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LAND MONITORING IN AGRICULTURE.

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Annotation. Agriculture is one of the key sectors of the economy in many countries. It ensures the food safety of the population and creates jobs for hundreds of thousands of people. However, effective management of agricultural land has become a serious problem in recent decades.Monitoring of agricultural lands allows you to determine the state of the soil, vegetation, water resources and other factors affecting the production capabilities of the earth. Monitoring of agricultural lands allows you to determine the condition of the soil and vegetation., water resources and other factors affecting the production capacity of the land. However, such monitoring faces various difficulties, such as limited funding and difficult access to data. In this article, we will look at the main problems and difficulties associated with monitoring agricultural land, as well as the prospects for the development of this area.

Keywords: land monitoring, agricultural land monitoring, land management, land monitoring technologies, agricultural production.

МОНИТОРИНГ ЗЕМЕЛЬ В СЕЛЬСКОМ ХОЗЯЙСТВЕ.

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Аннотация. Сельское хозяйство является одним из ключевых секторов экономики во многих странах. Оно обеспечивает продовольственную безопасность населения и создает рабочие места для сотен тысяч людей.Однако в последние десятилетия эффективное управление сельскохозяйственными угодьями стало серьезной проблемой. Мониторинг сельскохозяйственных угодий позволяет определить состояние почвы, растительности, водных ресурсов и других факторов, влияющих на производственные возможности земли. Мониторинг сельскохозяйственных угодий позволяет определить состояние почвы и растительности, водных ресурсов и других факторов, влияющих на продуктивность земель. Однако такой мониторинг сталкивается с различными трудностями, такими как ограниченное финансирование и затрудненный доступ к данным. В этой статье мы рассмотрим основные проблемы и трудности, связанные с мониторингом земель сельскохозяйственного назначения, а также перспективы развития этого направления.

Ключевые слова: мониторинг земель, мониторинг земель сельскохозяйственного назначения, управление земельными ресурсами, технологии мониторинга земель, сельскохозяйственное производство.

Monitoring of agricultural lands is an important task to ensure the sustainable development of the agricultural sector. Agricultural lands play a key role in food production, maintaining ecological balance and socio-economic development of rural areas. However, they are also susceptible to various problems that require constant monitoring and monitoring. One of the main problems associated with agricultural lands is the change in their use. The expansion of urban areas, infrastructure, and industrial facilities often leads to the loss of fertile soils and a decrease in agricultural land. Without control and monitoring, these processes can lead to serious consequences for food security and environmental sustainability of the region.In addition, agricultural land is subject to various types of pollution. The use of chemical fertilizers and pesticides can lead to the accumulation of harmful substances in the soil, which negatively affects the quality of products and the environment. Also, a high degree of soil erosion can lead to loss of the fertile layer and reduced yields. Monitoring allows you to identify the places of contamination and take the necessary measures to prevent or eliminate it. Another problem that requires monitoring is changing climate

conditions. Global warming and changes in precipitation affect the agricultural sector, causing an imbalance in food production. Monitoring climatic parameters allows adapting agricultural methods to new conditions and preventing possible consequences. However, in addition to problems, monitoring agricultural land also offers prospects and opportunities for improving agricultural activity. Modern technologies of geographic information systems (GIS) and satellite monitoring allow obtaining accurate data on soil conditions, changes in agricultural areas and other parameters. This allows for efficient land use planning, control of pollution processes and optimization of agricultural production. Also, monitoring agricultural land promotes the development and implementation of new methods of soil cultivation, crop cultivation and resource use. Innovative approaches, such as integrated farming or organic farming, require systematic monitoring and analysis of results. Monitoring helps to determine the effectiveness of such methods and develop new strategies to improve the sustainability of agricultural production. Thus, monitoring of agricultural lands is an integral part of the sustainable development of the agricultural sector. It allows you to identify problems and solve them at an early stage, as well as use new opportunities to improve the efficiency and sustainability of agriculture. The methodology for monitoring agricultural land takes into account all the main factors affecting the condition and use of land: climatic conditions, soil type, hydrological regime, etc. The content of monitoring includes activities to collect information on the condition of land, its cultivation and storage. Continuous monitoring of land use, based on their legal regime, analysis and assessment of the qualitative condition of land, taking into account the impact of natural and anthropogenic factors. Current problems in monitoring agricultural land have a significant impact on the efficiency and sustainability of the agricultural sector. Despite the importance of this process for ensuring food security and sustainable development of agriculture, there are several key problems that complicate full-fledged land monitoring. Firstly, one of the main problems is the insufficient accuracy of the data. In most cases, information on agricultural land is provided by agricultural enterprises or farmers themselves. However, the data obtained from such sources may be inaccurate or incomplete. This creates difficulties in analyzing the state. lands and determining the indicators of agricultural use efficiency.

Secondly, the lack of a unified monitoring system is also a serious problem. Different regions and countries use different methods and approaches to land monitoring. This makes it difficult to compare data and assess the efficiency of land

use in different regions. A unified monitoring system would help to establish common standards and methodologies, as well as to unite the efforts of various stakeholders.

The third problem is the lack of qualified specialists. Land monitoring requires professionals who are able to conduct a detailed analysis of the soil condition, determine the potential for agricultural use and assess the ecological sustainability of the land. However, there are not always sufficiently trained specialists, which creates problems in conducting full-fledged monitoring. In addition, funding is a serious obstacle to the development and implementation of a system for monitoring agricultural lands. To implement effective monitoring, it is necessary to provide funding for the acquisition and renewal of the necessary equipment, training of specialists, as well as conducting research and data analysis. However, public and private investment in this area is often limited, which makes it difficult to develop a monitoring system. Finally, lack of information and transparency are also problems in monitoring agricultural land. Access to land data may be limited or closed to the general public, which hinders effective monitoring work. In addition, lack of information on land owners and their use of resources creates conditions for illegal use or ineffective land management.

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