

Problems of automating the use of land resources by local government under martial law

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Abstract – This article examines the challenges related to the automation of land resource management by local government during martial law in Ukraine. The war has led to the suspension of many land operations, the closure of electronic services, and difficulties in accessing data from the State Land Cadastre. In addition, there have been issues with communication between authorities, limited access to information on land plots, technical difficulties, and financial constraints that complicate land resource management projects. Military actions have also caused land contamination, requiring additional measures for their restoration. The author emphasizes the need for a comprehensive approach to solving these problems through close cooperation between different levels of government and the use of modern technologies to overcome existing obstacles

Keywords: land, cadastre, local government, martial law.

While studying the issue of automating the use of land resources by local government in Ukraine, it is important to consider the limitations caused by the implementation of martial law.

At the beginning of the war, many land operations were suspended, and electronic databases were closed. [1] Free land privatization was effectively halted, the State Land Cadastre was closed, and popular services displaying cadastre data, such as the Public Cadastral Map (kadastr.live), were shut down. In the absence of their own geoinformation systems, land accounting systems, and up-to-date cartographic materials, the work of local governments in the field of land management was paralyzed. [2] A nationwide campaign called "Gardens of Victory" was launched, aimed at the effective use of available land plots and channeling all resources toward growing food to prevent a food crisis in Ukraine. [3] However, over time, the functioning of the State Land Cadastre was restored, and the work of land management organizations resumed.

The next problem in organizing land resource management involved technical and organizational difficulties, such as insufficient communication between participants in land relations and limited access to necessary resources. The issue of local governments (hereinafter LGs) obtaining up-to-date

information on registered land plots remains a challenge. This was partially resolved by the introduction and opening of limited access to the National Geospatial Data Infrastructure Geoportal and the State Register of Real Property Rights through the State Enterprise "National Information Systems". LGs can selectively receive information about land plots and their owners or users but do not have the ability to automatically obtain large volumes of information. During the war, the relevance of the Law of Ukraine "On Personal Data Protection" increased, causing difficulties in the exchange of information between LGs, the State Geo Cadastre, tax authorities, and migration services.

Economic challenges, of course, affected every community. The war impacted the economic situation, complicating the funding of land management projects and the implementation of reforms. The community's budget is directed toward addressing the primary needs of the community. For example, on July 24, 2021, the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding Land Use Planning" came into force, which introduced changes to the Land Code of Ukraine and other legislative acts related to land use planning. The law introduced comprehensive planning for the development of the territories of amalgamated territorial communities. The preparation of a comprehensive plan for the spatial development of a community's territory is an expensive document, which was already a burden for LGs even before the full-scale invasion.

Environmental problems also added additional strain on the community's budget. Military actions caused pollution and degradation of land, requiring additional measures for the protection and restoration of land resources. A new type of land contaminated by military activities has effectively emerged. [4]

These problems require a comprehensive approach and cooperation between different levels of government to address them.

An alternative to automating the use of land resources by local governments under martial law is the use of geoinformation systems widely available on the global market. We focused on QGIS (formerly known as "Quantum GIS")—a free, cross-platform geographic information system (GIS). QGIS is one of the most functional and user-friendly desktop GIS and is

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dynamically developing. [5] The greatest advantage of QGIS is its free nature, the ability to customize it for each user with the help of plugins and buttons, and its compatibility with file formats such as JavaScript Object Notation (JSON) Shape. JSON files, in particular, are used by the State Geo Cadastre for data exchange..

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