

## **Theoretical Issues of Innovative Management of Efficient use of Water Resources**

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**Abstract:** This article summarizes the theoretical issues of innovative management ways of efficient use of water resources, the shortcomings of the existing irrigation system.

**Keywords:** Water, resource, irrigation, efficiency, economy, innovation, management, analysis, research, method, scarcity.

## **Introduction**

Water is life. Just as there is no life without water, all farms depend on water resources. Although water resources are unlimited, in our more arid country, water resources are scarce and require the targeted management of available water resources.

Analysis of the relevant literature: The study of works in the field of water resources management and its effectiveness has shown that a lot of research has been done in the field of water resources management. Literature published. However, they do not adequately address the theoretical and practical issues of improving management efficiency, especially the search for internal opportunities.

A.T.Salokhiddinov, R.K. Ikramov, R.A.Muradov, A.OKhomidov, H.I. Valiev, Sh.O. Muradov, B.M.Kholbaev conducted scientific research in the management of water resources.

Research methodology. Traditional methods of aggregation, grouping, induction and deduction, analysis and synthesis, and economic analysis were used in the research process.

Analysis and results. First of all, we will look at the basics of the management process, which has its place in service enterprises.

The main functions of management are:

- Development of goals and objectives of service activities;
- goal-orientation and planning and problem-solving;
- Making decision;
- Distribution of decisions - development of orders, division of functional duties and responsibilities of the service employee, monitoring the process of execution of orders;
- monitoring the implementation of the planned plan and orders, etc.

Laws and decrees have been developed in the country to manage the efficient and proper use of water. The land area of the republic is 448,978 km<sup>2</sup>. Water is only 4.9%. Irrigated lands of the republic make up 4306.6 thousand hectares or 9.6% of the total land area. In addition to irrigated lands, agricultural products are also grown on dry lands <sup>1</sup>.

Our goal is to increase efficiency by using new innovative technologies to ensure the rational use of available water resources. During the years of independence, the system of water resources use has been radically reformed<sup>2</sup>. Appropriate legislative framework for targeted and rational use of water resources and improvement of reclamation of irrigated lands has been created and put into practice<sup>3</sup>.

It is known that the problem of water shortage in the world is growing from year to year. In our country, special attention is paid to this issue and measures are taken to use water wisely.

First of all, the Ministry of Water Resources was established to improve the management system in the sector. Developed in accordance with the instructions of the head of our state Sh.M.Mirziyoyev. The strategy of agricultural development for 2020-2030 provides for urgent measures for the use and conservation of water<sup>3</sup>. Today, 46 billion cubic meters of water are

<sup>1</sup> PD-4486, 09.10. 2019

<sup>2</sup> PD-3672, 17.04.2018

<sup>3</sup>Innovative directions of management of efficient use of land and water resources. Master's dissertation.

used on 3.2 million hectares of land, of which only 60% goes to crops, as 23% of the total 180,000 km of irrigation networks are covered with concrete, which is 30. Another reason is that 98% of arable land is irrigated in the old way, the crops are not planted properly. Efficient use of water, the use of new water-saving technologies in the existing irrigation network does not require any agency. It is necessary to develop an improved system of crop placement. The Ministry of Water Resources has introduced a "smart water system" that allows online monitoring of water consumption at 61 water facilities at the expense of a \$ 7 million grant from South Korea. the Ministry of Energy has been tasked with transferring 1,700 pumping stations to an automated control system of electricity consumption by the end of the year. The widespread introduction of market mechanisms in the industry is also a requirement of the times, as even high-income crops are now supplied to orchards and vineyards at the expense of the state. Therefore, the rapid development of science and innovation in water management is necessary to link chambers with production. A design team has been set up to implement the scientific developments of young scientists, develop students' design skills, and introduce innovations into the system with the involvement of foreign experience and experts. The widespread introduction of water-saving technologies is the most important task in the industry. When analyzing the effectiveness of such technologies on the example of a farmer in Akdarya district, water consumption was reduced by 50%, fertilizers by 37% and fuel by 35%. Therefore, in the next 2025 it is planned to introduce water-saving technologies on 1 million hectares of arable land. Today, there are about 4,000 irrigation wells in water facilities. One well serves an area of 30 hectares and costs 40-50 million soums a year. Due to the normal use of well water for irrigation, groundwater is declining<sup>4</sup>.

Therefore, officials are shifting the use of well water consumers to water-saving technology and the use of solar panels. Currently, both the customer and the contractor for the maintenance, reconstruction and operation of water bodies are the same department, the Ministry of Water Resources. This was likely to have a negative impact on healthy competition. Taking into account these indicators, 57 powder enterprises were removed from the ministry and merged into a separate joint-stock company. The review of the activities of the Water Consumers' Association states that they should operate as a professional structure that attracts investment, grants and other funds, has special equipment and provides quality services to farmers.

The analysis of the water use management system requires the identification of not only the components of the system, but also the ability to coordinate the activities of the system. This situation is especially important in making the right decisions on water management and expanding its scope, increasing its efficiency. One of the main problems of the water use management system is that the existing water resources do not meet the future needs, ie can not meet the needs. The solution to this problem can be found by developing a water use system. This system allows to meet the need for water quality and volume, taking into account environmental safety. It should be noted that water resources in the country are disproportionately distributed economically and socially, ie do not meet the living standards of the population, the location of agricultural production and other norms. For example, in areas close to water bodies, the water supply is high, and the further away from them the need for water increases. This need is growing from year to year, as the volume of water does not increase, the population and the service sector, industry, construction and other sectors are

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<sup>4</sup> Ministry of Foreign Affairs, Uzbekistan

growing. Therefore, in our opinion, in order to solve this problem in the near future, it is necessary to implement a set of measures in the following areas:

- saving water by reducing water waste (transition to circulating water supply, water saving);
- application of new, promising methods of irrigation and increase the efficiency of the irrigation system;
- proper (in time and space) distribution of groundwater and surface water;
- introduction of wastewater treatment technology;
- finding opportunities to use water resources in glacial and mountain basins;
- Active influence on the processes of precipitation (according to the Hydrometeorological Center of Uzbekistan, precipitation can occur in a relatively small area of up to 100 km<sup>2</sup>

Thus, the impact on the management of water resources is mainly achieved through technical methods (water flow management, its transfer from one place to another, the use of additional local resources). It should be noted that this is done through the impact on water economy and water efficiency: Uzbekistan is planned to be among the top 50 innovative economies in the world in 2030 - this task is reflected in the recently adopted and innovative UN Development Strategy in the country is given<sup>5</sup>.

In particular, the main tasks of the strategy and ways to develop the innovative economy in Uzbekistan became the main topic of discussion at the scientific-practical conference "Innovative development of the Uzbek economy in Tashkent" entitled "Foreign experience, trends and prospects".

The higher the level of innovation, the higher the economy. The Global Innovation Development Index will be the first step in the analysis of the country's innovation potential. Efficient use of water resources in an innovative economy is a modern requirement.

### **Conclusion and suggestions**

It is no secret that investing in the agro-industrial sector requires a lot of money. It is almost impossible for a farm or dehqan farm to spend water on the efficient use of water resources at its own expense. One of the main obstacles is the low cost of agricultural products and the possibility of high yields due to climate change. There is less willingness to take risks than in other sectors of the economy. Their management is based on experience from the distant past, not on scientific innovation. Therefore, the introduction of innovations in water resources, the application of scientific innovations takes a long time.

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<sup>5</sup> [www.kun.uz](http://www.kun.uz)