IRRIGATION SYSTEM REFORM IN GEORGIA: A BRIEF LEGAL AND ECONOMIC ANALYSIS

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Summary. Effective irrigation and drainage systems have always been the most significant components of the sustainable development of Georgian agriculture. Almost half a million hectares of agricultural land is irrigated by irrigation systems in Georgia. The increase of reclamation areas is the basis for the growth of agricultural products, which, in turn, is a prerequisite for Georgia’s position restoration as an exporting country. Taking into account that one of the main tasks of the country is the rehabilitation, modernization, raising of the technical level, and the technological and organizational perfection of its effective functioning in order to increase the fertility and yield of the soil, the development of the law of Georgia on water user organizations is on the agenda.

That is the first attempt to legally regulate the land artificial irrigation issues, which will contribute to overcoming the three main challenges in the irrigation system: (1) perfect operation of the irrigation system and supply of irrigation water to users; (2) maintaining systems in good condition and (3) increasing revenues to carry out the above two activities. The paper highlights the challenges of the reclamation system of Georgia. The possibilities of implementing a new model of irrigation system management are analyzed. The legal and economic aspects of the ongoing reforms in the irrigation sector are discussed. Establishing an affordable, reliable, stable irrigation system in Georgia will help strengthen the agro-sector and the country’s economy as a whole.

Keywords: irrigation, legal reform, agriculture, organization of water users.

Introduction. Georgia is a country with a small economy and a heavy post-Soviet legacy, which regained its independence in the 90s of the last century and set out on the path of building a market economy. The reforms lasted for decades. Today, our country is one of the outstanding, sharp economic growth countries whose world rankings are constantly improving. However, while managing certain sectors of the economy, like agriculture and the irrigation system, there are still gaps that require timely response and the introduction of modern approaches, taking into account international standards.

During the Soviet period, the irrigation system was managed by the Ministry of Reclamation and Water Management of the SSR of Georgia. After the restoration of independence by Georgia, this Ministry was transformed into the Management
Department of Reclamation Systems of the Ministry of Agriculture of Georgia. Later, four limited liability companies were formed on its basis. Soon after, they merged into a state-owned company, which today is responsible for managing reclamation systems in the country. In the early 2000s, reclamation associations were formed, which seemed promising, but for a number of reasons, they were canceled. Today, "Melioration of Georgia" LLC provides water supply. It is worth noting that with the increase in irrigated areas and the number of farmers (50,000 farmers), new problems appear. Due to the faulty condition of the systems, water regulation in many places is limited to water release/blocking and approximate control of water level in canals [1].

On December 19, 2019, the Parliament of Georgia adopted the Law "On Water User Organizations," which regulates the activities of water user organizations and the relations of the water user organization with individuals, legal entities and state bodies, as well as the conditions for the provision of services by the primary water user and the use of irrigation infrastructure by the water user organization and other water users. The law does not apply to the removal of excess water through the drainage, drying network, transportation and discharge into the environment, to the relations arising from the mentioned services, as well as to the supply of water to the neighboring country [2].

In the Law "On Water Users' Organizations" [3], the irrigation system is defined as a complex of interconnected structures of the irrigation infrastructure, which ensures water intake, transportation and delivery for irrigation or other purposes. The definition of the primary water user is also significant: the primary water user can be a legal entity under public law or a legal entity created with the participation of the state, which owns, operates and manages the main irrigation infrastructure, as well as carries out its maintenance and water supply.

**Aim of research.** The research purpose is to develop recommendations for the activities of water user organizations, implementation of the irrigation system, improvement of legal regulation and raising the competitiveness of the irrigation sector.

**Methodology.** In the research process, significant findings reflecting the current reality have been found and evaluated. Relevant scientific economic and legal literature and new legal regulations are analyzed.

**Literature review.** In 2017, "Melioration of Georgia" LLC developed the "2017-2025 Irrigation Strategy of Georgia" [1]. The strategy was developed as a result of cooperation between the Ministry of Agriculture and Land Reclamation of Georgia with the support of the World Bank-funded Georgian Irrigation and Land Market Development Project (GILMD) and the World Bank Water Partnership Program. In the same period, a decision was made regarding the fundamental reform of the land reclamation company. The Association Agreement signed between Georgia and the European Union ensures the gradual harmonization of water management standards and practices in Georgia with the standards and practices of the European Union.

**Discussion and Results.** As the population grows, the demand for water resources, including irrigation water, increases. Irrigation water supply is a powerful tool for economic development in rural areas. Thus, finding ways to use water more
efficiently is of particular importance. Georgia has abundant water resources, although its availability varies dramatically depending on the season. Currently, the six irrigation reservoirs in operation can hold less than 4% of the annual flow of the rivers of East Georgia. Added to this is the snow reserve on the mountains, but as the climate warms, these natural reserves are diminishing. In addition to surface water, Georgia is rich in groundwater that can be used for irrigation purposes, namely drip irrigation systems, which are expected to cover 10% of the irrigated area by 2025. It is planned to increase the irrigated area to 200,000 ha in Georgia by 2025 through investments in the rehabilitation of irrigation systems. If this area is fully utilized, the water demand, which currently amounts to 150 million cubic meters per year, will increase to 900 million cubic meters. 361 million US dollars will be allocated from the financing funds of the Government of Georgia and international organizations in order to provide hydrological, economic and financial support for the reform of the irrigation system of Georgia [1].

Due to the massive depreciation of the irrigation infrastructure in recent years, the systems on nearly the entire additional irrigated area require rehabilitation. It is necessary to carry out a technical and economic study. In order to effectively allocate scarce rehabilitation funds, it is essential to prioritize systems. The reform of the irrigation system of Georgia first of all involves the management function improvement of "Georgia Reclamation" LLC, in order to play a more active role in monitoring and ensuring the quality of rehabilitation.

A necessary condition for the high-tech development of the agro-sector of our country is the improvement of irrigation and drainage systems. Vision 2030 - a number of measures are planned in the development strategy of Georgia to achieve the set goals. In particular, restoration-rehabilitation of non-functioning reservoirs, arrangement of new reservoirs, restoration/rehabilitation/cleaning of head-structures, main channels and hydro-technical structures arranged on them; Conversion of partially irrigated and non-irrigated lands to regularly irrigated lands. The reclamation infrastructure sustainability improvement will be implemented. In order to restore mechanical irrigation systems, economically justified pumping stations, pipelines and internal agricultural irrigation networks will be restored and rehabilitated [4].

It is noteworthy that on March 5, 2021, the Minister of Environment Protection and Agriculture of Georgia issued Order #2-268 "On Approval of the Terms of the Irrigation Service Agreement to be Signed Between the First-time Water User and the Organization of Water Users/Other Water Users" [5]. The said order entered into force on March 5, 2021, although it has not been fully implemented and is unknown to the general public. According to paragraph 6 of the named order, the tariff for the services provided by the primary water user to the user is established by the Georgian National Energy and Water Supply Regulatory Commission (GNERC). In accordance with paragraph 10 of the mentioned order, the dispute arising between the customer and the supplier will be considered by GNERC within the scope of competence established for it by the legislation. GNERC's decision can be appealed in court according to the procedure established by Georgian legislation.

On the basis of GNERC's decision #38/32 of July 20, 2023, the public administrative proceeding "On Approval of Irrigation Water Supply Rules" was
launched to issue a normative administrative-legal act of GNERC on the initiation of public administrative proceeding [6].

The first normative act in the history of GNERC, dealing with issues of irrigation water supply, was adopted on August 30, 2023, on the basis of Resolution #39 ("Irrigation Water Supply Rules" (subsequently, "Rules")) [7]. A part of the named rules came into effect immediately after publication in the Legislative Gazette (09.04.2023) other part will come into effect later, from January 01, 2024, and it is planned to be fully implemented from January 01, 2025. The rules regulate the service conditions and procedures related to the guaranteed and forecast supply of water from the irrigation system by the supplier and its acceptance, the conditions for connection to the irrigation system, usage and capacity increase. Also, establishes the operational requirements for water supply in the irrigation system, the conditions for determining the supply point, the conditions for the distribution and billing of the water in the irrigation system in the event of water shortage, excess water or other force majeure and other types of interruptions in the irrigation system, as well as managing the proper functioning and development of the irrigation system and features related to planning.

Among the goals of the irrigation rules, we would highlight the one that encourages the rational consumption and saving of water because Georgia is known for its irrational use of water. After all, water is a natural resource, and it is significant for consumers to save it and use it only as intended to avoid water shortage in the near future. It is planned to regulate the issues of connecting a new object to the irrigation system in accordance with the same rules.

An important innovation is also the recording of water consumption by the user individually through the metering node. It is planned to install so-called "smart meters." The category of multi-functional electronic meter (the so-called "smart" meter) includes those meters that have the ability to establish two-way electronic communication in accordance with paragraph 8 of Article 32 of the Rules and contribute to the optimization of the user's water consumption. The illegal water consumption and the legal regulation of the means to prevent it are also intriguing. In particular, illegal water consumption means arbitrarily connecting devices or pipelines to the irrigation system, arbitrary restoration of interrupted water supply, water consumption by an unmetered customer in violation of the agreed water usage schedule or without a schedule, intentional damage to the water meter boards (in case of violation of the accuracy of the measurement), falsification of the digital indicator of the water meter, consumption of water more than the allowed maximum hourly consumption, water consumption of the irrigation system in case of suspension of the right to use irrigation water, unauthorized consumption or use of water without a service contract, embezzlement, including bypassing the water meter (accounting system) and unauthorized water consumption without it. The provision mentioned in the Code of Administrative Offenses will come into effect on January 1, 2024, and accordingly, changes will be made in the Georgia Code of Administrative Offenses because for the violation of irrigation rules, the violating subject, the extent of responsibility, the authorized person who compiled the protocol and issued the resolution must be determined.

It will be significant to separate the administrative offense from compensating
for damages caused to the supplier. In the first case, there is a protocol of violation based on the Code of Administrative Offenses. In the event of damage, an act of unaccountable water consumption is provided for by the rules.

According to the rules, the supplier has to implement the following measures:

- The supplier was instructed to register the supply points of the irrigation system and update the information base with census data until May 1, 2024.
- The supplier must submit the metering plan of the metering system to GNERC for approval by March 1, 2024.
- The supplier is obliged to bring all service contracts into compliance with the rules by January 1, 2024.
- The deadline for the supplier is 01 January 2026.
- In addition, by March 1, 2024, the suppliers must submit to the Commission information about the service centers in the administrative center of the self-governing city/municipality where they provide water, and no later than February 1, 2025, the planned schedule necessary for the fulfillment of the first paragraph of Article 6 of the Rules shall be agreed upon.
- The supplier is obliged to submit the irrigation system management and reporting concept to the Commission for approval by December 1, 2025, taking into account the best international practices in this field.
- The supplier is obliged by January 01, 2025, to install and connect to the central management system control and accounting systems in all independent irrigation systems under its ownership in order to record in real-time water flows, debits and losses at water intake, collection and output points, among them, in the connectors between the rows of the water distribution and irrigation system, which is necessary for the efficient management of water in the irrigation system.
- In addition, the supplier is obliged to provide the Commission with comprehensive information on the completed, as well as planned and implemented activities related to the installation of control meters on a quarterly basis.

Until 2027, GNERC was instructed to establish the tariff for drainage services in order to regulate the relations arising in connection with the removal of excess water through the drainage, drying network, transportation and discharge into the environment, and the Ministry, in cooperation with the National Commission, to ensure the preparation of the corresponding draft law for determining this tariff.

The named measures implementation will not be so easy. Legislative innovations are welcome, although the body adopting the changes is not immune to certain inaccuracies. Accordingly, GNERC expresses its readiness to bring any regulatory issue into compliance with the legislation. That is confirmed by the fact that for the purposes of amendments and additions to the normative act adopted on August 30, 2023, the commission has already started public administrative proceedings on September 14, 2023, based on decision #44/25, according to which December 29, 2023, was determined as the deadline for issuing the resolution [8].

Based on Resolution #40 of September 14, 2023, GNERC developed a methodology for calculating the tariff for services provided by primary water users, according to which that tariff will be determined by the end of 2023. On September 28, 2023, GNERC adopted decision #47/2 on approving the tariff application form for the tariff calculation for the services provided by the primary
water user. According to it, the tariff application will be submitted by the primary water users.

Conclusion. Thus, as a result of the research, it was proved that it was timely to adopt the rules of irrigation supply by GNERC, which will promote the rational use of drinking water. Suppliers will create service centers, which will benefit the employment market and create new jobs. The full implementation of the rules will be done step by step. Therefore, it will be necessary to make changes in various normative acts step by step. One of the significant things will be to bring the issues of imposing responsibility for irrigation rules violations in the Code of Administrative Offenses of Georgia into compliance with the current legislation.

The study revealed that in order to overcome the challenges of Georgia's irrigation system, it is necessary to strengthen partnership relations both with the member states of the region and the European Union. The participation of investors, international institutions, sector participants and citizens in achieving the goals set by the irrigation policy is particularly significant.

It is necessary to consistently reflect the European directives and regulations in the national legislation to fulfill the obligations imposed by the association agreement. Sound regulatory legislation will facilitate competitive pricing of reclamation systems and technological progress.

References: