ECONOMIC ASSESSMENT OF ECOSYSTEM RECREATIONAL SERVICES ON THE DESERTIFICATION TERRITORIES (FOR EXAMPLE OF THE MODEL TERRITORIES OF MONGOLIA)

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Abstract. The results of the economic assessment of ecosystem recreational services of desertification territories of Mongolia are considered in the article. Ecosystem recreational services were assessed by individual aimags using statistical information and expert evaluation data. The obtained results make it possible to assert that the desertification areas have a high recreational importance.

Key words: economic assessment, ecosystem recreational services, desertification territories

Introduction

Environmental benefits are prerequisite for human life and activity. However, despite their global significance, the study of habitat-forming (biosphere, life support) functions of ecosystems have been neglected. This is due to the complex nature of this problem. As of today, science has not been able to assess all goods and services that different levels of ecosystems provide and the biosphere as a whole. At the same time, the urgency and the need for such research is not in doubt.

Materials and methods

The natural areas of desertification, as a rule, are practically not affected by economic activity. However, it serves as a source of benefits which are realized in ecosystem services that are relevant to society. This is especially true for the territory of Mongolia, where desertification processes have intensified in recent years.

Rational use of ecosystem services on the desertification territories is one of the most important scientific problems. To these desertification territories in Mongolia are attributing model territories (Bulgan, Darkhan-Uul, Orkhon, Umnegov, Dundgov aimags).

The further development of tourism in these aimags associated with the development of international tourism, including the Russian-Mongolian, which is especially important in connection with the introduction of a visa-free regime. In this regard, the development of joint Russian-Mongolian tourism development programs can contribute to the development of international tourism, taking into account the interest of foreign tourists to the history and culture of Mongolia and Buryatia, and to Lake Baikal. This requires the development of scientific bases of rational use of recreational resources, where the valuation of ecosystem recreation services is one of the most important areas of research.

Under the ecosystem services refers to tangible and intangible benefits and the benefits that people obtain from natural environmental community and from individual components of the environment. The quantity and quality of ecosystem services and the benefits associated with them depends from preservation of creating these services are natural objects and ecosystems [2].

To date, formed several classifications of ecosystem services, which differ among themselves laid down the basis, selection criteria and completeness of coverage. S.N. Bobylev et al. [3] offer three main groups of ecosystem services and recreational services group

In our view, this classification would be more correct, highlighting the recreational services in a separate group of ecosystem services. Today, recreational ecosystem services are valued not enough and not fully understood their role and significance for human life.

In our opinion, the value of ecosystem recreational services is determined by the flow of goods and services brought by recreational resources, increasing the economic efficiency of the socio-economic systems. This is due to improve the quality of human capital, recuperation and health of the population, due to which is an increase the labor productivity, and obtaining additional revenue, respectively.

With a view to the economic valuation of ecosystem recreational services is offered to use a method of transport and recreational costs (a term introduced by S.N. Bobylev, 1999 [2]), which includes the transportation and travel costs associated with the departure on vacation, and the costs associated with the payment vouchers and the cost of acquisition related services.
The calculations were made the following conditions:
- the total number of tourists was calculated based on the number of tourists who used the services of collective accommodation facilities (CAF);
- CAF capacity in beds was determined on the basis of official data from the aimag administration;
- hotel operating mode, motels, guest houses year-round, for other accommodation facilities - season from May to September (152 days);
- loading of CAF is 100%;
- average length of stay - 3 days;
- the average cost of staying is including the cost of accommodation and food (with rare exception, when provided only services live).

**Results**

Based on the method of transport and recreational costs calculations were made to determine the direct cost of the use of recreational resources of the model territories (Bulgan, Darkhan-Uul, Orkhon, Umnegov, Dundgov aimags), which is the economic assessment of ecosystem recreational services. It is estimated the total direct cost of using five aimags was 67881336,20 thousand. MNT or US dollar exchange rate for 2016 ($ 1 = 2147,74 MNT) 36415,46 thousand USD (see table1).

**Table 1.** The total direct cost of using recreational resources of the model territories of Mongolia

| № | Aimag   | Number rested, man | Direct cost of using thousand MNT | Direct cost of using thousand dollars USA |
|---|---------|---------------------|----------------------------------|----------------------------------------|
| 1 | Bulgan  | 70984               | 9256040,0                        | 4309,67                                 |
| 2 | Darhan-Uul | 167363              | 25585270,0                      | 11912,65                               |
| 3 | Orhon   | 125570              | 13315570,0                       | 7335,46                                 |
| 4 | Umnegov | 136381              | 15976920,0                       | 10443,28                                |
| 5 | Dundgov | 49863               | 3747536,2                        | 2414,40                                 |
| Total |                                  | 550161              | 67881336,2                       | 36415,46                                |

These calculations and the available data are indicating the popularity of the model territories among domestic and foreign tourists and recreational value of ecosystem services. According to experts, the occupancy rate of all accommodation facilities for tourists in 100% in summer time.

Recently, however, due to the crisis in the global economy, there are negative trends in the tourism industry of Mongolia. Experience shows that in the case of a strong demand when the situation changes, the smoothing effects of the crisis and restore the previous level of consumption of tourist services.

**Discussion and conclusions**

Using the method of transport and recreational expenses was allowed to carry out an economic assessment of ecosystem recreational services using indicators of official statistics and the data obtained by calculation. Basing estimates on official statistical data provides a fairly accurate assessment of the results, which are suitable for use in a variety of ecological and economic work. The analysis shows that the conduct of such assessments is necessary in the future to form the foundations of the economic mechanism of recreational nature management in order to rationalize the use of recreational resources.

Thus, the economic evaluation data are suggested a high value of ecosystem and recreational services of the desertification territories of Mongolia. It should be noted that this rating reflects only part of the real value of recreational resources of aimag, so further research is needed in this area in terms of improving the methodology and methods of economic evaluation and to continue further work.

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