

# **RURAL AREAS CLASSIFICATION WITH INDICATORS OF TOURISM AND RECREATION INDUSTRY**

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## **Abstract**

The paper presents methodological principles of researching the system of recreational nature resources use on different areas. Definition of the system, assessment of the resources, the territories' recreational potential and their following differentiation are the paper's tasks. Several academician and scientific methods have been applied: the structural analysis (composition of recreational resources), generalization (assessment of the industry's status), mathematical (evaluation of the territories' recreational potential), statistical analysis (classification of the territories by economic indicators), grouping the territories, and synthesis (elaboration of the multilevel algorithm of their differentiation).

Recreational natural resources use is the part of the general system of the nature use. It is broader term than the recreational industry, since it includes protection and restoration of the resources. The multiplicative economic effect and joint use of recreational resources with other users are key features of the industry. Significant discrepancy between the scope of available recreational resources and intensity of their use are inherent for all Ukraine's regions. The multilevel algorithm of the complex classification of the territories according to models of recreational nature use is to differentiate territories by type of settlements (urban, rural, intermediate), their proximity to urban centers (urbanized and peripheral), recreational potential (high, medium, low), and economic efficiency of industry (effective, moderately effective, inefficient). Accordingly three types of a territory's development strategy have been identified: recreational specialization, major recreational industry, and internal recreations.

The novelty of the research are the approach to determine essence, structure and functions of the system of recreational nature use, the set of criteria and indicators to evaluate recreational potential of the regions, and multilevel algorithm to classify territories and define models of their recreational use.

## **Key words**

Recreational natural resources use, recreation-and-tourism industry, natural recreational potential, area, methodology, algorithm.

## **Introduction**

Recreational natural resources use is the economic activity to provide health and recreation services. Since it plays important economic, social and environmental functions, the management aims at supporting rational use of the resources. Recreation and tourism industry is an integral part of the most countries' economy. Typically strategies of recreational natural resources use do not differ depending on dissimilar recreational potentials, infrastructures, human resources and industrial fields. It has certain economic, social and environmental consequences. In particular that results underuse of the recreational potential or, conversely, its depletion. Consequently, the recreational use of the nature disregarding the recreational potential of an area reasons its loss, income shortfalls for locals, and the resources degradation.

## **Review of Literature**

Studies on the recreational natural resources sustainable use are mostly interdisciplinary. Mainly they are academicians in economics and economic geography who elaborate theoretical and methodological approaches in order to evaluate and assess recreational resources and conclude on efficiency of their use. M. Rutinsky, N. Fomenko, and V. Shtukmeister developed the recreational nature use conception, worked out allocation of the resources and outlined their structure and features (Shtukmeister). M. Krachylo, S. Gensiruk, and V. Rudenko defined natural and recreational potential of areas (Rudenko); V. Matsola evaluated economic effects of recreational and tourist industry (Matsola). V. Kvartalnov and A. Melnyk studied various kinds of recreational activities; O. Beidyk, F. Mazur, and I. Sinyakevych looked into approaches to management of natural recreational resources (Beydik). Ukrainian academicians Z. Gerasymchuk, S. Kharichkova, L. Cherchyk (Cherchyk), as well as foreign – S. Bernini (Bernini), F.

Kotler, S. Massida (Massidda), B. Mirbabayev, J. Piotrovsky, A. Freitag, M. Shagazatova studies issues on protection and sustainable development of natural recreational resources. Ukrainians also study nature management differed by area types (N. Andreeva, I. Yakovenko (Yakovenko)) and develop the strategies (N. Kudla, I. Bezugly (Bezugly)). At the same time, methodological approaches to deep differentiation of approaches to recreational resources use depending on economic, socio-demographic, and geographical status of areas have not been elaborated yet. The issue is important for Ukraine considering administrative and territorial reform, which supported territorial communities with extra power in use of natural resources.

Goal of the survey is to present the methodology of classification of areas on recreational nature use for the purpose of balancing the economic, social and ecological functions. To achieve the goal we are going firstly to determine meaning, structure, and functions of the recreational natural resources; secondly to assess recreational and tourist potential of areas and differentiate them respectively supplying models of recreational nature use; finally to substantiate regional and local strategies for recreation and tourism industry's development.

## **Methodology**

Several methods were applied for the survey purposes. With structural method we determined composition of recreational resources and types of recreational activities and analyzed the industry's state. With math approaches we assessed recreational potential of areas and calculated indices of their socio-ecological status. Statistics facilitated classifying areas by indicators of the recreation industry's economic efficiency. With synthesis we developed the multilevel algorithm for the tourism-and-recreation differentiation of areas. State Statistical Service of Ukraine and the World Tourism Organization compiled the survey's data base.

## **Results**

Recreational nature management is the component of the general system of nature management, which reflects interactions of a society with the environment and is specified with currently prevailing socio-ecological paradigm (Fig. 1). Recreational activities mean supply of recreational services on areas placing required natural and human made resources and locating outside the permanent settlements of vacationers. Instead, the recreational nature use is the broader concept, since it additionally embraces exploration of new recreational territories and resources, forms the recreational environment, ensures its protection, restoration, and the rational use. If these tasks have been performed, the recreational nature management is considered as rational. It is sustainable if it simultaneously takes into account social and economic needs of people and environmental constraints. Key challenges for the sustainable recreational nature management currently are to match growing demand for recreational services with the goal to preserve recreational resources and valuable historical and cultural sites.

There are some peculiarities of the recreational resources being allocated on a certain area. Firstly, recreational resources cannot be separated from the environment or extracted. Secondly, they define scope and types of recreational activities. Thirdly, they resources are multifunctional since they are able to provide various types of health and recreation services. Fourthly, the economic effect is multiple if the resources are used in full (Eugenio-Martin). Fifthly, the recreational nature use can be coordinated with other types of nature management. Sixthly, the recreation is priority comparing to other economic activities if natural territorial resources, including recreational resources, have not been used for industries. Economic, social and environmental meaning of the recreational use of natural resources concerns its ability to catalyze economic growth and incomes, add to employment of people who provide recreational and related services, and causal relationship between revenues of recreational entrepreneurs and quality of the environment (Job).

Recreational and tourist potential of a territory is a set of available natural, socio-economic and historical and cultural resources, which are the prerequisite for production and supply of recreational and tourist services. Usually certain mismatch of the potential's volume to efficiency of its use is the intrinsic feature. Therefore, the sustainable development of the recreational and tourist industry means the most appropriate use of the resources and their reservation taking into account social and economic functions too. Recreational resources include areas and facilities that can be used to restore health and emotional state of vacationers, their recovery and rest.

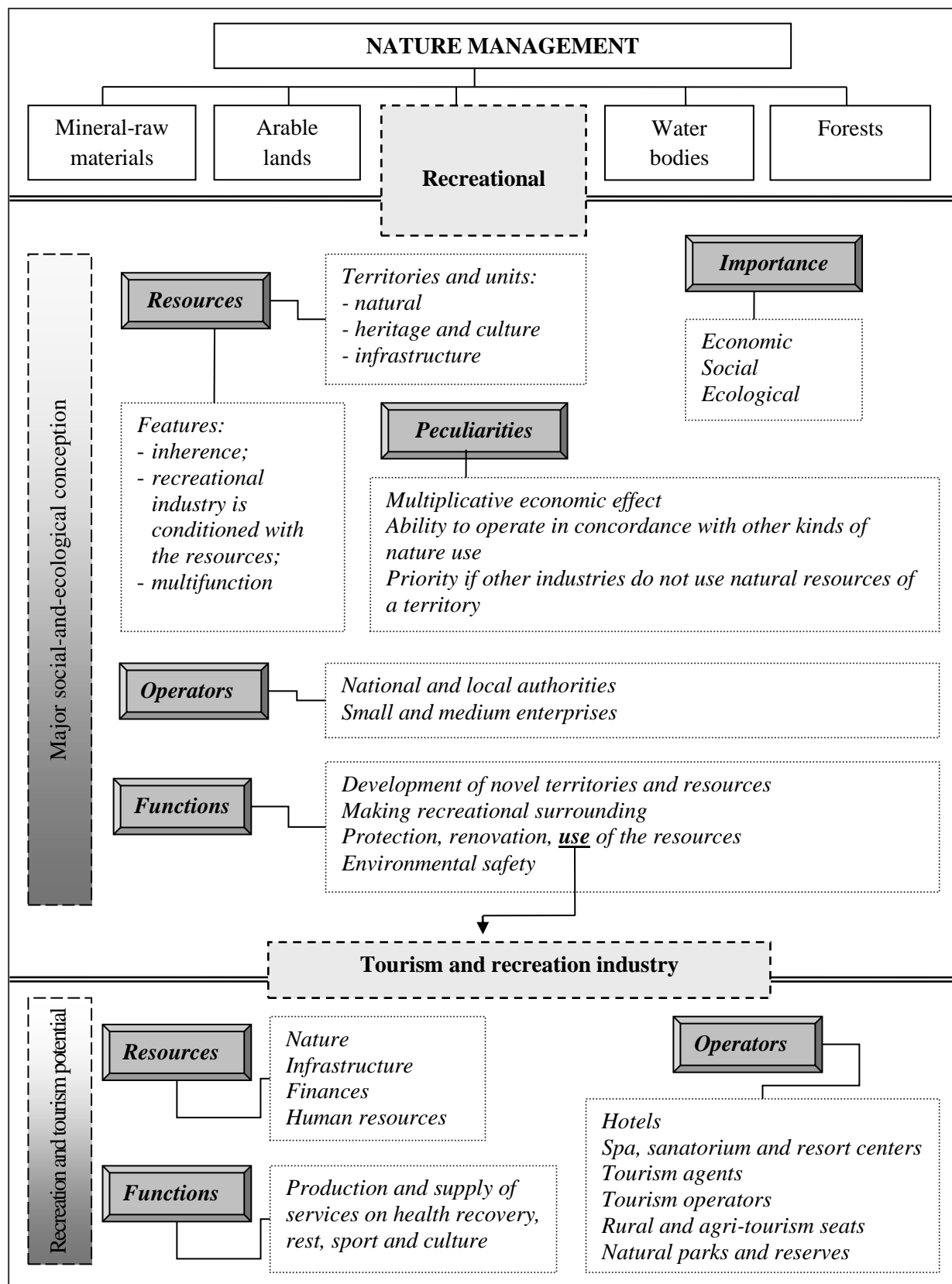


Figure 1. Substance, structure and functions of recreational nature use

Usually the resources differ on natural (climate, land, water, landscape, flora, fauna, natural reserves), historical and cultural (architecture, archaeology sites) and infrastructure (sanatoriums, resort centres, hotels, farms, camps). On other hand, resources of the recreation-and-tourism industry include nature, infrastructure, logistics, finances, and personnel. Operators of the recreational nature use are primarily entities, which produce and supply recreational services or are engaged into their production.

Institutional restrictions to the development of recreation and tourism in Ukraine relate to misunderstanding the role of the government in regulation over the industry. In our opinion, the policy should focus primarily on ensuring equal opportunities for all providers of the services. According to I. Yakovenko, many natural, demographic and economic factors cause spatial recreational inequality. Jointly the factors make the recreational potential's volume, structure and quality for unlike areas is different. It means different opportunities for areas to develop tourism and recreation industry as well (Yakovenko). It is agreed that targeted policy is required in order to overcome such the differences and support locals. The policy instruments should intensify recreations in areas with high demand for the services and provide extra stimulus in areas where the industry bases a local economy.

The survey, where we evaluated natural and recreational potential of areas, includes selection and analysis of individual indicators for the industry, integral assessment of the potential, grouping of regions, and determination of the potential's usage (UN). For that we modified well-known and comprehensive approach of V. Rudenko (Rudenko) assessing natural and recreational potential based on recreational zones' area, volume of provided services, reserves and facilities for extracting mineral waters and mud. Further we performed comprehensive assessment of the recreation industry by regions. For that we used the following set of indicators: natural resources state and scope, infrastructure and logistics, economic and social efficiency of the industry, and ecological status of areas. In both cases we applied the index method (Shubaly). Key indicators to assess tourism industry are its assets (state and capacity of hotels), production (volume of the provided services), and the financial and economic efficiency (income, costs, profits) (Pelishenko). The system of criteria and indicators of the recreational potential is concurrent with international (WTO) and additionally includes parameters on the environment improvement since it adds to efficiency of the recreational industry (Stupen). We selected indicators (stimulators and di-stimulators) of the environment's improvement. They are setting ecological routes, informing locals on benefits associated with recreational affiliation of an area, environmental management (dynamics of vacationers' rate etc.).

In Ukraine dissimilar areas (urban, rural) are inherent in significant differences on the environment, infrastructure and economic efficiency of the recreational industry. Therefore, for the recreational classification of areas we divided them by settlement kinds. With indicators of rural population share and availability of urban centers we distinguished rural, urban and intermediate areas. Rural areas in Ukraine occupy over 90% of the country's area and 52% of the population. Therefore, rural areas have been additionally divided by urban-like and remote with indicators of the population density and average distance to cities.

With the next steps we differentiated areas by the recreational and tourist potential (RTP) and the efficiency of recreation-and-tourist industry (RTI). It helps to determine best models of the recreational nature use for urban, rural urban-like and rural remote areas. Accordingly, for the advantageous areas we recommend the recreational specialization policy, for moderately favorable – regarding recreations as one of priority industry, and for discouraging - use of the recreational resources for local needs only. The approach is consistent with the sustainable nature management and is able to enhance relations within an area and solve conflicts between nature users (e.g., manufactures and agricultural producers, local people and vacationers). The methodology of areas classification by indicators of the recreational nature use and models of spatial development has been presented as the algorithm (Fig. 2).

With the comprehensive algorithm of the regions assessment we identified four groups of regions depending on the development of recreation and tourism industry. The first one has the lowest values of the indicators and has been defined as of depressed regions. The fourth one has the highest indicators and has been defined as of leading regions. The second and the third groups have intermediate indicators values and have been defined as below average and above average (table). The low values usually happen because of poor infrastructure. There are sanatoriums and health resorts in Zhytomyrska (0.051), Sumska (0.077), Ternopil'ska (0.100) and Chernihiv'ska (0.089) regions, hotels in Kirovohradska (0.154) and Kharkiv'ska (0.214) regions. The recreational natural resources provision is the lowest in Zhytomyrska (0.133), Kirovohradska (0.132), Sumska (0.153), and Ternopil'ska (0.195) regions.

State of the environment (air pollution) is the di-stimulator indicator for Dnipropetrov'ska (0.047) and Luhanska region (0.076). Because of small number of vacationers the recreation industry is inefficient in

Zhytomyrska (0.123), Kirovohradska (0.210), Luhanska (0.149), and Ternopilska (0.194) regions. Mostly the reasons are a few travellers and underuse of sanatoriums, hotels and health resorts.

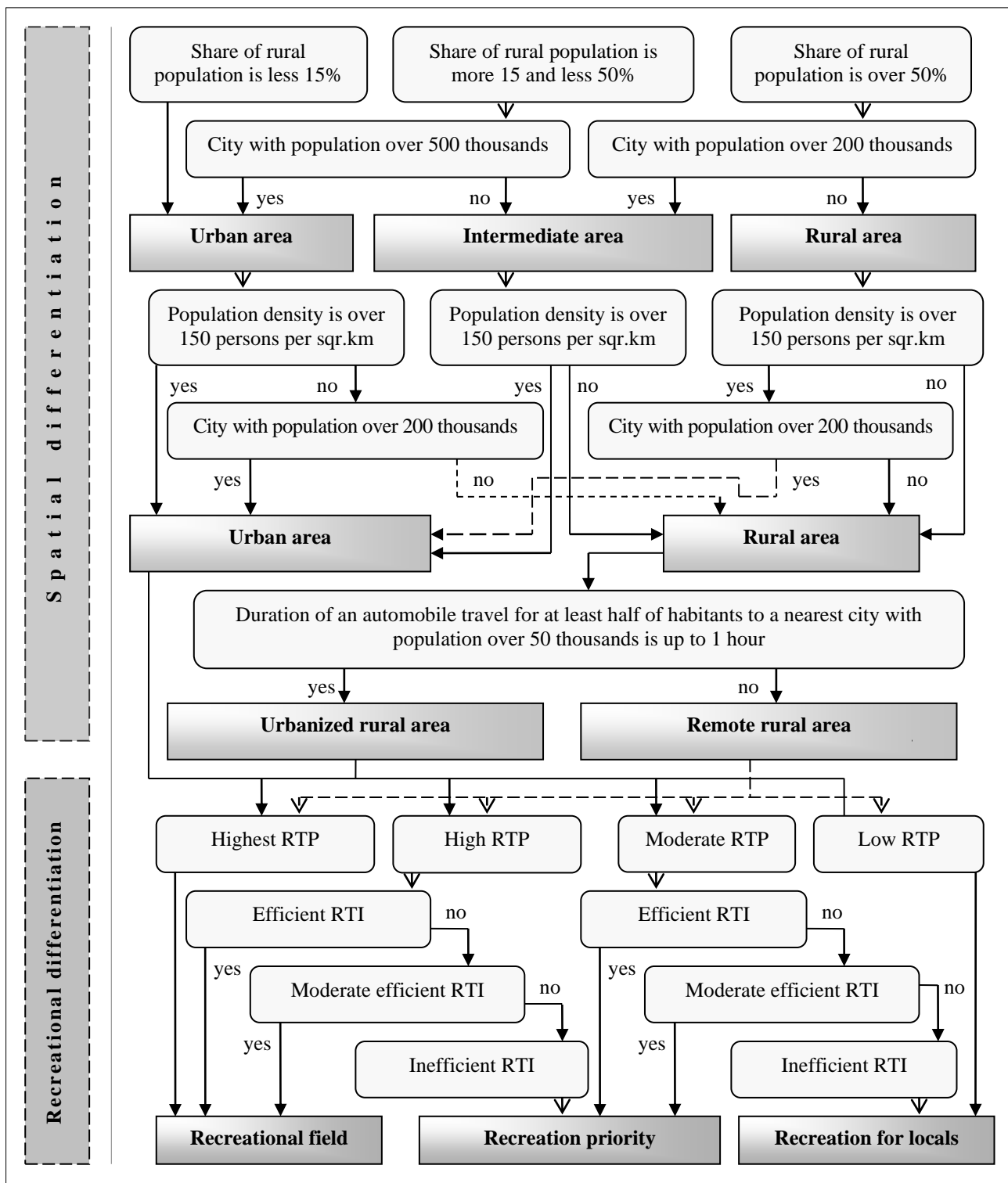


Figure 2. Algorithm of the comprehensive classification of areas by recreation industry and the development strategy

The highest values of the recreational and tourist industry are inherent to Zakarpatska (0.601), Odeska (0.564), and Khersonska (0.546) regions. Despite this the regions have pretty low indicators for natural and recreational resources potential and number of camps for children (in Khersonska 0.139 and 0.290 respectively) as well as sanatoriums and resorts in Zakarpatska (0.370). Those factors may cut the

recreational potential of the regions down since the situation means the available recreational resources are used not efficiently enough.

Table. Comprehensive assessment of tourism sector in Ukraine's regions, 2019

Region	Integral index				Comprehensive value
	Provision of		Efficiency		
	natural resources	infrastructure	economic	social	
Ukraine*	0,249	0,515	0,471	0,453	0,418
1 <sup>st</sup> group					
Dnipropetrovska	0,202	0,558	0,225	0,202	0,289
Zhytomyrska	0,341	0,232	0,197	0,323	0,272
Kirovogradska	0,340	0,212	0,451	0,288	0,320
Sumska	0,297	0,286	0,278	0,254	0,279
Ternopil'ska	0,279	0,353	0,338	0,218	0,296
Kharkiv'ska	0,330	0,297	0,358	0,224	0,301
Chernigiv'ska	0,392	0,219	0,269	0,228	0,275
2 <sup>nd</sup> group					
Vinnitska	0,198	0,221	0,456	0,502	0,337
Zaporizka	0,207	0,326	0,512	0,464	0,372
Kyiv'ska	0,278	0,308	0,376	0,378	0,334
Poltavska	0,218	0,275	0,498	0,347	0,331
Rivnenska	0,357	0,278	0,397	0,540	0,390
Khmelnitska	0,283	0,302	0,644	0,312	0,378
Cherkaska	0,270	0,533	0,347	0,383	0,380
3 <sup>rd</sup> group					
Volyn'ska	0,381	0,335	0,425	0,525	0,415
Ivano-Frankiv'ska	0,295	0,553	0,439	0,435	0,427
Lviv'ska	0,304	0,569	0,635	0,527	0,503
Mykolayiv'ska	0,323	0,626	0,394	0,402	0,432
Chernivetska	0,424	0,593	0,336	0,356	0,424
Kyiv city	0,418	1,000	0,606	0,101	0,496
4 <sup>th</sup> group					
Zakarpatska	0,581	0,666	0,614	0,547	0,601
Odeska	0,478	0,682	0,474	0,635	0,564
Kherson'ska	0,372	0,615	0,608	0,603	0,546

\* Excluding temporarily occupied territories of Crimea, Sevastopol city, and parts of Donetsk and Lugansk regions.

## Discussion

In general in Ukraine the recreational and tourist industry is not efficient and the number of tourist is small. Since 2000 the steady descending trend is inherent to the arriving tourism (14% yearly) and domestic (7% yearly). Conversely, number of departing tourists increases by 13% every year (Tourism in Ukraine). Conclusively, Ukraine as the recreational and tourist site becomes less attractive for both foreign and Ukrainian citizens. Only the coastal regions and cities with historical, cultural and architectural sites like Kyiv'ska, Lviv'ska, Chernivetska, Ivano-Frankiv'ska, and Zakarpatska regions still have some prospects for the recreational industry's development.

The sustainable recreational nature management aims to provide efficient use of the resources, ensure ecological safety and imperfect spatial planning for the development of recreational and tourist areas. Therefore the national and regional programs have to provide measures on preservation and restoration of valuable natural areas and sites, muds, mineral waters sources and historical and cultural heritage. The task is to elevate the network of enterprises providing health and resort services and develop recreation and tourism in rural areas. Monitoring and control over the state of recreational resources requires appropriate inventories, records, accounting and forecasting systems (Kirkova).

## Conclusions

Discussing about the recreational and tourism industry in Ukraine one should note certain discrepancy between the available recreational potential and intensity and efficiency of its use exist. The multilevel algorithm of the complex classification of areas is the appropriate methodological framework for their differentiation by type of settlements (urban, rural, intermediate), proximity to urban centers (urbanized and remote rural areas), recreational potential (high, medium, low), and efficiency of the industry (efficient, moderately efficient, inefficient). The models of the recreational nature use complicate the algorithm and the three strategies of areas' development have been defined. There are the recreational focus, the recreational priority and recreational use for locals.

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