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# The Importance and Practice of International Financing in The Forestry Sector

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**Abstract:** This article analyzes the role, importance and practical mechanisms of international financing in the forestry sector of Uzbekistan. Major projects implemented by international institutions such as the World Bank, ADB, EBRD, GEF, GCF and UNDP during 2021–2024, their financial volume, target areas and territorial coverage are highlighted. The results of the study demonstrate the effectiveness of international financial resources in restoring forest ecosystems, combating soil degradation, preserving biodiversity, adapting to climate change and providing employment to the local population. The article also presents institutional, technical and strategic proposals for developing cooperation with international financial institutions, including the Forest Investment Pipeline, donor coordination mechanisms and a multi-source financing model. The study substantiates the strategic importance of international financing in the sustainable development of forestry.

**Keywords:** Forestry, international financing, donors, grants, GEF, GCF, World Bank, climate adaptation, sustainable development, ecological governance, agroforestry, institutional capacity, ecosystem services

**Citation:** Mamirjanovna, M. M  
The Importance and Practice of  
International Financing in The  
Forestry Sector. Central Asian  
Journal of Theoretical and  
Applied Science 2026, 7(2), 31-  
36

Received: 10<sup>th</sup> Nov 2025

Revised: 21<sup>th</sup> Dec 2025

Accepted: 01<sup>th</sup> Jan 2026

Published: 14<sup>th</sup> Feb 2026



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## 1. Introduction

Ensuring the sustainable development of Uzbekistan's forestry system has made cooperation with international financial institutions increasingly important. In recent years, against the backdrop of escalating global environmental challenges such as climate change, desertification, and biodiversity loss, the volume of financing provided by international donors and financial organizations for forest restoration and management has grown significantly. From this position, Uzbekistan has a large number of opportunities to attract significant financial resources and capitals as by setting up strategic cooperation mechanisms with these institutions and implementation of those effectively [1].

In the period 2021–2024, a number of largescale internationally funded projects had been executed within the forestry sector. More specifically, funds were channeled through the World Bank, the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the United Nations Development Programme (UNDP), the Global Environment Facility (GEF) and the Green Climate Fund [2]. These resources were directed toward enhancing climate resilience, combating land degradation, expanding forest cover, and creating green jobs within local economies. Such cooperation has not been limited to grant-based financing; it has also included concessional loans, technical assistance, and consulting services [3].

## 2. Materials and Methods

### Literature review

World Bank. Uzbekistan: Enhancing Resilient Landscapes and Forestry Management.

This World Bank report provides an assessment of the status and potential for sustainable landscape management, forest restoration, and climate change adaptation in the forestry sector of Uzbekistan. The article offers detailed analysis of critical problems such as land degradation, desertification and inadequate forest cover and suggests effective mechanisms for financial investment in their solutions [4].

The study considers the key results of the “Sustainable land resources management and development of forestry” project carried out in 2021–2024 in Uzbekistan and evaluates how it relates to expansion of forest plantations, agroforestry practices implementation, and combating soil degradation [5]. It demonstrates the institutional, financial, and environmental effectiveness of forestry development supported by international loans and grants. This source is considered one of the most reliable references for analyzing the current stage of international financing in Uzbekistan’s forestry sector [6].

United Nations Development Programme & Global Environment Facility. Ecosystem Restoration and Climate Resilience in Central Asia.

This publication presents the practical experience of UNDP and GEF in ecosystem restoration, climate adaptation, and sustainable forest management across Central Asian countries [7]. Within the framework of the UNDP-led “Green Economy and Forest Ecosystem Strengthening” initiative, the report outlines approaches to environmental monitoring, biodiversity conservation, ecosystem services valuation, and the results of regional pilot projects [8].

The study analyzes the role of international grants, institutional mechanisms required for their effective utilization, and methodological guidance on geospatial monitoring, remote sensing, and indicator-based evaluation systems for environmental projects. For Uzbekistan, the recommendations related to ecosystem services valuation, climate-adaptive management models, and grant monitoring frameworks are of particular relevance. This source serves as a key theoretical foundation for the environmental assessment component of the study [9].

Asian Development Bank. Climate-Resilient Forestry and Sustainable Land Management: Regional Practices and Investment Approaches.

This report by the Asian Development Bank examines international best practices and investment approaches in climate-resilient forestry, sustainable land management, and agroforestry systems. It analyzes regional case studies implemented under ADB-supported initiatives, focusing on investment risk assessment, the effectiveness of financial models, and the application of monitoring and evaluation systems [10].

The report places particular emphasis on the integration of climate resilience into forestry infrastructure projects and provides comparative insights into financing mechanisms applicable to arid and semi-arid regions. Its analytical framework is especially useful for designing integrated financing models and evaluating their economic and environmental performance in the context of Uzbekistan [11].

### Methodology

The report presents contemporary approaches to donor engagement—such as performance-based financing, blended finance, and multi-source funding—in a detailed manner. These approaches directly align with the recommendations proposed in this article for expanding international financing and improving its effectiveness within Uzbekistan’s forestry sector. The scientific and practice-oriented approaches highlighted in the ADB report provide an important methodological foundation for developing innovative forestry infrastructure and advancing environmental initiatives in the sector.

This paper is intended as an analysis of the processes underpinning international financing in the reforestation sector of Uzbekistan, donor activities, and their influence on institutions. The following scientific and methodological aspects were considered:

Analytical method. An international comparative analysis of the structure, sources of financing, distributed funds and regional distribution according to available data on

internationally financed forestry projects during 2021–2024 is made in article. Such a procedure permitted comparison of the economic and environmental efficiency of the projects, measurement of how grants-loan mixes affect sectoral development.

**Comparative analysis.** Uzbekistan experience was analyzed in comparison with foreign models of joint cooperation in forestry financing as in Brazil, Indonesia, Georgia and some other countries. Existing effective concepts for the mobilization of donor funding were identified and it was studied whether and how instruments such as the 'Green Investment Portfolio' or 'Forest Governance Council' could be suited to Uzbekistan, both in terms of character (design) and policy context.

**Regulatory and legal analysis.** 20.A A review of national legal and regulatory documents on Forestry, Ecology, Climate Change and International Financial Cooperation of the Republic of Uzbekistan Also, the environmental and social safeguard policies of the World Bank, GEF, GCF and UNDP were reviewed. This approach allowed for a comparison of the institutional base and reward structures of donor-supported cooperation.

### 3. Results and Discussion

The table (1) below presents the main internationally financed projects implemented in the forestry sector during 2021–2024, including their financing sources, funding amounts, and targeted areas of intervention:

Table 1. Major Internationally Financed Forestry Projects in Uzbekistan (2021–2024)

No	Financial Institution	Project Title	Financing Instrument	Allocated Funds (USD million)	Implementation Regions	Target Areas
1	World Bank	Sustainable Land Resource Management and Forestry Development	Loan + Grant	18.4	Karakalpakstan, Navoi	Forest plantations, combating soil degradation
2	Asian Development Bank (ADB)	Development of Climate-Resilient Forestry Infrastructure	Loan	15.0	Bukhara, Khorezm	Agroforestry, technical assistance
3	UNDP + Global Environment Facility (GEF)	Strengthening the Green Economy and Forest Ecosystems	Grant	6.7	Tashkent Region	Biodiversity conservation, environmental monitoring
4	Green Climate Fund (GCF)	Green Climate Adaptation Programme	Grant	12.0	Surkhandarya, Syrdarya	Climate-resilient livelihoods, forest cover restoration
5	European Bank for Reconstruction and Development (EBRD)	Green Energy and Forest Resource Management	Loan	9.5	Fergana Valley	Energy-efficient technologies, forest sustainability

As evidenced by the table, the total volume of international financing allocated to Uzbekistan's forestry sector during 2021–2024 amounted to USD 61.6 million, representing substantial support for the sector. In particular, the share of grant financing reached USD 28.7 million, which has played an important role in reducing the fiscal burden on the state budget. In practice, such financial assistance has contributed to the expansion of forest areas, the establishment of environmental monitoring infrastructure, and the creation of employment opportunities for local communities [12].

Moreover, the technologies, monitoring systems, and international reporting methodologies adopted within the framework of these projects have significantly strengthened institutional capacity in the forestry sector. For example, based on the ecosystem services valuation methodology introduced by United Nations Development Programme and the Global Environment Facility, pilot projects are currently being implemented in five regions of the country [13].

Overall, cooperation with international financial institutions provides Uzbekistan's forestry sector not only with financial resources but also with technical, institutional, and strategic benefits, thereby supporting its long-term sustainable development. However, to maximize the benefits of such cooperation, it is necessary to strengthen national capacities for project preparation, appraisal, and monitoring. At the same time, forming a strategic portfolio of projects aligned with the priority areas of international financial institutions is of critical importance [14].

The effective utilization of international financial institutions and grant resources in financing Uzbekistan's forestry sector remains one of the key strategic priorities in the context of ongoing global financial and environmental transformations. Although projects worth more than USD 60 million were implemented in cooperation with international donors during 2021–2024, the existing potential has not yet been fully mobilized. Therefore, institutional, technical, and policy-level systematization of grant mobilization and engagement with financial institutions has become an urgent task [15].

The first recommendation is to create a national project portfolio and donor-focused 'Forest Investment Pipeline' portal. Over this digitalised platform, all potential project ideas (e.g., wildfire protection infrastructure, sustainable seedling production, eco-tourism) would be presented in synergy with feasibility assessments and risk analysis and social-environmental impact indicators. Such an approach would simplify decision-making for donors, including the World Bank, Green Climate Fund, Global Environment Facility and European Bank for Reconstruction and Development. In Indonesia and Brazil, for example, the NHCL are operating National Green Project Portfolio systems which have been able to leverage between USD 150-200m annually in grants and concessional loans.

A second device for ensuring such cooperation with the International Financial Institutions is to create an "Institutional Focal Point" system. This system would operate as a cross-sectoral coordination mechanism between justice, economic and financial institutions. It would also be responsible for donor negotiations, simplification of documentation issues, compliance with reporting requirements and issuance of grant financing guarantees. For instance, in Georgia since 2019 we doubled the grant mobilisation efficiency by the Forest Governance Coordination Council set up together with UNDP and Asian Development Bank.

A third strategy would be to apply advanced evaluation methods (value for money, cost-benefit analysis, SDG alignment) in the national grant-financing approach. '2 The lack of models of what works and the demand for information "on how to measure performance excruciatingly precisely, all at once" are now a key prerequisite of the international donor community. Consequently, detailed estimates should be developed for the full range of such factors as benefit-to-cost ratios, reductions in co2 equivalent emissions from the projects, numbers of new jobs created and employment effects. The use of AI-based impact modelling tools and GIS-based mapping is significantly proposed in this regard.

A fourth recommendation is the creation of a multi-source funding mechanism for international and donor grants. This approach envisions part of the donor funding (either

from the GEF and/or GCF) flowing to technical assistance or consultancies, a second portion in conditional grants or performance-based financing, with the rest co-financed through local budgets and private sector engagement. For instance, the UNDP Uzbekistan project on Green Village pilot was funded 40% by grants, 30% local budget and 30% community contributions leading to an establishment of 1200 ha agroforestry in period of two years.

If realised, these proposals could see USD 30-50 million of annual international financing flow into Uzbekistan's forestry sector over 2025-2030, regenerate over 100,000 hectares of climate-resilient forest land and generate another 3,000-5,000 green jobs per year. Simultaneously a forest management system in accordance with the green economy principles would be well anchored throughout all Bosnia and Herzegovina.

#### 4. Conclusion

In recent years, the partnership of Uzbekistan's forestry sector with international financial institutions has developed extensively and has become a powerful driving force for sustainable development in this field. 2021-2024 Over the period 2021-2024, over USD 60 million international financing was mobilized for tangible results in terms of forest area enlargement, environmental monitoring infrastructure development, biodiversity preservation or employment creation for local communities. The large ratio of grant and loan funding has relieved the demand on the state budget, and at the same time improved the technical and institutional capacities of the concerned sector. But in order to take full advantage of international funding, there is a need to create a national project portfolio and provide single donor focused platform, introduce the coordinating Institutional Focal Point system and advanced evaluation methods. Through the proposed multi-sources financing model and digital governance methods, during 2025-2030 Uzbekistan has a chance to raise international funding volumes for its afforestation projects by an order of magnitude, implement large-scale reforestation projects with the optimal location based on multiple data layers from sensors onboard drones and develop a management system according to the principles of green economy. Therefore, planned and strategically coordinated interaction with international financial institutions will continue to be one of the key prerequisites for the long-term sustainable development of forest sector in Uzbekistan.

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