA-M, 106.
- Naumenko, L. Yu., Lepskyi, V. V., Makarenko, S. V., Borysova, I. S., Cemenenko, O. V. (2015). Inkliuzyvnyi turyzm yak vyd reabilitatsii: suchasni potreby invalidiv. *Ukrainskyi visnyk medyko-sotsialnoi ekspertyzy*, 2, 23–26.
- Esipova, S. A., Portnykh, A. V. (2019). Bezbarerniy turizm kak faktor ekonomicheskogo razvitiya regiona. *Upravlenie ekonomi*cheskimi sistemami: elektronniy nauchniy zhurnal, 12 (130), 23–26.
- Yarskaya-Smirnova, E. R., Naberushkina, E. K. (2004). Sotsialnaya rabota s invalidami. Saint Petersburg: Piter, 316.
- Geraseva, Yu. V. (2020). Zarubezhny opyt proektirovaniya dostupnoy sredy dlya malomobilnykh grup naseleniya v sfere turizma. Aktualnye problemy razvitiya turizma. Moscow, 446–451.
- **9.** Leidner, R. (2008). *Tourism accessible for all in Europe*. Tourism Review. Ethical: Barrier Free Tourism, 13. Available at: https://www.accessibletourism.org/?i=enat.en.reports.584
- Jeong, M.-K., Park, K.-W., Ryu, J.-K., Kim, G.-M., Jung, H.-H., Park, H. (2021). Multi-Component Intervention Program on Habitual Physical Activity Parameters and Cognitive Function in Patients with Mild Cognitive Impairment: A Randomized Controlled Trial. *International Journal of Environmental Research* and Public Health, 18 (12), 6240. doi: http://doi.org/10.3390/ ijerph18126240
- Hyams, K. C. (1996). War Syndromes and Their Evaluation: From the U.S. Civil War to the Persian Gulf War. *Annals of Internal Medicine*, 125 (5), 398–405. doi: http://doi.org/10.7326/0003-4819-125-5-199609010-00007
- MacBeath, J., Galton, M., Steward, S., MacBeath, A., Page, C. (2005). The Costs of Inclusion. Cambridge: Victoria Press, 78.
- Bielousova, N. (2019). Characteristics of the main directions of inclusive rehabilitation and social tourism in Ukraine. *Ekono*michna Ta Sotsialna Geografiya, 81, 18–28. doi: http://doi.org/ 10.17721/2413-7154/2019.81.18-28
- Sotsialna robota z invalidamy. Available at: http://megalib.com. ua/content/2732\_55\_Socialna\_robota\_z\_invalidami.html
- Malynka, V. Statystyka ta analiz malomobilnykh verstv naselennia. HO «Prava liudyny». Available at: http://prava-lyudyny. org/u-programah-partij-na-vybory-u-kyyevi-majzhe-ne-vrahovani-interesy-malomobilnyh-grup/

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