

PROSPECTS OF OPERATION OF PUMPING STATIONS ON THE BASIS OF PUBLIC-PRIVATE PARTNERSHIP

G.Dusmuratov, Candidate of economic Sciences, Associate Professor of the Department of Economics, "TIAME" NRU

Abstract

The prospects for the operation and management of pumping stations based on the mechanisms of public-private partnership (hereinafter referred to as PPP) are considered. Based on the analysis of the activities of the Department of Pumping Stations and Energy under the Ministry of Water Resources of the Republic of Karakalpakstan, the effectiveness of the implementation of PPP projects is substantiated. In addition, recommendations and proposals are made to improve the implementation of public-private partnerships in the operation and management of pumping stations, which will reduce the cost of their operation.

Keywords: **public-private partnership, pumping stations, development concept, cost savings, water resources, water management.**

Introduction. Consistent reforms have been implemented in our country on the effective use of water resources, improvement of their management system, modernization and development of water management facilities in recent years. However, there was no strategic document - Concept, which would define specific goals, directions, medium and long-term perspective of water management development, and would serve as a basis for the development of sector-related programs. In order to find a solution to this issue, Decree of the President of the Republic of Uzbekistan dated July 10, 2020, No. PF-6024 "On approval of the concept of water management development of the Republic of Uzbekistan for 2020-2030" was adopted.

Currently, 10.7 thousand m³ of water from all sources is consumed on average for 1 hectare of cultivated land used in agriculture in our republic. In developed countries, this figure is 6.5-7 thousand m³. In recent years, 298,000 hectares of irrigated land have fallen out of use, and 560,000 hectares have low water supply, 46% of irrigated land has varying levels of salinity. As a result of long years of use, 60% of irrigation canals and 70% of trays are worn out. It is necessary to repair, reconstruct, replace 15-20 percent of them.

70 percent of the total funds allocated from the State budget for water management are spent on electricity. Only 3 percent is directed to repair and restoration works. 32,600 employees work in the industry, their average salary is 1.5 million UZS, compared to the average salary for the country (2.3 million UZS) is 65 percent. Every year, 3-4 thousand employees come to work and write resignation.

According to the World Resources Institute:

Uzbekistan is among the 25 countries prone to water shortages;

By 2030, the total water deficit is expected to increase by 2.3 times (from 3 km³ to 7 km³);

in the next 10-15 years, water supply per capita will decrease by almost 2 times (3-1.6 thousand m³), but the demand for water will increase by 20% (2.3-3 billion m³), water consumption of industry and energy sectors will grow by 84 percent (1.9-3.5 billion m³).

Taking this into account, the decree of the head of state was a timely, extremely relevant and important document.

With the concept, there will be many changes and updates in the field of water management of our country. PPSs and outsourcing will be introduced into the industry. Emphasis is placed on the training of personnel, improvement of their qualifications, implementation of scientific achievements and innovations.

Based on the concept, the Ministry of Water Management was assigned the task of implementing 50 projects in water management based on the principles of PPP until 2030. According to the decree, it was allowed to transfer the functions of the Ministry of Water Management in the direction of management of water management facilities located on these lands to agricultural land owners on the basis of public-private partnership. The Ministry of Water Management, together with the PPP Development Agency, submits to the Cabinet of Ministers a list of water management facilities on the Ministry's balance sheet for transfer to the private sector on the basis of PPP within 3 months.

Materials and Methods. It is necessary to deepen reforms in the field of water management in several directions. In particular, improving the management system of the water management complex and adapting it to market relations, strengthening the material and technical base; increase the capacity of existing water reservoirs and build new ones, further improve the condition of land water supply; implementation of measures aimed at reducing water wastage due to the repair of water supply channels and pumping stations; increasing the amount of output per cubic meter of water due to the improvement of irrigation technology, and finally, introducing water fees, incentives for efficient use of water, and applying economic penalties for low water efficiency. In our country, the implementation of activities in the directions indicated above has been started. To implement these measures, it is necessary to improve the mechanism of water resources management and irrigation sector development.

Nowadays, 1,687 pumping stations at the expense of water management organizations are operating. 74% of them have been in service for more than 30 years, 20% for 20 years, 6% for more than 10 years, or 94% of pumping stations have passed the normative service life (16-18 years) and need to be modernized and replaced, 10.3 percentage of a total of 2,887 km of pressure pipelines is required to be replaced first. As a result of the measures not being implemented on time, there are many cases of accidents in their use, and this, in turn, causes the consumption of electricity to remain high. As a result of research, Karakalpakstan pump stations and energy department electricity saved as a result of activities information on the amounts is presented (Table 1). The table shows that the total amount of electricity saved in 2020 is 2,396 million kWh. These savings are the result of measures implemented in 2018-2020 at the expense of electric motors, pumping stations, capacitors, frequency

converters, solar batteries, cables.

Table 1.
About the amounts of electricity saved in 2020 as a result of the activities carried out based on the programs approved by the Karakalpakstan pumping stations and energy department under the Ministry of Water Management of the Republic of Karakalpakstan
INFORMATION

№	Event name	Total installed, pcs	The total amount of electricity saved in 2020, million kWh	From this,					
				2020		2019		2018	
				Installed, pcs	Saved in 2020, million kWh	Installed, pcs	Saved in 2019, million kWh	Installed, pcs	Saved in 2018, million kWh
1	At the expense of electric motors	78	0,505	8	0,039	37	0,28	33	0,186
2	At the expense of pumps	30	0,187	8	0,052	12	0,106	10	0,029
3	At the expense of capacitors	127	1,134	40	0,311	38	0,325	49	0,498
4	At the expense of frequency converters	6	-	2	-	2	-	2	-
5	At the expense of solar batteries	12	0,036	1	0,002	10	0,032	1	0,002
6	At the expense of cables	2,245	0,028	0,095	0,003	0,85	0,008	1,3	0,017
TOTAL:			3,396	0,407	0,751	0,732			

Currently, the maintenance costs of water management organizations are carried out from the state budget, and 70% of the funds allocated in the following years are directed to cover the electricity costs of pumping stations, so it is important to provide pumping stations on the basis of PPP. For example, 246.5 million UZS of budget funds are being spent on the Madaniyat pumping station in the Republic of Karakalpakstan (Table 2).

Table 2.
Analysis of the operation of the "Madaniyat" pumping station in the Republic of Karakalpakstan

Name of pumping stations	Salary (thousand UZS)	Used energy		Complete repair (thousand UZS)	Current maintenance (thousand UZS)	Transportation costs (thousand UZS)	Fuel lubricants expenditure (thousand UZS)	Released water (thousand m3)	Total costs (thousand UZS)
		Quantity (thousand kW)	Electricity (thousand UZS)						
2017									
Madaniyat	66900	179,909	35046,3	-	1914	38,28	-	5370	103898
2018									
Madaniyat	88500	258,54	57809,5	-	409,8	8,2	-	6478	146728
2019									
Madaniyat	82300	172,64	59847,4	13268	2408	313,52	-	4475	158137
	237700	611,089	152703,2	13268	4731,8	360	-	31323	408763

Table 3.
Expected cost reduction at the "Madaniyat" pumping station in the Republic of Karakalpakstan, million UZS

Types of expenses	Measurement unit	2020 ye expenses	2021	2022	2023	2024	2025	2026	2027	2028	2029
Monthly salary (7.5%)	million UZS	92,4	89,0	95,2	101,9	109,0	116,6	124,8	133,5	142,9	152,9
Single social payment (1.4%)	million UZS	23,1	22,2	23,8	25,5	27,3	29,2	31,2	33,4	35,7	38,2
Electricity (6.9%)	million UZS	90,9	87,5	93,7	100,2	107,2	114,7	122,8	131,4	140,6	150,4
Other expenses (6.2%)	million UZS	40,1	38,6	41,3	44,2	47,3	50,6	54,2	58,0	62,0	66,3
Number of employees	pcs	6	5	4,5	4	3,5	3	3	2,5	2	2
Funds located on the total budget (00%)	million UZS	246,5	237,4	254,0	271,8	290,8	311,2	332,9	356,2	381,2	407,9
Percentage of decline, %	%		20	10	10	10	10	10	10	10	10

As a result of giving the operation of the pumping station to a private partner for a period of 10 years through a PPP, the amount of funds financed from the budget was reduced to 20% in the first year and from 10% in the following years (Table 3).

The partnership of the state with the private sector is a crucial component of the investment policy of the Republic of Uzbekistan, as it provides a great benefit from the invested funds when it is properly organized.

If we take into account that 60% of the agricultural arable land in our republic is irrigated through pumping stations and irrigation wells, the damage caused to the country's economy by each unit of excess water used by the farmer as a result of raising water using them will increase even more. This, in turn, leads to physical and mental wear and tear of existing pumps. Most of the existing irrigation infrastructure, pumping stations, are in use for more than 30-40 years and need reconstruction or major repairs.

An analysis of the expenditures of the Karakalpakstan pumping stations and energy administration shows that the expenditures in the system have increased dramatically (Table 4). In 2021, wages and allowances are increased 4671.0 million UZS. Cost reduction measures should be implemented.

Table 4.
Analysis of expenditures on Karakalpakstan pumping stations and energy administration (million UZS)

№	Name of expenses	2019	2020	2021	2021 year compared to 2019 (+; -)
1.	Wages and allowances	20603,9	22648,1	25274,6	+4671,0
2.	Allocations to social needs	5213,9	5553,7	6371,0	+1157,1
3.	Expenditure on goods and services	26928,1	44824,0	29788,2	+2860,1
4.	Expenditure on fixed assets	368,7	628,4	789,8	+421,1
Total:		53114,6	73654,2	62223,6	+9109,3

Discussion. To implement this, the following proposals and recommendations were developed to improve the implementation of pumping station operation on the basis of PPP:

- > organization of study of territorial objects jointly by the ministry and relevant agencies;
- > to allow the selection of any projects with economic efficiency and social significance, regardless of the scale of the project, the source of financing (out of the state budget or the state budget);
- > to explain the mechanism of PPP to business entities operating in the regions (organization of seminars);
- > allocation of funds from the state budget to ministries and agencies for the development of project documents and the implementation of stages in the projects where the project is planned to be implemented on the initiative of the state, and the establishment of a special fund;
- > reduction of Central Bank loan rates for the implementation of projects. Establishment of preferential lending by banks, first of all, to PPP projects;
- > organizing the attraction of funds from international financial organizations and foreign investors to projects;

> organizing the attraction of funds from international financial organizations and foreign investors to projects;

> clarify whether the total cost is one million US dollars (whether investment funds are provided by the private partner or the total costs incurred during the project period);

> if the expenses allocated from the state budget in the period used for calculating the project expenses are not sufficiently financed, taking into account the coordination of these expenses in the next financing period and providing sufficient funds.

> development of the procedure for reimbursement of investment funds introduced by the private partner and operating expenses in cases where the project expenses are to be covered from the state budget and clarification of the following cases. Including:

- in case the expenses of the period based on the project are sufficient to cover the costs of the project, to allow the issuing of a financial summary with the signature of the employee responsible for the direction of the Ministry of Finance, or to allow the Ministry of Water Resources to spend the state budget funds independently (in case of saving funds during the implementation of the project, from covering the expenses transfer of the increased funds to other purposes, such as encouraging employees who have made an effective contribution to the implementation of the project, modernization of facilities in the area where the project object is located);

- Allowing additional funds to be allocated from the budget if the period costs based on the project are not sufficient to cover the project costs.;

- To allow the financing of projects of social importance, which have economic efficiency regardless of the scope of the project, the work to be performed, and the size of the critical investment.

In conclusion, in order to successfully apply PPP in the field of water management in our country, it is necessary that not only service users are in favor of attracting a private partner, but also that both state and local authorities realize the need for cooperation with the private sector. Otherwise, it is impossible to implement some project on the basis of PPP. Thus, direct water consumers and the private sector are also involved in the management of pumping stations in the water industry, which allows for the organization of management in accordance with the requirements of this location and has a positive effect on the very efficient and economical consumption of water, unlike the methods of managing the water industry infrastructure that were previously used uniformly for the entire region. shows.

References:

1. Law of the Republic of Uzbekistan dated January 22, 2021, No 669 "On amendments and additions to some legal documents of the Republic of Uzbekistan in connection with the improvement of the legislation on public-private partnership, as well as declaring some legal documents as invalid". <https://lex.uz/docs/5235535>.
2. Decree of the President of the Republic of Uzbekistan dated July 10, 2020, No. PD-6024 "On approval of the concept of water management development of the Republic of Uzbekistan for 2020-2030". <https://lex.uz/docs/4892953>.
3. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated April 26, 2020, No. 259 "On improving the procedure for the implementation of public-private partnership projects". <https://lex.uz/docs/4798603>
4. Umurzakov U.P., Dusmuratov G.D. "Public-private partnership in agriculture and water management". Textbook. – T: 2019. - 288 page
5. Djumaniyazov U.I. "Some theoretical and methodological issues of corporate management development based on public-private partnership" "Economics and innovative technologies" scientific electronic journal. No. 3, May-June, 2017, www.iqtisodiyot.uz. 12 page.
6. Oblomurodov N.N. "Attracting foreign direct investments on the basis of public-private partnership" "International Finance and Accounting" scientific electronic journal. No. 6, December, 2018. 6 pages.
7. Bekimbetova G.M. "Public-private partnership - the potential for the development of investment projects in Uzbekistan" "International Finance and Accounting" Scientific electronic journal, No. 4-5, August-October, 2018. 9 page.
8. Shafkarov F.Kh. "Public-private partnership in water management" Journal "Agroiqtisodiyot" No. 2, Tashkent. 2018 B. 45-48.
9. Kamaletdinov U. "Ways of developing PPP mechanisms in the energy sector of Uzbekistan". <https://finance.uz/index.php/ru/fuz-menu-economy-ru/4501>.
10. Muminov Sh. "Economic models of public-private partnership in water management" "The collection of materials of the republican scientific-practical conference on priority directions and implementation mechanisms for the development of public-private partnership in agriculture and water management" May 1-2, 2019. Tashkent 2019 p. 517-521.
11. Dusmuratov R.D. "Justification of payback periods of investments involved in public-private partnership" "Collection of materials of the republican scientific-practical conference on the priority directions and implementation mechanisms of the development of public-private partnership in agriculture and water management", May 1-2, 2019. Tashkent 2019 p. 350-354.
12. Rashidov J., Shoibekov T. "Development of water management infrastructures on the basis of public-private partnership" "Collection of materials of the republican scientific-practical conference on the priority directions and implementation mechanisms of the development of public-private partnership in agriculture and water management" May 1-2, 2019. Tashkent 2019 p. 251-253.
13. Asian Development Bank, 2008, "Public-Private Partnership Guidelines", Available online at: <http://www.adb.org/documents/public-private-partnership-ppp-handbook-ru>.
14. UNECE "Practical guidance on the issue of effective management in the field of public-private partnership", [Electron. resource], Geneva, 2008 - Access mode: https://www.unecce.org/fileadmin/DAM/ceci/publications/ppp_r.pdf
15. Margolina E. V., Spitsyna T. A. "Mechanisms for stimulating and financial support for the development of water management" Monograph - M. : Megapolis LLC, 2018. - 113 p.
16. V.F. Stukach, E.V. Shevchenko "Water management infrastructure of the agro-industrial complex" Monograph - Omsk: LLC IPC "Sphere", 2009. - 172 p.