



INSTITUTIONAL REFORMS IN THE WATER MANAGEMENT SYSTEM OF UZBEKISTAN AND THEIR EFFICIENCY

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Abstract

This article analyzes the institutional reforms implemented in the water management system of the Republic of Uzbekistan during the post-independence period, their legal foundations, governance mechanisms, and effectiveness. The achievements and remaining problems in the Kashkadarya oasis are examined as a case study. The research results show that the basin principle of water resource management, the system of Water Consumers' Associations (WCAs), digitalization processes, and the introduction of economic mechanisms have played an important role. At the same time, existing problems in the system are identified, and proposals for their elimination are put forward.

Keywords: Water management, institutional reforms, basin management, WCA (Water Consumers' Association), water resources, irrigation, land reclamation, digitalization, water security.

O‘ZBEKISTONDA SUV XO‘JALIGI TIZIMINING INSTITUTSIONAL ISLOHOTLARI VA ULARNING SAMARADORLIGI (1991–2023)

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Annotatsiya

Ushbu maqolada O‘zbekiston Respublikasida mustaqillikdan keyingi davrda suv xo‘jaligi tizimida amalga oshirilgan institutsional islohotlar, ularning huquqiy



asoslari, boshqaruv mexanizmlari va samaradorligi tahlil qilinadi. Qashqadaryo vohasi misolida erishilgan yutuqlar va saqlanib qolayotgan muammolar ko‘rib chiqilgan. Tadqiqot natijalari suv resurslarini boshqarishda havza tamoyili, suv iste’molchilari uyushmalari tizimi, raqamlashtirish jarayonlari va iqtisodiy mexanizmlarning joriy etilishi muhim rol o‘ynaganini ko‘rsatadi. Shu bilan birga, tizimda mavjud muammolar ham aniqlanib, ularni bartaraf etish bo‘yicha takliflar ilgari suriladi.

Kalit so‘zlar: suv xo‘jaligi, institutsional islohotlar, havza boshqaruvi, SIU, suv resurslari, irrigatsiya, melioratsiya, raqamlashtirish, suv xavfsizligi

ИНСТИТУЦИОНАЛЬНЫЕ РЕФОРМЫ СИСТЕМЫ ВОДНОГО ХОЗЯЙСТВА В УЗБЕКИСТАНЕ И ИХ ЭФФЕКТИВНОСТЬ

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Аннотация

В данной статье анализируются институциональные реформы, реализованные в системе водного хозяйства Республики Узбекистан в постнезависимый период, их правовые основы, механизмы управления и эффективность. На примере Кашкадарьинского оазиса рассмотрены достигнутые успехи и сохраняющиеся проблемы. Результаты исследования показывают, что бассейновый принцип управления водными ресурсами, система ассоциаций водопотребителей (АВП), процессы цифровизации и внедрение экономических механизмов сыграли важную роль. В то же время выявлены существующие проблемы в системе и выдвинуты предложения по их устранению.

Ключевые слова: водное хозяйство, институциональные реформы, бассейновое управление, АВП (ассоциация водопотребителей), водные ресурсы, ирригация, мелиорация, цифровизация, водная безопасность.



1. Introduction (Kirish)

After the Republic of Uzbekistan gained independence, fundamental reforms were implemented in all sectors of the economy. The water management system was no exception to these processes. During the Soviet era, water resources management was carried out on the basis of a centralized system, and regional needs were not adequately taken into account[1]. As a result, in the early years of independence, problems such as the deterioration of irrigation and reclamation infrastructure, high water losses, and low efficiency of water use emerged[2].

These problems had a significant negative impact on agricultural production, especially in arid regions such as the Kashkadarya oasis. Therefore, fundamentally reforming the water resources management system and creating its legal and institutional foundations became a priority of state policy.

After independence, a legal framework was formed in the water management sector, and the Law "On Water and Water Use" was adopted in 1993[3]. In subsequent years, the basin principle, economic mechanisms, and digital technologies were introduced in water resources management.

The main purpose of this study is to comprehensively analyze the institutional reforms in the water management system of Uzbekistan and to assess their effectiveness[4].

2. Methods (Metodologiya)

The following scientific methods were used in this study

Historical-analytical method – used to study the post-independence evolution of the water management system;

Comparative analysis method – compared the management systems of the Soviet period and the post-independence period;

Statistical analysis – assessed water use efficiency, losses, and financial indicators;

Institutional approach – analyzed structural changes in the management system;

Systemic approach – examined the water management system as a complex socio-economic system.



Regulatory legal documents, state programs, statistical data, and scientific sources served as the basis for the research.

Results. Results

In 1991-1995, the old system was preserved. In 1993, the Law "On Water and Water Use" was adopted[5]. In 2003, the Ministry of Agriculture and Water Management was reorganized, and an independent Ministry of Water Management was established. The same year, the Amu-Kashkadarya Irrigation Systems Basin Administration was established in the Kashkadarya oasis[6]. In 2005, more than 1,500 Water Consumers' Associations (WCAs) were operating; by 2023, their number exceeded 1,850. Water fees were introduced from 2010, and the installation of water meters became mandatory from 2020. Coverage of water meters increased from 5% to 62%[7]. Between 2018 and 2024, a GIS system was launched and 67 hydrometric posts were automated. Water productivity increased from 0.45 kg/m³ to 0.78 kg/m³. Water losses decreased from 35-40% to 20-25%. In 2022-2024, annual funding amounted to 2.5-3 trillion soums. In terms of personnel training, TIAME (now TIAME National Research University) was preserved as a single complex in 1992[8].

Discussion

Basin management made it possible to distribute water resources in accordance with regional characteristics. However, a number of problems remain: water tariffs cover only 40-50% of actual costs; WCA debt exceeded 130 billion soums in 2023[9]; more than 35% of pumping stations have been in operation for over 40 years; some functions between the Ministries of Water Management and Agriculture have not been fully separated; transboundary water problems (70-80% of water resources are formed in neighboring countries) remain unresolved[10].

Conclusion

Uzbekistan's water management system has transitioned from the Soviet-era centralized model to a basin-based, partially decentralized and digitalized management model. Achievements include a strong legal framework, increased



water meter coverage, reduced water losses, and increased water productivity. Problems include tariff policy, financial weakness of WCAs, outdated infrastructure, interagency division, and transboundary disagreements. In the future, it is necessary to raise tariffs to an economically justified level, strengthen the financial independence of WCAs, automate all hydrometric posts, and conclude binding agreements with neighboring countries.

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