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An inventory database, evaluation and monitoring of especially valuable lands at the regional level in Ukraine

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Abstract

On the one hand, the relevance in studying the Especially Valuable Lands (EVL) at the Regional Level is determined by their key role in ensuring food security. On the other hand - the irrational use of EVL and the lack of EVL's information in the cadastral-registration system in the cartographic materials. Also there is the lack of information in on-line mode on their spatial distribution, assessment and of course the current state. In the result of lack formed GIS data of EVL at the Regional Level it is almost impossible to conduct quantitative and qualitative recording, analysis of the condition of their using, assessment, management and protection of it.

The main idea of this paper is to develop methodological and practical approaches to inventory, evaluation and monitoring of EVL at the Regional Level. Also approbation the results of the study on the example of the land resources of Vasylkiv District of the Kyiv Region are important.

The main research methods were the following: statistical, cartographic, mathematical and cartographic methods of modeling.

The result of the study is to develop methodological approaches in inventory of the EVL, their evaluation and monitoring at the Regional Level, based on extensive use of Remote Sensing and GIS technologies. In conclusion, the authors emphasize that the results will allow a deeper study of land-resource potential of the region and potential of its economic, environmental and other use. It will increase the investment attractiveness of the region; establish measures and guidelines for land management. As a result it will simulate the effects of human activities.

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1. Introduction

Ukraine is one of the largest countries in Europe, its area is 60,4 million hectares. Approximately 69,9% territory of Ukraine is agricultural land. More than 53,6% (32,4 million hectares) of the Ukrainian territory is used for arable farming. Much of the arable lands are represented by black soils with enriched humus: called “chernozem” (www.president.gov.ua).

In all lands singled out, the most avaluable are especially valuable lands (EVL). They are the most valuable part of the national wealth of Ukraine. EVL play a key role in ensuring stable social-economic development in growing global threats to human development. They concentrate in itself as the most productive lands available for natural and acquired properties and can generate high yields of crops, environmental, health and recreational area; lands that are the subject of research at the prospect of long-term, lands of historical and cultural significance etc.. (Anonymous 2001). EVL characterized by high levels of socio-economic and environmental values need their rational use and protection. At the same time, currently in approaches to the formation, registration and protection of EVL. Also as there is a lack of information about their current status, geographic distribution and the cost it does not always provide them with effective protection, conservation and management.
(http://static.rada.gov.ua/zakon/skl6/11session/par_sl/sl2303111.htm, http://zakon4.rada.gov.ua/laws/show/2897-iv).

Currently, there is ripened necessity to conduct an inventory EVL and also forming the information and analytical base of EVL (different territorial levels - local (point), local, regional, national, global) and its integration into the cadastre system. This database will serve as an effective tool for accelerating the development of priority sectors of production and non-production areas and agricultural production. In addition, this tool allows a fundamentally new level of monitoring of land-resource potential of the region and ensures its sustainable use and protection for future, forecasting changes in the technology and rationale for management.

Examples of studies of land-resource capacity of a whole Ukraine and its regions, administrative and natural geographic regions may serve (B.Danylyshyn, S. Doroguntsov, V. Rudenko, M. Hvesyk). Concentrated their attention on the study of the problems of land use and land protection (D. Babmindra, D. Dobryak, O. Canash, A. Martyn, L. Nowakowskiy, A. Tretiak, M. Fedorov). However, remain scarcely explored issues related to the study of EVL, especially at the regional level.

It should be noted that the relevance of the study EVL at regional level increases a total lack of cadastre and registration system of accurate and objective information about the presence of EVL. It is practically impossible to exercise quantity and quality of accounting of their spatial distribution. The analysis of the use of EVL, monitoring, rational use and protection of EVL predict changes in their condition and support technologies for their future use.

2. Material and Method

Information base for the study serves different time mapping and statistical information on the Vasylkiv District of the Kyiv Region in many terms. In such terms of administrative units, works of all kinds of scholars to the specified research topic, legislative and legal acts of the Verkhovna Rada of Ukraine, the Cabinet of Ministers of Ukraine, orders the State Land agency of Ukraine.

Rational use and conservation of EVL should be based on scientific research related to their subsequent learning, development database on EVL (at the global, national, regional, local, local-point levels). It should also contain the creation of geo-mapping models that reflect their distribution and properties determination of their environmental and economic assessment of others. The most important feature is their high EVL material and immaterial value compared with other states. The material due to their high economic assessment, as intangible value, is associated with such characteristics as uniqueness, socio-economic and environmental significance, powerful spiritual potential, scientific and natural value etc. In general, these signs EVL outline the strategic potential for the development of the state and of the society.

It is necessary to be noted that the basis for further knowledge EVL at national and global levels presents their study at the regional level - forming inventory database of EVL. It will be the basis for further planning their management, effective public policy for rational use of EVL and improving the ecological status of land resources in the region.

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