COMPREHENSIVE PROGRAM-BASED PUBLIC–PRIVATE PARTNERSHIP AS A TOOL FOR ADDRESSING INTRA-STATE REGIONAL CHALLENGES IN THE COUNTRIES OF CENTRAL ASIA

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ABSTRACT

Public–private partnerships (PPPs) have become an important instrument for financing infrastructure and supporting socio-economic development in Central Asia. However, their application remains predominantly project-based and sector-specific, limiting their contribution to balanced regional development. This study analyzes current PPP practices in the region and introduces the concept of Comprehensive Program-Based Public–Private Partnership (CPB-PPP) as a model based on the coordinated delivery of interconnected projects across multiple sectors within a unified territorial development programme to generate synergistic socio-economic outcomes.

1.Introduction

Central Asia has historically been characterized by pronounced socio-economic disparities resulting from a combination of geographical, climatic, institutional, and economic factors. The region faces a number of structural constraints, including its continental arid climate, severe water scarcity, and the uneven distribution of productive capacities and infrastructure. Following the dissolution of the Soviet Union and the subsequent economic transformation of the newly independent Central Asian states, these disparities became even more pronounced due to the unequal distribution of investment activity. The persistent concentration of capital in major urban centers has naturally widened the development gap between capital cities and other regions within individual countries.

Despite numerous reforms and government support measures, regional areas remain considerably less attractive to investors because of the relatively lower capitalization of regional projects compared to those located in capital cities. As a result, many regions experience significant outward migration driven by limited employment opportunities and the pursuit of higher living standards. Although migration has historically been a natural socio-economic process, under the conditions of increasing globalization it also generates a range of adverse consequences, including labor market dumping, intensified competition for jobs, higher unemployment resulting from increased labor supply, and growing pressure on urban infrastructure and public services. Collectively, these factors undermine the long-term sustainability of territorial development and create new challenges for governments seeking to ensure balanced national development.

Reducing regional disparities has therefore become one of the key priorities of state economic policy, as it is directly linked to balanced economic growth, social stability, and the efficient utilization of regional resource potential. Nevertheless, despite substantial reform efforts, the countries of Central Asia continue to experience significant structural imbalances in comparison with more developed economies. Two major factors largely explain this situation: the shortage of financial resources required for large-scale investments in fixed assets and infrastructure, and the insufficient availability of qualified human capital necessary to support comprehensive modernization across various sectors of the economy. Consequently, while structural transformation remains essential, the effectiveness of government initiatives largely depends on the mechanisms through which they are implemented.

The range of financial instruments available to governments for financing reforms and regional development is inherently limited. These instruments primarily include tax revenues, national and regional development funds and reserves, sovereign borrowing through international financial institutions, grants and international technical assistance, government bond issuance, as well as the privatization and sale of public assets. While each of these instruments has its own advantages and disadvantages, their application is frequently associated with increasing public debt, constrained fiscal resources, and a growing dependence on external financing.

Against this background, public–private partnership (PPP) has become an increasingly important alternative mechanism for attracting private investment and improving the efficiency of infrastructure, social, and industrial development initiatives.

2. Current State of PPP Development in Central Asia

The development of PPPs across Central Asia demonstrates a clear upward trend characterized by the gradual expansion of PPP applications and the increasing substitution of debt-financed public investment with private capital. This reflects a broader shift toward mobilizing private sector resources to support national development priorities.

Uzbekistan currently holds a leading position in the region in terms of both the size of its PPP portfolio and the number of implemented projects, despite having a shorter history of PPP implementation than Kazakhstan. By the end of 2025, the country's PPP portfolio comprised 2,818 projects with a total value of UZS 437.9 trillion, representing a 2.5-fold increase in the number of projects and a 20% growth in portfolio value compared with the previous year. The expansion in project numbers was driven primarily by non-energy sectors, with the water sector accounting for 1,855 projects (65.8% of the total portfolio). This was followed by education (312 projects), heating systems for social institutions (171 projects), and construction (99 projects). In value terms, however, the portfolio remained heavily concentrated in the energy sector, where 86 energy projects, including wind, solar, and thermal power generation, accounted for 92.6% of the total portfolio, equivalent to UZS 408.1 trillion.

Kazakhstan, by contrast, is widely recognized as the regional pioneer in PPP implementation and has gradually shifted its focus from numerous small-scale contracts toward large infrastructure projects. According to the Kazakhstan Public–Private Partnership Center, as of March 2026, 1,106 PPP and concession agreements with a total value of KZT 2,744.3 billion had been concluded. More than 88% of these agreements (in terms of project numbers) were concentrated in three key sectors: education, healthcare and social services, and energy and public utilities. However, in value terms, approximately 35% of the total portfolio was concentrated in the transport and infrastructure sector.

Kyrgyzstan has experienced the fastest rate of PPP expansion in the region. While only three PPP projects were being implemented in 2023, the country had launched more than ninety projects by the beginning of 2026. During the same period, the total volume of private investment exceeded KGS 434 billion, with PPP activity primarily concentrated in transport and logistics, healthcare, agriculture, environmental protection and waste management, tourism, education, and telecommunications.

The public–private partnership (PPP) market in Tajikistan remains less developed than those of its neighboring countries. Nevertheless, PPP has become one of the country's key economic policy instruments, contributing to improvements in the investment climate, infrastructure development, and overall economic competitiveness. Alongside large-scale infrastructure concessions, Tajikistan's PPP portfolio also includes relatively small municipal projects. The country's strategic development priorities continue to focus on the energy sector-with particular emphasis on renewable energy-together with water supply and transport infrastructure. However, comprehensive information on the number and total value of PPP transactions is not publicly available.

Turkmenistan, in turn, has been actively introducing PPP mechanisms, gradually moving toward collaborative development models involving both the public and private sectors. The promotion of PPP has become a strategic priority of the country's economic policy following the adoption of the Law on Public–Private Partnership in 2021. Priority sectors for PPP implementation include transport and logistics infrastructure, energy, agribusiness, the digital economy, urban infrastructure, and tourism. At the same time, compared with Uzbekistan, Kazakhstan, and Kyrgyzstan, Turkmenistan's PPP market remains relatively opaque, limiting opportunities for private sector participation while simultaneously indicating considerable potential for future PPP expansion.

Overall, although the countries of Central Asia have made substantial progress in applying PPP mechanisms to address their national development priorities, PPP implementation remains largely project-based and sector-specific. In terms of portfolio value, the dominant sectors are energy, water management, transport and logistics, and infrastructure development. Despite differences in the scale and institutional maturity of national PPP markets, all Central Asian countries exhibit a common pattern characterized by the predominance of sectoral projects over integrated regional development programmes.

Current PPP practice is primarily focused on the implementation of individual, geographically isolated projects that fail to capture the interdependencies among economic sectors and territorial systems. One notable exception is the cluster approach, which nevertheless remains confined to coordinating related projects within a single industry or economic cluster. Likewise, conventional PPP models-including Build–Operate–Transfer (BOT), Build–Own–Operate–Transfer (BOOT), concession agreements, and other contractual arrangements-are designed to allocate risks, responsibilities, and revenues between public and private partners within the boundaries of a single project. As a result, there is still no comprehensive conceptual framework capable of integrating individual PPP projects into a coherent system of interconnected initiatives aimed at achieving strategic regional development objectives within a country.

Recent international studies have explored the bundling of related PPP projects as a means of improving contract implementation, reducing transaction costs, and achieving economies of scale. More recently, the concept of geographical bundling has emerged as a policy instrument for financing transport infrastructure projects while simultaneously promoting regional economic development. However, the concept of a comprehensive regional programme as an independent object of strategic governance-bringing together interconnected PPP projects from multiple sectors within a unified regional development framework-remains insufficiently developed in the existing academic literature.

3.Conclusion

The present study proposes the concept of Comprehensive Program-Based Public–Private Partnership (CPB-PPP), which is defined as a model of public–private partnership organization based on the implementation of a unified territorial development programme through the coordinated delivery of interconnected projects across multiple sectors, aimed at generating synergistic socio-economic outcomes.

The transition from the conventional project-based application of public–private partnerships (PPPs) to a program-based approach, founded on the integration of interconnected projects across multiple sectors, represents both a significant scientific challenge and a promising direction for practical implementation. The inherent flexibility of the PPP mechanism enables its adaptation to diverse sectoral and territorial contexts. This characteristic underscores the need to develop scientifically grounded approaches to the systematic application of PPPs that account for the interdependencies among individual projects and the specific features of regional economies. Despite the extensive international experience in PPP implementation, the development and application of comprehensive program-based PPP models at the scale of an individual region within a country remain insufficiently explored, particularly in the context of transition economies.

Providing a solid theoretical foundation for a program-based approach to PPP implementation is essential for achieving accelerated and coordinated regional transformation. Future research should therefore focus on developing a methodological framework for designing program-based PPPs, incorporating mechanisms for cross-sectoral coordination, synchronization of investment cycles, integrated performance assessment, and comprehensive risk management. Particular attention should also be devoted to institutional arrangements capable of aligning the interests of governments and private investors within long-term regional development programmes.

The implementation of a comprehensive program-based PPP approach, based on the coordination of interconnected projects within a unified regional development programme, has the potential to substantially reduce pressure on public finances while generating greater socio-economic benefits. These benefits include enhanced regional investment attractiveness, reduced outward migration, and improvements in the overall quality of life.

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