НОВАЯ ЭРА НАУКИ И ЗНАНИЙ
МЕЖДУНАРОДНЫЙ НАУЧНЫЙ ЖУРНАЛ
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ҲУДУДИЙ ИНФРАТУЗИЛМАНИ РИВОЖЛАНТИРИШДА ХАЛҚАРО МОЛИЯ ИНСТИТУТЛАРИ МАБЛАҒЛАРИДАН ФОЙДАЛАНИШ САМАРАДОРЛИГИНИ ОШИРИШ ЙЎНАЛИШЛАРИ

UDC: 332.1:336.1:339.7

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Аннотация

Мақолада ҳудудий инфратузилмани ривожлантиришда халқаро молия институтлари маблағларидан фойдаланиш самарадорлигини ошириш масалалари тадқиқ этилган. Жаҳон банкининг Program-for-Results (PforR) инструменти ва Ўзбекистондаги Қишлоқ инфратузилмасини ривожлантириш дастури мисолида натижага асосланган молиялаштиришнинг афзалликлари таҳлил қилинган. Ҳудудий эҳтиёжларни баҳолаш, натижа кўрсаткичларини жорий этиш, ҳаётий цикл харажатларини ҳисобга олиш, рақамли мониторинг ҳамда ҳудудий самарадорлик индексини қўллаш бўйича таклифлар ишлаб чиқилган.

Калит сўзлар: ҳудудий ривожланиш, инфратузилма, халқаро молия институтлари, Жаҳон банки, PforR, натижага асосланган молиялаштириш, самарадорлик.

НАПРАВЛЕНИЯ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ ИСПОЛЬЗОВАНИЯ СРЕДСТВ МЕЖДУНАРОДНЫХ ФИНАНСОВЫХ ИНСТИТУТОВ В РАЗВИТИИ РЕГИОНАЛЬНОЙ ИНФРАСТРУКТУРЫ

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Аннотация

В статье исследуются вопросы повышения эффективности использования средств международных финансовых институтов при развитии региональной инфраструктуры. На примере инструмента Всемирного банка Program-for-Results и Программы развития сельской инфраструктуры Узбекистана рассмотрены преимущества финансирования, ориентированного на результаты. Предложены оценка региональных потребностей, система результативных показателей, учёт затрат жизненного цикла, цифровой мониторинг и индекс региональной эффективности.

Ключевые слова: региональное развитие, инфраструктура, международные финансовые институты, Всемирный банк, PforR, финансирование по результатам, эффективность.

DIRECTIONS FOR INCREASING THE EFFICIENCY OF THE USE OF INTERNATIONAL FINANCIAL INSTITUTIONS' FUNDS IN REGIONAL INFRASTRUCTURE DEVELOPMENT

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Abstract

The article examines approaches to improving the efficiency of international financial institutions' funds used for regional infrastructure development. Particular attention is paid to the World Bank's Program-for-Results instrument and

Uzbekistan's Rural Infrastructure Development Program. The study proposes regional needs assessment, results-based indicators, life-cycle financing, digital monitoring, and a Regional Infrastructure Efficiency Index. These measures can improve resource allocation, accountability, and the long-term socioeconomic effectiveness of infrastructure investment.

Keywords: regional development, infrastructure, international financial institutions, World Bank, PforR, results-based financing, efficiency.

1. Introduction

Infrastructure is one of the key determinants of regional economic development. Reliable roads, water supply, electricity, education and healthcare facilities improve access to markets and public services, reduce transaction costs, and support private investment. At the same time, inadequate infrastructure may deepen territorial disparities and constrain economic activity.

In developing economies, infrastructure needs often exceed the capacity of national and local budgets. Therefore, concessional loans, grants, and technical assistance from international financial institutions play an important role in financing regional development.

For Uzbekistan, infrastructure development is closely linked to national strategic priorities. The Uzbekistan–2030 Strategy provides for more than 500 strategic technological and infrastructure projects with a total value of USD 150 billion and places particular emphasis on improving the investment attractiveness of regions (President of the Republic of Uzbekistan, 2023).

The Public Finance Management Strategy for 2025–2030 also identifies the efficiency of public expenditure and public investment as a priority and emphasizes

results-oriented budgeting and stronger monitoring (Cabinet of Ministers of Uzbekistan, 2025).

Therefore, infrastructure financing should not be assessed only by the volume of funds allocated or the number of facilities constructed. It is also necessary to evaluate whether infrastructure improves accessibility, service quality, economic activity, and long-term sustainability.

The purpose of this study is to develop proposals for improving the efficiency of international financial institutions' funds allocated to regional infrastructure development in Uzbekistan.

2. Conceptual Framework and Methodology

The World Bank applies three main financing instruments: Investment Project Financing, Development Policy Financing, and Program-for-Results Financing (World Bank, 2026a).

Investment Project Financing primarily supports specific projects and activities. Development Policy Financing supports policy and institutional reforms. Program-for-Results Financing differs by linking disbursement directly to the achievement of predetermined and verified results (World Bank, 2026b).

PforR was introduced in 2012. As of March 27, 2026, 221 active PforR operations represented USD 68.4 billion in financing (World Bank, 2026b).

A central feature of PforR is the use of national institutions and administrative systems. Financing is linked to Disbursement-Linked Indicators, meaning that the timing and amount of disbursement depend on the achievement of agreed results (World Bank, 2026c).

The difference between traditional and results-oriented financing may be presented as follows:

Traditional model:

Financial resources → expenditure → infrastructure object

Results-oriented model:

Financial resources → verified result → improved service → socioeconomic impact

Thus, the construction of an infrastructure facility should not be treated as the final result. The main objective is the improvement of services and socioeconomic conditions.

The study uses systematic analysis, comparative analysis, financial assessment, and results-chain analysis. The analytical framework includes five components: financial efficiency, infrastructure efficiency, service efficiency, socioeconomic efficiency, and long-term sustainability.

The empirical case is the Second Phase of Uzbekistan's Rural Infrastructure Development Program. The study relies mainly on official World Bank materials and regulatory documents of Uzbekistan. Since detailed counterfactual data are not available, the proposed indicators are considered a methodological framework rather than empirically proven causal estimates.

3. Results and Discussion

3.1. Results-based infrastructure financing in Uzbekistan

Uzbekistan's current public investment policy increasingly focuses not only on the volume of investment but also on its effectiveness. The Public Finance Management Strategy for 2025–2030 emphasizes public investment efficiency,

monitoring, fiscal accountability, and results-oriented budgeting (Cabinet of Ministers of Uzbekistan, 2025).

However, several issues remain. Regional infrastructure needs differ considerably; completion of construction does not always guarantee improvement in public services; maintenance financing is often treated separately from capital investment; and financial, physical, and social performance data may be fragmented across different institutions.

These problems create the need for a unified system linking financial resources with measurable outcomes.

3.2. Rural Infrastructure Development Program

The Second Phase of the Rural Infrastructure Development Program provides an important practical example of results-oriented financing in Uzbekistan.

On June 17, 2026, the World Bank approved USD 150 million in concessional financing through the International Development Association (World Bank, 2026d).

The total program budget amounts to **USD 340 million**, including:

World Bank — USD 150 million;

Asian Infrastructure Investment Bank — USD 120 million;

Government of Uzbekistan — USD 70 million.

Their respective shares are:

150 / 340 × 100 = 44.1% — World Bank;

120 / 340 × 100 = 35.3% — AIIB;

70 / 340 × 100 = 20.6% — Government of Uzbekistan.

The program covers **296 mahallas** in Andijan, Fergana, Namangan, Jizzakh, Syrdarya, and Tashkent regions (World Bank, 2026d).

During the first phase, more than 900 subprojects were financed in 306 rural mahallas. These included more than 340 roads, 220 electricity systems, 160 water systems, about 100 schools, 40 preschools, and 10 bridges. Approximately one million rural residents benefited from these investments (World Bank, 2026d).

The second phase aims to improve infrastructure and services for about **1.2 million rural residents** by 2031, including around 600,000 women and 300,000 young people. Fifteen pilot mahallas are also expected to receive Common Facility Centers supporting local entrepreneurs and contributing to approximately 1,500 direct jobs (World Bank, 2026d).

An important feature is that financing is released after agreed results and implementation milestones are achieved. This strengthens the link between expenditure and measurable performance.

3.3. Improving Project Selection and Performance Indicators

The first proposed improvement is the introduction of a unified **Regional Infrastructure Needs Assessment** framework.

Project selection should take into account the following factors:

the population affected by infrastructure shortages;

the current level of service coverage;

the technical condition of existing infrastructure;

poverty and vulnerability indicators;

the expected number of beneficiaries;

business and employment potential;

project cost per beneficiary;

expected improvements in service delivery;

future maintenance costs.

Such an approach would allow limited financial resources to be directed toward projects that generate the highest expected economic and social returns.

The second improvement is to shift the emphasis from physical outputs to service outcomes.

For road infrastructure projects, performance may be assessed through reductions in travel time and transportation costs, as well as improvements in market accessibility.

For water supply projects, performance indicators should include population coverage, continuity of service, and water quality.

For electricity infrastructure, indicators may include reductions in the duration and frequency of outages, as well as the number of newly connected households and businesses.

Therefore, the central question should not be limited to how much infrastructure has been constructed, but should also address the extent to which the quality, accessibility, and reliability of public services have improved.

3.4. Life-Cycle Financing and Digital Monitoring

The third proposed direction is the introduction of a life-cycle financing approach. Infrastructure efficiency depends not only on initial construction expenditure but also on future operation, maintenance, repair, and modernization costs.

The general life-cycle cost can be expressed as follows:

$$LCC = C_0 + \Sigma(Ct / (1+r)^t)$$

where:

LCC — life-cycle cost;
C_0 — initial capital expenditure;
Ct — operating and maintenance costs in period *t*;
r — discount rate;
t — project period.

This approach makes it possible to compare investment alternatives based on their total long-term cost rather than solely on the initial construction expenditure.

The fourth direction is the establishment of an integrated digital monitoring system. Such a system should combine financial data, procurement information, implementation progress, geographic coordinates, photographic verification, result indicators, service quality indicators, beneficiary feedback, and maintenance status.

The monitoring chain may be represented as follows:

Financing → Procurement → Implementation → Commissioning → Service Delivery → Results

Such integration would strengthen coordination among the Ministry of Economy and Finance, sectoral ministries, regional authorities, project implementation units, international financial institutions, and audit bodies.

3.5. Regional Infrastructure Efficiency Index

For comparative evaluation, this study proposes a **Regional Infrastructure Efficiency Index (RIEI)**:

$$\mathbf{RIEI = w_1F + w_2E + w_3S + w_4Q + w_5L}$$

where:

F — financial efficiency;
E — economic effectiveness;
S — social effectiveness;
Q — quality and reliability of infrastructure services;
L — long-term sustainability;
$\mathbf{w_1 ... w_5}$ — weights assigned to the respective indicators.

Financial efficiency may include project delays, cost overruns, and disbursement performance. Economic effectiveness may include employment creation, business activity, and improved market access. Social effectiveness may include population coverage and accessibility for vulnerable groups. Service quality may reflect reliability and continuity, while long-term sustainability may include maintenance financing, institutional responsibility, and asset condition.

The proposed index requires empirical testing before practical application. Nevertheless, it may serve as a methodological basis for comparing the performance of infrastructure projects and regions.

4. Policy Recommendations

Based on the analysis, the following policy directions are proposed.

First, a unified methodology for assessing regional infrastructure needs and prioritizing projects should be introduced.

Second, the use of results-based indicators should be expanded to include service quality, accessibility, reliability, and socioeconomic impact.

Third, life-cycle cost analysis should become a mandatory component of project appraisal, while future sources of operation and maintenance financing should be identified before project approval.

Fourth, an integrated digital monitoring platform should be established to link financing, procurement, implementation progress, achieved results, and post-completion performance.

Fifth, a comparative Regional Infrastructure Efficiency Index should be introduced to identify effective projects, detect underperforming investments, and improve future resource allocation.

These measures are consistent with Uzbekistan's ongoing transition toward results-oriented public finance management and greater efficiency in public investment (Cabinet of Ministers of Uzbekistan, 2025).

5. Conclusion

Increasing the efficiency of international financial institutions' funds in regional infrastructure development requires a transition from input-oriented financing toward measurable, verifiable, and sustainable results.

The World Bank's Program-for-Results instrument provides an important model because it links financing to verified results while strengthening the use of national institutions, monitoring systems, and accountability mechanisms.

Uzbekistan's Second Phase of the Rural Infrastructure Development Program, with a total budget of USD 340 million and coverage of 296 mahallas, demonstrates the practical relevance of this approach.

The main conclusion is that infrastructure financing should move from the question **"How much money was spent?"** toward the question **"What sustainable result was achieved with the resources used?"**

To achieve this transition, project selection should be based on regional needs, performance indicators should measure service outcomes, infrastructure costs should be evaluated over the entire life cycle, monitoring should be digitized, and project effectiveness should be compared through a standardized regional efficiency framework.

Future research should empirically test the proposed index using regional and project-level data and assess the impact of infrastructure investment on employment, productivity, household welfare, and business activity.

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