

APPLICATION OF PUBLIC-PRIVATE PARTNERSHIP MECHANISMS IN THE CONSTRUCTION OF IRRIGATION AND MELIORATION FACILITIES

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Abstract

The article outlines the features of the construction of irrigation and land reclamation facilities as investment objects that must be taken into account when assessing their economic efficiency. The study shows that PPP is successfully used in various sectors of the economy, including in the construction of irrigation and land reclamation facilities. A general scheme of the mechanism for implementing a PPP project is proposed. The indicators for evaluating a project based on public-private partnership are considered.

Keywords: economic efficiency, irrigation and melioration, water infrastructure, public-private partnership, PPP risks.

Introduction. The importance of investing in the construction of new irrigation and land reclamation facilities, reconstruction or major repairs of existing ones is justified by the need to increase the investment attractiveness of water infrastructure while respecting the interests of all water users. The creation, development and operation of water infrastructure facilities has always been considered the prerogative of the state, but in recent years the situation has changed radically.

Given the growing requirements for the quality of water infrastructure services provided in the context of economic development, the budget deficit and organizational shortcomings that are objectively inherent in the public administration system are increasingly affecting.

However, attempts to introduce full privatization of objects in this area are, as a rule, unsuccessful, since private owners are focused on making a profit, and not on the public utility of hydraulic structures.

A solution to this problem can be the use of public-private partnership (PPP) mechanisms, which are an "intermediate" solution between the complete privatization of infrastructure facilities and the exclusively state-based provision of services [3].

A PPP is an agreement between a government agency and a private partner to create public benefits or provide services. PPP in water management is a mutually beneficial cooperation between public and private partners legally formalized for a certain period of time in order to attract private investment, pool resources and distribute risks for the development, implementation, operation and financing of water infrastructure projects in the field of water management [4].

This agreement has the goal of satisfying demand with greater efficiency and at lower costs than each of the parties to the agreement could do on their own.

In Uzbekistan, in our opinion, it is more correct to put the state in first place, since the institution of public-private partnership is only gaining momentum, methods for assessing PPP projects, and research work on this topic are just beginning to appear. In Uzbekistan in the period 2019–2022. The largest number of PPP projects was in the water sector (157 out of 423 PPP projects in various sectors), the cost of which was \$29.82 million. [7]

In accordance with the Decree of the President of the Republic of Uzbekistan dated June 20, 2023 "On measures for the effective organization of public administration in the field of water management within the framework of administrative reform" by the end of 2030, the Ministry of Water Resources at the lower (district) level of water resources management, farms and others water consumers is established in order to ensure the gradual transfer of the functions of water supply and water accounting to a public-

private partnership. At the same time, the conditions for the transition of water resources management in the districts to public-private partnerships and the development of a standard contract are determined, the definition of specific incentive mechanisms to increase the attractiveness of these projects, and the development of measures for the transfer of water resources management to public-private partnerships.

Materials and methods. To accelerate reforms in the water sector of Uzbekistan, the widespread introduction of modern cost-effective technologies and best practices in water use, a project office has been created. In this case, the project office is authorized to consider and implement project initiatives of business entities that have taken the initiative to implement public-private partnership projects together with the Ministry of Water Resources. Also, based on the network schedule, 52 water management facilities will be transferred to the management of the private sector with high financial potential on the basis of public-private partnership. Thanks to investments from private partners, water management facilities, that is, old pumping units, will be replaced with new, modern energy-efficient units, and irrigation and reclamation facilities will be modernized.

As a result, the efficiency of the canals will increase, the reclamation condition of irrigated lands will improve, unused lands will be reclaimed, new modern energy-efficient pumping units will be installed, which will save energy and save money from the state budget.

The study shows that PPP is successfully used in various sectors of the economy, including in the construction of irrigation and land reclamation facilities [6]. As a result of the use of joint financing, the state gets the opportunity to:

- attracting private investment in areas traditionally covered exclusively by budgetary financing;
- transferring market work to a private partner and focusing on administrative functions;
- attracting management personnel, equipment and technology from the private sector;
- sharing of costs and risks;
- increasing the efficiency and quality of service to end users, reducing project implementation time due to the experience of a private investor.

The private investor, in turn, receives the following benefits:

- entering the sphere of public services that are in constant demand;
- the opportunity to participate in projects that would not be attractive for investment without government participation;
- sharing costs and risks with the state;

- availability of state guarantees in case of unsuccessful project implementation.

The main feature of PPP is that infrastructure facilities – including those built – remain state property and are guaranteed to be used for their public purpose. The state also retains full control over the quality, volume of services and pricing.

Equally important is the distribution of risks between partners. Most of the technical, production and market risks are assigned to the private investor, while macroeconomic, political and legal risks are borne by the state.

One of the main areas of application of PPP is water infrastructure, due to the significant excess of the socio-economic efficiency of water infrastructure projects over the financial benefits of the investor. Also, water infrastructure projects are characterized by high capital intensity and long payback periods; in addition, there are political, economic and social risks, which also reduce their attractiveness for private business.

Public-private partnership is a rather complex hybrid institution. It includes a large number of different forms of interaction between business and government, ranging from simple contracts for the purchase of goods and services to complex concession forms. In terms of implementation mechanisms, PPP is fundamentally different from the traditional public sector in that the state relieves itself of obligations for the direct production of goods and provision of services and transfers this function to the private sector. The state, together with private companies, establishes a special operator organization to produce goods/provide services, which, interacting with consumers, private firms and financial institutions, implements the PPP project. A general scheme of the mechanism for implementing a PPP project is proposed (Fig. 1).

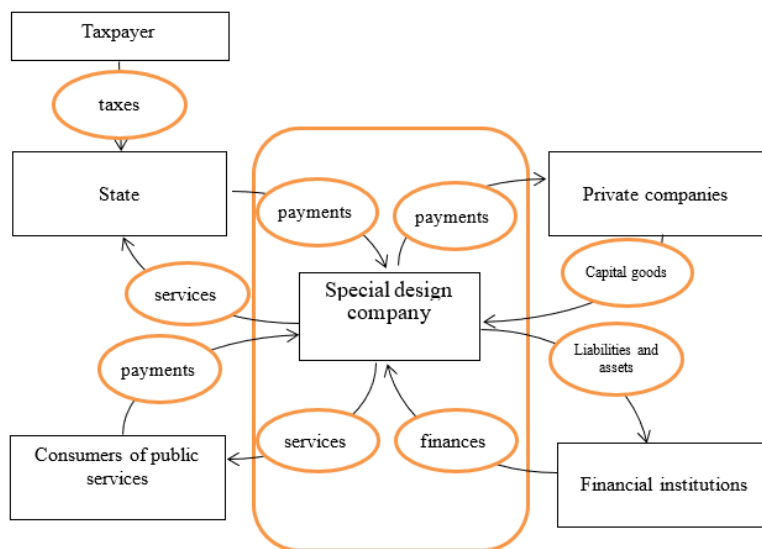


Figure 1. General diagram of the mechanism for implementing a PPP project. Source: compiled by the author.

Within the framework of the PPP mechanism, the state mainly retains the functions of financing, ensuring quality control of work and services, ensuring the implementation of the public and social orientation of projects to social goals, and providing state support for projects.

The PPP mechanism is quite successfully used in the construction and reconstruction of irrigation structures, which allows for an annual increase in agricultural production. When implementing projects, the following forms of financing are used within the framework of PPP.

1) Co-financing the implementation of investment projects from the republican budget and extra-budgetary sources. Those wishing to implement such projects (citizens of the republic, agricultural enterprises, residents) enter into an investment agreement or a public-private partnership (PPP) agreement and receive compensation for part of the costs of construction and reconstruction of facilities. In this case, 50% of the costs associated with the use of each hectare of agricultural land are reimbursed at a time at the expense of the State Budget in a part not exceeding 50 BRV - the basic calculated amount (subsidy). The remaining part of the costs is covered by the investor's own funds.

2) Financing of investment projects from extra-budgetary sources with subsequent compensation of costs of private investors for the creation of state-owned objects under a contract with installment payments, or under existing lease agreements.

However, the prospects for the implementation of projects for the construction of irrigation facilities in the current economic conditions show the need to improve the PPP mechanism in order to reduce the burden on the republican budget and, as a result, increase the share of extra-budgetary sources of financing projects at the expense of investors' own and borrowed funds.

The implementation of PPP projects requires strict control over the effective use of funds. For this purpose, the Cabinet of Ministers adopted Resolution No. 558 dated October 23, 2023 "On approval of the Regulations on the procedure for managing the state's fiscal obligations that may arise from public-private partnership projects." The regulation regulates the procedure for managing, reviewing and agreeing on direct and conditional (hereinafter referred to as fiscal) obligations of the state that may arise from PPP projects at the stage of: implementation; implementation expectations; preparation; tender.

Direct obligations of the state are payments that have specific amounts, terms and conditions of payment specified by the state partner in the PPP agreement. These include: one-time advances; constant payments; payments due upon achievement of agreed results; payments payable depending on the level of use of a particular service; subsidies.

Contingent obligations of the state are possible financial obligations to the State budget in the future, as well as the size and volume of which during the implementation of the PPP project is not determined.

The Ministry of Economy and Finance carries out the functions of reviewing, agreeing, maintaining records, managing and regulating fiscal obligations that may arise from PPP projects.

Therefore, issues related to assessing the overall economic efficiency of PPP projects, which is expressed, first of all, in the project's contribution to the growth of domestic regional product, the growth of budgetary efficiency (growth of tax revenues), the financial efficiency of the project related to the profitability and payback period of the project [5] become relevant. .

However, criteria such as net present value, project payback period, internal rate of return, profitability index, take into account only the direct effects that arise during the construction or reconstruction of irrigation and land reclamation facilities, and, therefore, underestimate the magnitude of the effects per amount of invested funds.

For a comprehensive assessment of the effectiveness of the construction of new irrigation and land reclamation facilities, as well as the reconstruction of existing ones, it is necessary to take into account such features as:

- the main source of financing for the construction of hydraulic structures and their maintenance is the republican budget;
- lack of usual financial flows, because services are not sold;
- high capital intensity of hydraulic engineering construction projects;
- the economic effect is manifested in related sectors of the economy (for example, tourism).

N.V. Gorodnova, A.A. Peshkova, I.S. Rozhentsov identified generalized groups of performance indicators for projects using PPP tools based on reflecting a systematic approach to organizing mutually beneficial cooperation of all interested parties: representatives of business, government, society as a whole (Fig. .2).

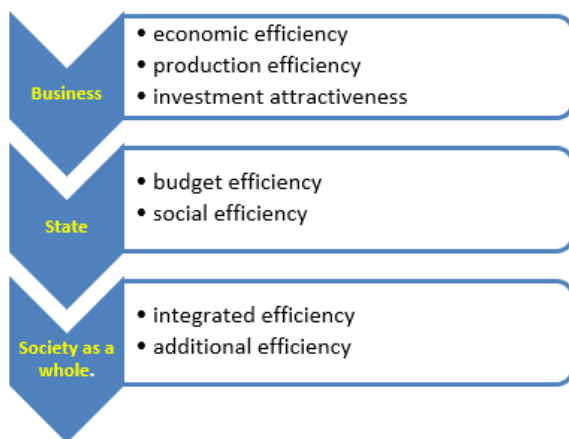


Figure 2. A systematic approach to the effectiveness of PPP projects.

Discussion. In our opinion, the indicators for evaluating a project based on public-private partnership [10] are:

- for the public partner: budget efficiency, social efficiency, risk distribution;
- for a private investor: investment attractiveness, economic efficiency, risk distribution.

Let's look at these indicators in more detail.

The budgetary efficiency of an investment project characterizes its attractiveness for government authorities in terms of the ratio of expenses and income of budgets of all levels, which are accumulated in the investment project.

There are no usual financial flows in projects of this type, due to the lack of implementation as such. Thus, "income" from the construction of hydraulic structures can be:

- taxes paid by producers of agricultural products;
- a single social tax on the wages of members of the farm and workers of the facility itself (hydraulic structure);
- tax on income of individuals of the above categories of workers;
- income from related sectors of the economy (for example, tourism).

Outgoing cash flows in this case may be:

- capital investments for construction and installation works and planning and design surveys for the project;
- costs of increasing working capital associated with the need to ensure the operation of irrigation and land reclamation facilities that have been built and are in operation;

- operational (production) costs for maintaining the facility (excluding depreciation).

The social efficiency of the construction of irrigation and land reclamation facilities on the basis of PPP is designed to take into account the consequences of the investment project for society as a whole, that is, not only the direct financial costs and results of the project itself, but also "external" ones - in related sectors of the economy, environmental, social and other non-economic effects that can have both quantitative and qualitative indicators of their measurement.

If there are standards and methods of departmental and intersectoral nature, it is recommended to take into account effects of this kind in quantitative form, but at the moment such methods have not been developed, therefore it is possible to take into account only qualitative signs of social and public efficiency.

The social aspects of the social efficiency of the construction of irrigation and land reclamation facilities lie in the creation of new jobs, the overall development of the territory, the emergence of new infrastructure and city-forming objects - public utility services, transport, road, energy and other support for production facilities and housing estates.

The following can be considered as criteria for the economic (financial) efficiency of new irrigation and land reclamation facilities:

- reducing the cost of agricultural products by improving the operation of water infrastructure;
- profit growth directly in all elements of water infrastructure;
- increase in profit from agricultural enterprises in newly developed territories, etc.

When determining the investment attractiveness of a project, it is impossible to reduce all the many factors and the combination of various interests of potential participants to just the economic aspect of the investment project [12]. Such an approach turns out to be all the more incorrect the more the external environment of the project is characterized by general instability, imperfection of the legislative system and underdeveloped market relations (primarily the capital market).

In conditions of so-called "perfect competition", the criterion for the effectiveness of an investment project is the level of profit received on invested capital. At the same time, profitability, profitability or profitability should be understood not simply as capital growth, but as such a rate of increase in the latter, which, firstly, fully compensates for the general (inflationary) change in the purchasing power of money during the period under review, and secondly, will provide a minimum guaranteed level profitability and, thirdly, will cover the investor's risk associated with the implementation of the project.

Conclusion and suggestions. Therefore, a state guarantee is provided to business entities that have put into use, repaired or re-created unusable water wells, irrigation pumps, irrigation and reclamation networks on the basis of an investment agreement or on the terms of a public-private partnership with the aim of putting into use rainfed, pasture and other agricultural lands destination [8].

Another important aspect of public-private partnership is risk distribution [9]. The most significant risks for the state are:

- technical errors at the stage of developing an investment project in the field of hydraulic engineering;

- choice of an irrational form of public-private partnership;
- dishonesty on the part of the private partner;
- low quality of services provided to consumers by the private partner.

The totality of risks for a private partner can be divided into four large groups:

- risks caused by the activities of government authorities (changes in the regulatory framework in the field of PPP, the risk of reduction or termination of project financing in the event of changes in budget spending priorities, etc.);
- risks associated with the participation of the state as a partner in public-private partnership projects (lack of real responsibility of government agencies for the implementation of the project, lengthy process of approval of various aspects of the project within the state, etc.);
- business risks of public-private partnership projects (inadequate fulfillment of contract terms by government authorities, difficulty in exiting the project and return of investments, etc.);

- risks associated with protests by the population, public and international organizations.

Commercial, environmental and social risks can be assumed jointly by the parties. As a rule, the public partner assumes political and legal risks. Also, special attention in PPP projects in the field of construction and operation of irrigation and land reclamation facilities should be paid to the risks associated with environmental measures.

The decision to participate in a PPP project or support it must be made taking into account its other assessments and criteria, which in each specific case are formed based on the goals facing the project participants, the conditions for the implementation of the project and the risks associated with it, as well as other factors that often may not have a quantitative expression.

References:

1. Decree of the President of the Republic of Uzbekistan dated June 20, 2023 № PD-101 "On measures for the effective organization of public administration in the field of water management within the framework of administrative reform." <https://lex.uz/ru/docs/6508461>.
2. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated October 23, 2023 №. 558 "On approval of the Regulations on the procedure for managing the state's fiscal obligations that may arise from public-private partnership projects." <https://lex.uz/ru/docs/6643973>.
3. Khairbekov A.U. Development of land reclamation on the principles of public-private partnership // Economic Sciences. 2019. № 5 (174), p. 138-143.
4. Muminov Sh.Kh. Economic models of public-private partnerships in water management. // Collection of articles of the republican scientific and practical conference on the topic "Priority directions and mechanisms for implementing the development of public-private partnerships in agriculture and water management." Tashkent - 2019. - p. 515-519.
5. Dismuratov R.D. Justification of the payback period for investments made within the framework of public-private partnerships // Collection of articles of the republican scientific and practical conference on the topic "Priority directions and mechanisms for implementing the development of public-private partnerships in agriculture and water management." Tashkent - 2019. - p.350-354.
6. Novikova S.M., Providonova N.V., Nesmyslenov A.P. Public-private partnership as a factor in the restoration of irrigated agriculture in the region // Scientific review: theory and practice. - 2017. - № 2. - p. 37- 45.
7. Public-private partnership in the irrigation sector: what can Central Asia learn from global experience? Water in Central Asia. Yearbook 2022. Tashkent-2023. http://cawater-info.net/yearbook/2022/12_yearbook2022_06_ru.htm/
8. Farmers of Uzbekistan are compensated for expenses when optimizing or liquidating their farms | Agricultural news | APK-Inform: vegetables & fruits (fruit-inform.com). <https://www.fruit-inform.com/ru/news/183971>
9. Political Risk and Policy Responses/ <https://documents1.worldbank.org/curated/en/387801576142339003/pdf/Political-Risk-and-Policy-Responses.pdf>
10. A.V. Trynov. Methodology for assessing the economic efficiency of investment projects implemented on the principles of public-private partnership // Regional Economics. - 2016. - Т.12, вып. 2. -p.602-612. https://elar.urfu.ru/bitstream/10995/91979/1/2016_12_2_023.pdf?ysclid=lpyfy6jerf162526674
11. Gorodnova N.V., Peshkova, A.A., Rozhentsov I.S. Modeling a system for assessing the effectiveness of public-private partnerships in the digital economy // Business. Education. Right. 2019. pp. 32-38.
12. Lima, Sónia & Brochado, Ana & Marques, Rui Cunha, 2021. "Public-private partnerships in the water sector: A review," Utilities Policy, Elsevier, vol. 69(C).