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BIODIVERSITY FINANCE PLAN

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Cover page photo: Bactrian deer (Cervus hanglu bactrianus), also known as the Bukhara deer, captured in a tugai forest on the banks of the Amu Darya River **by Katerina Klipinina**

Biodiversity Finance Plan for Uzbekistan – 2025, 111 pages

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BIOFIN is a global partnership addressing the biodiversity finance challenge in a comprehensive manner. The Initiative provides an innovative methodology enabling countries to measure their current biodiversity expenditures, assess their financial needs in the medium term and identify the most suitable finance solutions to bridge their national biodiversity finance gaps.

CONTENT

List of Figures

Abbreviations and Acronyms

BFP	Biodiversity Finance Plan
BIOFIN	The UNDP Biodiversity Finance Initiative
NBSAP	National Biodiversity Strategy and Action Plan
PIR	Biodiversity Policy and Institutional Review
BER	Biodiversity Expenditure Review
FNA	Biodiversity Financial Needs Assessment
PA	Protected Areas
NT	National Target
FS	Financial Solution
SPV	Special Purpose Vehicle
PES	Payment for Ecosystem Services
GDP	Gross Domestic Product
UNOCDD	United Nations Organization to Combat Desertification and Drought
CBD	United Nations Convention on Biological Diversity
GBF	Kunming-Montreal Global Biodiversity Framework
UNDP	United Nations Development Programme
GEF	Global Environment Facility
GIZ	German Corporation for International Cooperation
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
MoMG	Ministry of Mining Industry and Geology
MoE	Ministry of Ecology, Environmental Protection and Climate Change
MoEF	Ministry of Economy and Finance of the
MoA	Ministry of Agriculture
MoWR	Ministry of Water Resources
MoIA	Ministry of Internal Affairs
UZEX	Uzbek Stock Exchange
GBF-EAS	UNDP project on Global Biodiversity Framework Early Action Support
NbS	Nature-based solutions
NNL	No Net Loss
NG	Net Gain
IPLC	Indigenous People and Local Communities

SBTN	Science Based Targets Network
TNFD	Taskforce on Nature-related Financial Disclosures
BCA	Biodiversity Credits Alliance
WBCSD	World Business Council for Sustainable Development
WEF	World Economic Forum
ESG	Environmental, Social, and Governance
MRV	Measurement, Reporting, and Verification
GSP+	Generalised Scheme of Preferences
UNFCCC	United Nations Framework Convention on Climate Change
CBT	Climate Budget Tagging
GBT	Green Budget Tagging
BBT	Biodiversity Budget Tagging
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SDG	Sustainable Development Goals
PPP	Public Private Partnership
EIA	Environmental Impact Assessment
NGO	Non-governmental organisation
OECD	Organization for Economic Cooperation and Development
INFF	Integrated National Financing Framework
BCV	Basic Calculation Value
SME	Small and medium enterprises
NDC	Nationally determied contributions
NAP	National Adaptation Plan

Executive Summary

Summary

The Biodiversity Finance Plan (BFP) summarizes all findings from the national biodiversity finance review process guided by the BIOFIN approach. It attempts to present a coherent and comprehensive national approach to biodiversity finance that encompasses a full suite of finance solutions, well beyond the mobilization of new and additional resources, engaging the public sector, private sector, and civil society. The goal is to produce a nationally validated Biodiversity Finance Plan that proposes steps to implement a mix of finance solutions in order to expand and improve the country's biodiversity finance and achieve national biodiversity targets. The BFP offers a comprehensive array of financial solutions and implementation strategies aimed at assisting the Government in urgently addressing the US$60 million biodiversity financing gap identified by the BIOFIN research in Uzbekistan. If fully implemented under the best-case scenario, the proposed BFP has the potential to mobilize up to US$3.6 billion by 2034, making a significant contribution to the achievement of national biodiversity conservation objectives.

Introduction

The Biodiversity Finance Initiative (BIOFIN) is a global partnership that addresses the biodiversity finance challenge in a comprehensive way. BIOFIN provides support for countries to review their institutional framework, measure their current biodiversity expenditures, assess their financial needs in the medium term, and identify the most suitable finance solutions to bridge their national biodiversity finance gaps. It is a powerful approach that national decision-makers can use to ensure a consistent and sustainable approach to their conservation efforts.

Uzbekistan holds rich and unique biodiversity, encompassing diverse ecosystems ranging from arid deserts and mountain ranges to forests and wetlands. The country's biodiversity is critical for the livelihoods of its population, with nearly half of the people residing in rural areas dependent on agriculture and natural resources.

Uzbekistan's natural ecosystems face significant threats due to human activities, facing over-exploitation of water resources, land degradation, and climate change impacts. The Aral Sea's decline from the fourth largest lake in the world to having lost over 90% of its surface area across the last decades, is a stark reminder of the devastating impacts of unsustainable natural resource use and highlights the urgent need for comprehensive planning for and improved investments in the biodiversity conservation and sustainable ecosystem management. Furthermore, the UNDP Climate Public Expenditure and Institutional Review (CPEIR) indicates a potential 1% GDP impact from climate change by 2030, with the largest impacts being on agriculture and biodiversity[1].

Uzbekistan's National Biodiversity Strategy and Action Plan (NBSAP) for 2019-2028 lays out a strategic vision for preserving and sustainably managing biodiversity in the country. It focuses on funding and financing aspects by setting clear targets of mobilising financial resources by 2020 and significantly increasing financial resources by 2025 compared to 2015 baseline. NBSAP aligns with and provides direction for the country's international biodiversity commitments, laying out plans for a) national measures for conservation and sustainable use of biodiversity, b) expansion of protected areas to cover 12% of land by 2028, c) measures to combat the degradation of natural ecosystems, d) strategies to rehabilitate endangered and rare species, and e) approaches to bolster collaboration with

[1] UNDP (2023). Climate Public Expenditure and Institutional Review: Uzbekistan.

international partners[2]. Achieving these targets and meeting international commitments is dependent on a coordinated financing approach.

In Uzbekistan, BIOFIN aims to strengthen the national biodiversity financing framework and close the financing gap for the conservation and sustainable use of biological diversity by supporting the NBSAP in identifying, accessing, combining, and sequencing funding in order to meet national and international targets. The BIOFIN Biodiversity Expenditure Review (BER) in Uzbekistan found a declining trend in state funding for environmental protection, including biodiversity.[3] From 2020 to 2022, only 1.21% of the state budget was allocated to the environment, with direct biodiversity comprising 0.33%. At the same time, the biodiversity Financial Needs Assessment (FNA) for the implementation of the country's NBSAP revealed a financial gap of US$60 million until 2028. Therefore, the BFP seeks to reverse this trend and address the financial gap not only through advocating for increased public prioritization of biodiversity, but also through innovative finance solutions, attracting new investments and optimizing existing financial resources.

At the annual joint session of the chambers of parliament in December 2024, the year 2025 was declared a "Year of Environmental Protection and Green Economy" in Uzbekistan[4], making it ideal for advancing biodiversity-related initiatives and improve financing. Earlier in 2024, the Climate Council under the President of Uzbekistan, the highest state consultative body on climate and environment, and the National Climate Centre under the Ministry of Ecology, Environmental Protection and Climate Change (MoE) the working body of the Climate Council, were established. Like any other structure under the President's direct supervision the Centre was vested with necessary powers to shape the climate and environmental agenda of the Government. Considering that the Climate Centre is a key partner of the BIOFIN programme in Uzbekistan, it could advocate for the adoption and implementation of the proposed BFP, along with introduction of selected finance solutions, through a dedicated legal act. Besides, the launch of the key financial solution, the Blended Finance Facility, could be prioritized in the same legal act.

Provided there is strong political will, effective stakeholder engagement, and targeted capacity-building efforts, the implementation of the proposed BFP will contribute to addressing several key systemic barriers identified in the Policy and Institutional Review (PIR)[5], including:

- Fragmented and outdated legal frameworks
- Low integration of biodiversity into economic planning
- Limited public awareness and advocacy
- Public and private underfunding of biodiversity

The BFP is integral toward mobilizing the necessary financial resources to address the threats to Uzbekistan's natural ecosystems, safeguarding the economy and the well-being of its people. Moving forward with the PIR recommendation of embedding biodiversity financing mechanisms into public finance, the BFP strengthens the national capacity to preserve biodiversity, enhance climate resilience, and align conservation goals with sustainable development priorities. The proposed initiatives are designed to boost agricultural productivity, enhance biodiversity policies, improve institutional

[2] The Resolution of the Cabinet of Ministers of Uzbekistan "On the adoption of the Biodiversity Conservation in Uzbekistan in the 2029-2028 period" https://lex.uz/docs/4372841

[3] BIOFIN (2023). Uzbekistan Biodiversity Expenditure Review. https://www.biofin.org/sites/default/files/content/knowledge_products/BER%20Uzbekistan%202023_Eng_Final%20Final_rev.19.07.24.pdf

[4] 2025 to be declared as Year of environmental protection and green economy in Uzbekistan. Gazeta.uz. 2024. https://www.gazeta.uz/en/2024/11/20/2025-year/

[5] BIOFIN (2024). Uzbekistan Biodiversity Policy and Institutional Review. https://www.biofin.org/sites/default/files/content/knowledge_products/PIR%20Uzbekistan_ENG_24%20April%202024_LP_TRedited.pdf

frameworks for biodiversity finance and boost resource mobilisation, leading to diversified green economic growth.

By promoting equitable access to resources and supporting community-based conservation, enhancing livelihoods and socio-economic inclusion are at the heart of the BFP. It provides for solutions that help safeguard ecosystems, restore habitats, and combat biodiversity loss holistically, contributing to the preservation of essential ecosystem services. Through the implementation of innovative finance solutions, the BFP contributes to a resilient, inclusive, and sustainable future for Uzbekistan and its citizens.

Methodology

The BFP for Uzbekistan was prepared using a process guided by the BIOFIN methodology. This consecutive process included: 1) conducting three coherent reviews, namely the Biodiversity Policy and Institutional Review (PIR), Biodiversity Expenditure Review (BER), and the Biodiversity Financial Needs Assessment (FNA); 2) engaging stakeholders through consultative and validation workshops, interviews, rapid and detailed screenings; and 3) collecting and analysing case studies on financial solutions (FS) relevant to Uzbekistan and other countries.

The development of the BFP involved the following key steps:

a. conducting a preliminary study to assess the current biodiversity finance landscape;
b. identifying existing and potential financial instruments;
c. assessing and prioritizing financial solutions;
d. formulating proposed priority solutions; and
e. compiling the findings and implementation strategies into a comprehensive plan.

Results

In the process of preparation of the BFP for Uzbekistan 24 potential financial solutions were selected for detailed screening based on the list of 159 integrated solutions in the BIOFIN Catalogue of Finance Solutions[6]. This rapid screening applied a 5-point scale for criteria groups to shortlist these 24 solutions based on impact on biodiversity, financial impact, and likelihood of success. The detailed screening process resulted in the selection of 11 priority finance solutions as summarized below:

1. Mobilizing public and private investments to channel financial solutions of this BFP and beyond using a **Blended Finance Facility**.

Establishment of a Blended Finance Facility is the central financial instrument proposed under this BFP, acting as a central conduit with the purpose of enabling other financial solutions and channelling public and private funding towards nature positive actions. It presents a timely opportunity, due to alignment with Uzbekistan's commitments under the Kunming-Montreal GBF, enabling the direction of urgently needed resources into biodiversity and nature-positive projects while promoting cross-sectoral trust. This facility aims to mobilize an initial US$60 million through a blend of public and private capital to support investments in ecosystem restoration, sustainable agriculture, and nature-positive development. Operating independently from the national budget but having government representatives in the governance structure, it will employ a layered investment approach with senior, mezzanine, and junior tranches to attract diverse investors. The expected outcomes span the spectrum of biodiversity impacts this facility can enable from other financial solutions that include biodiversity conservation, ecosystem restoration, and sustainable landscape management, contributing to national

[6] BIOFIN Catalogue of Finance Solutions https://www.biofin.org/finance-solutions

and international environmental goals. The legislative implementation and institutionalization of the facility presents as the most significant step of its implementation, whilst other key steps involve conducting feasibility analysis, selecting an asset manager, developing investment eligibility categories aligned with national biodiversity targets, and conducting capacity-building activities to scale impact.

2. Introduction of **Biodiversity Offset** as a formal regulatory instrument.

Biodiversity Offsets are conservation activities aimed at compensating for biodiversity loss due to development projects, a concept introduced to Uzbekistan in 2013 through a UNDP project that developed guidelines and a draft law for the oil and gas sector. The proposed financial solution aims to build on this work by reviewing the draft law, resuming stakeholder consultations, and facilitating the adoption of the legal framework to implement biodiversity offsets across various industrial sectors in the country. With more than half of investments being allocated to the extracting industries and agriculture, Uzbekistan's biodiversity is now under great pressure. Biodiversity offsets instrument, as the final step in the biodiversity loss mitigation hierarchy, are designed to address residual impacts on nature that cannot be avoided, minimized, or restored. These offsets aim to ensure no net loss (and preferably a net gain) of biodiversity by restoring, enhancing, or protecting biodiversity in other areas. The design of offset mechanisms can integrate with frameworks like the blended finance facility to direct resources toward high-priority conservation projects and interventions.

3. Promoting positive contributions through **Biodiversity Credits**.

Biodiversity credits are a financial tool that incentivizes the protection and restoration of natural environments. It enables non-profit organizations, governments, landowners, or green companies generate credits, which private businesses can purchase to meet biodiversity goals as a part of their wider ESG commitments. Given its growing leadership in mastering and adopting of environmental innovations, Uzbekistan may be in a position to pioneer biodiversity credits as an innovative finance solution to align economic development with ecological preservation. With the country's rapid development across the agriculture, mining, and construction sectors, biodiversity credits can help balance development impacts while contributing to conservation goals. This mechanism incentivizes the private sector by making it profitable to invest in restoring ecosystems, protecting endangered species, and enhancing habitat connectivity, at the same time supporting Uzbekistan's commitment to expanding protected areas and restoring degraded ecosystems. Currently, only a few pilot Biodiversity Credit projects exist around the world, with total cost of around US$8 million, though the market is projected to grow in coming years[7,8]. These are being tested by select countries with advanced institutional and legislative frameworks. Therefore, implementing this financial strategy in Uzbekistan would first require a dedicated feasibility study to analyse specific legislative and institutional frameworks.

[7] Biodiversity Credits: Demand Drivers and Guidance on Early Use. WEF. 2023 https://www.weforum.org/publications/biodiversity-credits-demand-drivers-and-guidance-on-early-use/#:~:text=If%20the%20top%20500%20global,gap%20identified%20by%20the%20UN.&text=With%20effective%20progress%20on%20governance,Download%20the%20report%20here.&text=Improper%20use%20of%20biodiversity%20credits,Download%20the%20report%20here.&text=World%20Economic%20Forum%20reports%20may,with%20our%20Terms%20of%20Use.

[8] Biodiversity in ESG: State of the Sustainable Finance Market. Sustainable Fitch. 2023. https://www.sustainablefitch.com/corporate-finance/biodiversity-in-esg-state-of-sustainable-finance-market-09-10-2023?sFWebAccessReportValidation=true&mkt_tok=NzMyLUNLSC03NjcAAAGOw1lgBGRnlx-8xuuv5hMbhP1et7Fteg5xcvnEcoxpgRUw5z3kNUOqM2uGlo1FJObNf1vqfLXaf-ACea6mVVg2XbdSjIflN-LVZ534M-hT8fvA8h8kxIna

4. **Repurposing Harmful Subsidies** toward biodiversity-positive practices.

Significant resources are allocated to subsidies in Uzbekistan, however, many of these inadvertently harm ecosystems. "Greening" these subsidies by strategic redirection of them toward sustainable practices offers the opportunity to align financial incentives with biodiversity-positive practices. The solution investigates the agricultural sector as a case study as part of the concept of implementing this financial solution in a phased approach across sectors with harmful subsidies. The focus is on reforming subsidies to promote biodiversity conservation, climate resilience and sustainable land management. Incentivizing practices like organic farming, crop diversification, and water-efficient irrigation offer the opportunity to address environmental challenges such as land degradation and water scarcity while enhancing agricultural productivity. Implementation requires conducting a feasibility analysis before developing eligibility criteria and robust monitoring systems. This approach optimizes public expenditures and provides an opportunity to leverage funds that are already present in the system.

5. Expanding current SDG and Green Tagging of public expenditures and revenues with **Biodiversity Tagging** activities

The practice of tagging public expenditures and revenues helps to measure progress towards national targets, harmonise and improve the effectiveness of spending in certain development areas. Biodiversity tagging involves tracking, managing and reporting public budget allocations, expenditures and revenues dedicated to biodiversity-related activities. By integrating biodiversity tagging into public finances, Uzbekistan can ensure transparency, accountability, and better resource allocation for conservation efforts. Implementation of this finance solution involves determining the criteria to be used in associating budget items with biodiversity outcomes, which is to be defined and agreed on with the Uzbekistan budget authorities. In addition, exclusion criteria are to be implemented for themes and expenses that do not have direct biodiversity benefits. The system can be built on the green and climate budget tagging system that is currently being developed in Uzbekistan, and which aligns with global best practices. UNDP has been assisting the Uzbek Government with developing Green Budget Tagging framework, which includes the biodiversity. Thus, the integration of biodiversity tagging into this framework could be a highly cost-effective and relatively swift and uncomplicated task.

6. Sales of **Conservation License Plates** to generate revenue for conservation efforts;

Conservation license plates are a voluntary revenue-generating tool that allows vehicle owners to purchase special nature-themed license plates at a premium price, with proceeds directed towards wildlife conservation. This solution taps into Uzbekistan's growing car ownership market, providing a steady stream of funding for conservation efforts, such as anti-poaching programs and habitat restoration initiatives. The estimated annual revenue from conservation plates is expected to be US$1.2 million which can be channelled to biodiversity conservation projects through the Blended Finance Facility. Key steps will be establishing effective stakeholders' engagement, adopting relevant regulations, developing car plate designs, setting up production and issuance processes, as well as conducting a nation-wide public awareness campaign.

7. **Crowdfunding** biodiversity-related initiatives;

Uzbekistan has a rapidly evolving digital landscape, presenting an opportunity for implementing crowdfunding as an innovative finance solution for biodiversity conservation. Despite its potential, crowdfunding for nature-positive projects remains largely untapped, even as global trends highlight its effectiveness in mobilizing small contributions from diverse audiences. This finance solution aims

to leverage Uzbekistan's young, tech-savvy population and its growing internet penetration to connect funders with initiatives such as planting one billion trees under the "Yashil Makon" (Green Land) national project, afforesting the dried Aral Sea bed, and protecting endangered species such as the Bukharian deer and snow leopards. Interest in nature and biodiversity is increasing among the population in Uzbekistan, which is evident through various initiatives, including establishment of Central Asian University of Environmental and Climate Change Studies (Central Asian Green University) and successful implementation of the international youth environmental camp in Zarafshan in 2024. Development of a digital platform is the primary precursor to this solution, which will then be followed by integration with mobile banking systems, and establishment of monitoring frameworks to ensure transparency, accountability, and scalable impact. The digital platform will be instrumental in conducting themed fundraising campaigns. Through extensive PR activities, it will reach a wide range of audiences by appealing to their environmental awareness and sense of responsibility to protect nature for future generations.

8. Providing financial incentives for conservation through **Payment for Ecosystem Services (PES).**

This finance solution proposes introducing a pilot PES scheme in the Fergana Valley, a critical agricultural region suffering from unsustainable water use, environmental degradation and climate change impacts. The pilot will focus on incentivizing farmers and agricultural cooperatives to adopt sustainable practices that include drip irrigation, crop diversification, and bio-solvent use for soil restoration. By directly compensating farmers for environmental stewardship, the PES scheme will promote water conservation, enhance soil health, and reduce agricultural pressures on Uzbekistan's natural resources. The pilot could demonstrate a scalable model to achieve sustainability goals and can ideally drive the development of a PES framework in the country to support additional schemes in other regional contexts. Key steps include developing eligibility criteria for participation, designing payment structures with stakeholder engagement, piloting the scheme in the Fergana Valley, and establishing robust monitoring, reporting, and verification systems to measure environmental and socio-economic impacts.

9. Exploring **REDD+** opportunities for sustainable forest management.

Uzbekistan is a landlocked country with 7.26% forest coverage which is threatened by erosion and unsustainable agriculture practices. Ministry of Economy and Finance has explicitly requested support from UNDP for implementation of REDD+ in Uzbekistan. This finance solution focuses on a feasibility study as well as the three steps of REDD+ as set out by the UNFCCC. The expected impact is a shift to focus on native forest and *tugai* (riparian forest) conservation while generating a revenue of at least US$10 per t/CO2 and reduction of opportunity cost of US$9.19 per t/CO2. Key implementation steps will involve a feasibility study and capacity building campaign co-organized with Ministry of Economy and Finance.

10. Updating the current SDG Bond Framework to enable the issuance of **Nature/Biodiversity Bonds** to finance biodiversity-friendly projects.

Uzbekistan has strong experience and expertise in issuing thematic bonds. It is believed that the opportunities for nature related thematic bonds remain untapped. Global investor demand for nature related finance in thematic bonds tripled over the preceding three years. This finance solution focuses on updating and expanding the current sovereign SDG bond framework in Uzbekistan to cover nature and biodiversity related eligibility categories and sub-categories. It is expected to reduce cost of capital for nature related sovereign expenditure while frontloading investment potential. This is aligned with national GBF commitments and targets. Key steps include identification of eligible categories as well

as eligible projects and ensuring robust monitoring and reporting systems to build investor confidence and market credibility.

11. Institutionalization of the BIOFIN process through the integration of the **BIOFIN Methodology** into the curriculum of the Central Asian University of Environmental Studies and Climate Change (Green University).

Integrating the BIOFIN methodology into Uzbekistan's institutional frameworks is crucial for sustaining ongoing environmental reforms. The proposed finance solution builds on Uzbekistan's broader environmental initiatives by integrating a BIOFIN-based academic module into the Master's in Sustainable Finance graduate program and developing a Professional Certificate Course for government officials and private sector professionals. These programs will equip participants with skills to design and implement innovative financial solutions, including green budgeting, resource mobilization, and nature-positive investments aligned with frameworks like the NBSAP and NDCs. Uzbekistan's transition to a green economy is placing increasing demands on public institutions and private enterprises to adopt biodiversity-focused financial strategies and the integration of the BIOFIN methodology will strengthen national capacity, enabling the long-term alignment of financial planning with biodiversity and climate goals. The next steps for implementation include the design and piloting of both programs, faculty recruitment and training, a PR and communication campaign to promote enrolment, and the establishment of monitoring systems to ensure program quality and sustainability.

The selected finance solutions are grouped into four types, dependent on where they are to be implemented or where funding is sourced from: a) Government and public sector initiatives, b) Private sector and market-based approaches, c) Community and grassroots financing, and d) Integrated and cross-sectoral solutions.

The Blended Finance Facility is selected to act as the central component of the finance solutions, from which auxiliary solutions are to be operated, with a few exceptions from additional facilities. The Blended Finance Facility is to act as an overarching strategic vehicle for driving change in Uzbekistan's biodiversity management, designed with a long-term approach to financial sustainability.

Conclusion

The proposed BFP for Uzbekistan outlines a strategy pathway for enhancing biodiversity financing to achieve national targets through a mix of solutions. The plan has identified finance solutions that are expected to be the most impactful and likely to achieve success, and implementation is set to contribute to closing the biodiversity financing gap challenging the achievement of Uzbekistan's domestic and international biodiversity goals.

The Blended Finance Facility was selected as a key element for its potential to attract and effectively manage diverse sources of funding, leveraging public and private investments for impactful biodiversity projects. The focus on ecosystem restoration and conservation across priority landscapes aligns with national goals and addresses key financial gaps identified in the FNA.

The BFP is to be considered a living document, intended to be utilized by the biodiversity sector as a whole. It holds the purpose of developing and encouraging biodiversity finance in Uzbekistan and has the potential to be updated in accordance with changing policy and institutional contexts.

Implications and Recommendations

Key recommendations for implementing BFP in Uzbekistan include:

- **Focusing on priority actions and strategies**: Efforts should target prioritized biodiversity FSs that deliver the highest impact, addressing key funding gaps and aligning with national conservation goals.
- **Expanding stakeholder engagement**: Engaging a broader coalition of stakeholders, including government agencies, private sector partners, and local communities, will be critical to building momentum and ensuring long-term success.
- **Establishing a clear roadmap**: A defined implementation roadmap should guide the rollout of prioritized financial solutions, with milestones and benchmarks to monitor progress.
- **Accelerating Blended Finance Facility implementation**: Immediate efforts should focus on establishing the Blended Finance Facility, leveraging partnerships and building capacity to attract and manage public and private funds.

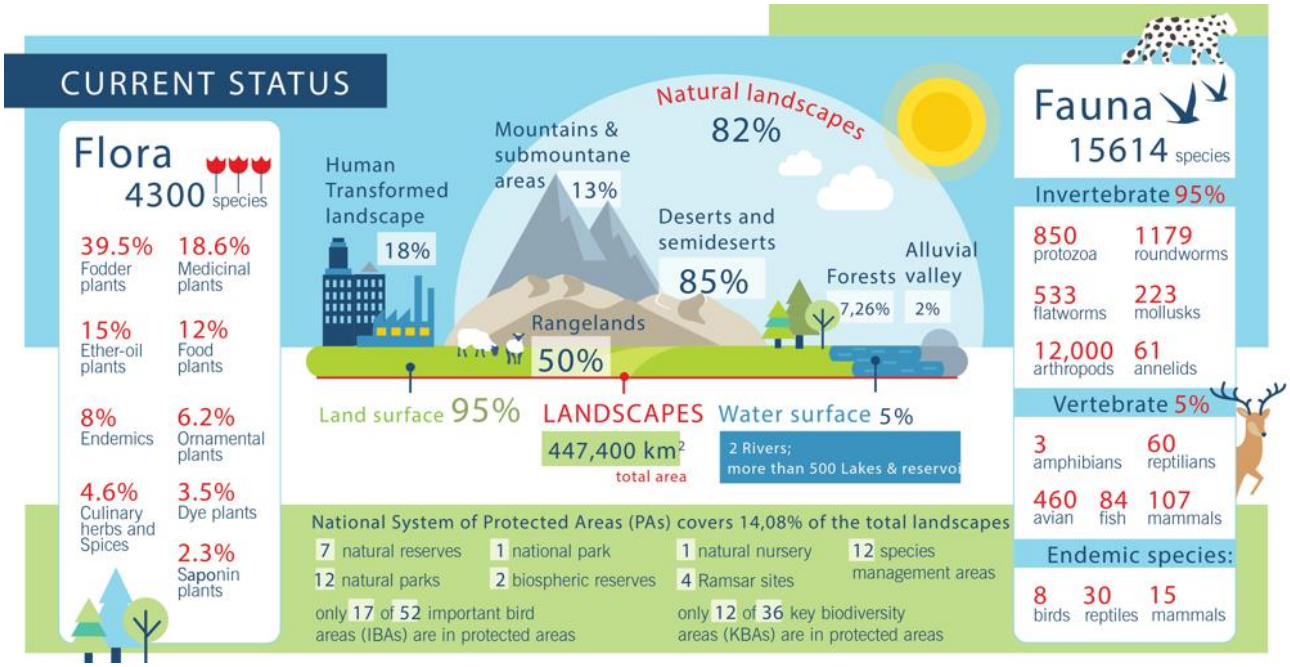
The implementation of these recommendations requires a phased approach, including:

1. Feasibility study and preparation
2. Piloting solutions
3. Full-scale implementation
4. Ongoing evaluation, and
5. Scaling up successful initiatives to maximize impact and sustainability.

I. Introduction

Uzbekistan is a landlocked country with rich fauna and flora. Approximately 49% of Uzbekistan's population resides in rural areas[9], largely dependent on agriculture, with over 90% of crops grown on low-productive irrigated land. Forests, covering about 7.7% of the territory, play a vital role in protecting river basins, creating wind and sand protection belts, and preserving biodiversity. Additionally, non-timber forest products like walnuts, fruits, cherries, mushrooms, and medicinal herbs are essential for rural livelihoods[10]. According to the recent "National State of the Environment Report"[11] and findings of the BIOFIN process (Figure 1)[12], Uzbekistan's biodiversity encompasses approximately 27 thousand known species. This includes around 11 thousand species of higher vascular plants, mosses, lichens, fungi, and algae. The fauna is represented by over 15.6 thousand species. Endemism among higher vascular plants in Uzbekistan stands at about 8%, with relic endemics comprising 10-12% of the total endemic species.

Figure 1: Biodiversity in Uzbekistan



Currently, various activities such as agriculture, transhumance, and the energy and mining sectors are significantly impacting Uzbekistan's natural ecosystems. Human activities and changing hydrological and climatic conditions further exacerbate these impacts. Plain, foothill, aquatic, and waterside ecosystems have experienced the most considerable alterations, particularly in the lower streams of major rivers and the regions surrounding the Priaralie (Aral Sea Region) and the Aral Sea. *Tugai* (riparian) and floodplain ecosystems, although still present in small areas along the Amudarya, Syrdarya, Zarafshan, Chirchik, and Akhangaran rivers, are being reduced due to agricultural

[9] Statistics Agency of the Republic of Uzbekistan, (2024), Demographic Situation in the Republic Of Uzbekistan - https://stat.uz/img/demografiya-press-reliz-22_07_2024-english-_p27562.pdf

[10] CBD, (2024), Uzbekistan - Country Profile - https://www.cbd.int/countries/profile?country=uz

[11] Ministry of Ecology of the Republic of Uzbekistan & IISD, (2023), National State of the Environment Report: Uzbekistan - https://www.iisd.org/system/files/2024-02/uzbekistan-state-of-the-environment-en.pdf

[12] BIOFIN, Uzbekistan - https://www.biofin.org/uzbekistan

development, quarrying and local domestic use (fuelwood gathering, small-scale construction, and water diversion). These activities often disturb the natural habitat, contributing to soil erosion, habitat fragmentation, and the reduction of biodiversity in these sensitive ecosystems. The foothill plains in the western Tien Shan and Pamir-Alai Mountain ranges have also been severely affected by agricultural expansion. The degraded low mountains and escarpments of the Ustyurt Plateau, while sheltering many rare and endangered species, face pressures from animal husbandry and the mining of stone and gypsum.

Additionally, alpine meadows above 2700 meters are under significant pressure from animal husbandry and climate change. Wetland ecosystems, including wastewater lakes and reservoirs, have become widespread over the past fifty years, providing habitats for many sedentary and migratory bird species. Although these wetlands are not directly threatened with extinction, they suffer from unsustainable water deficits and degradation during drought periods. Other threats include habitat destruction and the loss of traditional migratory routes[13]. According to the 2019 Sixth National Report to the United Nations Convention on Biological Diversity (CBD), natural and semi-natural landscapes and ecosystems extend over some 82% of the territory of Uzbekistan. In the remaining 18% of the country, natural landscapes, ecosystems and habitats have largely been transformed into anthropogenic ones, mainly as a result of agricultural practices, settlement and infrastructure development[14].

As Uzbekistan's population grows and cities expand, managing its natural resources sustainably becomes even more critical. Unsustainable consumption and production practices need to be phased out and replaced with eco-friendly alternatives. The country is especially susceptible to the impacts of climate change. To address this, reducing carbon emissions across industries, agriculture, and transportation is crucial, alongside adapting to the changing environment. Uzbekistan uses a lot of energy relative to its economic output. This inefficiency costs the country nearly 4.5% of its GDP annually[15]. Relying heavily on external water sources (80%) makes Uzbekistan vulnerable to shortages, especially with climate change adding pressure. The country is identified by the United Nations Organization to Combat Desertification and Drought (UNOCDD) as one of 33 countries expected to face water shortages by 2040[16]. Land degradation, saltier soil, poorer water quality, and erosion are environmental concerns threatening agricultural productivity. The poorest communities, particularly those reliant on subsistence farming in dry areas, are most at risk from extreme weather events and prolonged droughts brought on by climate change. The shrinking Aral Sea serves as a stark reminder of why sustainable water management and resource use are essential.

Uzbekistan is tackling a range of environmental challenges, including biodiversity loss, land degradation, and water scarcity, all of which are worsened by climate change. As a signatory to the CBD, the country has adopted a National Biodiversity Strategy and Action Plan (NBSAP) related to its conservation efforts. In response to the shift from the Aichi Targets to the Global Biodiversity Framework (GBF), developed and introduced at 15th Conference of Parties in Kunming and Montreal, Uzbekistan has committed to aligning its national strategies with these global goals. The current NBSAP is until 2028, and with the support from United Nations Development Programme (UNDP)

[13] CBD, (2024), Uzbekistan - Country Profile - https://www.cbd.int/countries/profile?country=uz

[14] UNECE, (2019), Uzbekistan Environmental Performance Reviews, Third Review - https://www.switch-asia.eu/site/assets/files/2629/ece_cep_188_eng.pdf

[15] IEA, (2024), Uzbekistan energy profile - https://www.iea.org/reports/uzbekistan-energy-profile/sustainable-development

[16] SUEZ, (2023), Water conservation and efficiency in Uzbekistan: an inspiring example for the African continent - https://www.suez.com/en/africa/news/water-conservation-and-efficient-usage-in-uzbekistan-has-become-a-top-priority-at-the-presidential-level

and the Global Environment Facility (GEF), the government has developed and adopted new national targets under the GBF, which were officially published on the Uzbekistan page on the website of the CBD Secretariat[17]. Although the proposed the Biodiversity Finance Plan (BFP) was designed to support the goals of the current NBSAP (2019-2028), it remains adaptable for future revisions and additional resource mobilization to meet the updated GBF-based national targets. A new NBSAP is expected by 2026, ahead of CBD COP17 in Armenia.

II. Methodology

The BIOFIN Uzbekistan national team followed the methodology as outlined in the BIOFIN Workbook 2018[18] to develop the Biodiversity Finance Plan (BFP) for Uzbekistan. The process is based on five components – producing three analytical reports, developing the proposed BFP, followed by its implementation stage. The development of the BFP draws on information provided by the three earlier reports – the Biodiversity Finance Policy and Institutional Review (PIR), the Biodiversity Expenditure Review (BER) and the Biodiversity Financial Needs Assessment (FNA).

Table 1. Overview of BIOFIN Products

Product	Description[19]
PIR	Analyses the policy and institutional context for biodiversity finance in the country, to establish the baseline for the BIOFIN Process. This analysis examines the relationship between the state of nature and a country's fiscal, economic, legal, policy, and institutional framework. This helps identify how biodiversity and ecosystem services support national SDG goals and visions and the key policy and institutional drivers of biodiversity change, and catalogue existing biodiversity finance mechanisms. Biodiversity Finance Policy and Institutional Review in Uzbekistan was completed in 2023[20].
BER	Uses detailed data on public, private, and civil society budgets, allocations and expenditures to inform and promote improved biodiversity policies, financing, and outcomes. The assessment accounts for "direct" expenditures, where biodiversity considerations are the principal concern; and examines and estimates the value of "indirect" expenditures, where biodiversity considerations are a secondary concern. The first ever and the most recent Biodiversity Expenditure Review in Uzbekistan was carried out in 2023[21].
FNA	Makes a comprehensive estimate of the financial resources needed to achieve the national and subnational biodiversity targets articulated in national biodiversity plans and other key national planning instruments. The assessment clarifies the "costable actions" in these instruments and links them to biodiversity results; generates budgetary data that can be used to advocate for biodiversity investments; helps prioritize

[17] CBD, Uzbekistan - Country Profile - https://www.cbd.int/countries/profile?country=uz

[18] BIOFIN, (2018), The Biodiversity Finance Initiative Workbook 2018 https://www.biofin.org/sites/default/files/content/knowledge_products/BIOFIN%20Workbook%202018.pdf

[19] BIOFIN, (2018), The Biodiversity Finance Initiative Workbook 2018 https://www.biofin.org/sites/default/files/content/knowledge_products/BIOFIN%20Workbook%202018.pdf

[20] Biodiversity Finance Policy and Institutional Review in Uzbekistan. Perepada L. and Radjabov T. Tashkent – 2023, 54 pages (https://www.biofin.org/knowledge-product/biodiversity-finance-policy-and-institutional-review-uzbekistan)

[21] Biodiversity expenditure review in Uzbekistan. Umarova Sh. and Radjabov T. Tashkent – 2023, 42 pages (https://www.biofin.org/knowledge-product/biodiversity-expenditure-review-uzbekistan)

	biodiversity strategies and actions based on biodiversity and cost criteria; and estimates unmet biodiversity financing needs. The Biodiversity Financial Needs Assessment in Uzbekistan was finalized in 2024[22].

The BFP aims to create a unified and comprehensive strategy for improving financing biodiversity initiatives in Uzbekistan. Developed to complement the NBSAP, which the government ratified in 2019[23], the BFP focuses on identifying and implementing financial solutions to improve biodiversity management across the country. Through a systematic approach, the BFP prioritizes high-impact financial strategies that are specifically tailored to Uzbekistan's biodiversity needs. The plan follows the framework outlined in the BIOFIN Workbook and is structured around four key steps to guide its implementation:

Preparation: This foundational phase is crucial to ensuring the BFP is built on accurate, comprehensive, and context-specific data. During this stage, all baseline studies—such as the PIR, the BER and the FNA are thoroughly reviewed under the direct supervision of the National Project Coordinator and overall guidance of the UNDP Country Office in Tashkent and the BIOFIN Global Team. In addition, both NBSAPs, which have been adopted in 1998 and 2019 in Uzbekistan, were taken into consideration. This process helps identify gaps and opportunities within Uzbekistan's current biodiversity finance landscape, providing a clear understanding of biodiversity management and how it is integrated into national policies. These reviews are essential for pinpointing the financial gaps and challenges that need to be addressed.

The preparation phase greatly contributes to the scope, completeness, and precision of the data analysed in the BFP. It ensures that all further steps are supported by realistic financial assessments and policy constraints. The PIR highlights key legal and institutional barriers, the BER provides detailed insights into past expenditure trends, and the FNA estimates future financial needs. However, the process is not without its limitations. The data is based on available information, which might be incomplete or not corresponding to all the most recent country statistics due to inconsistent data generation and collection practices. Assumptions were made, particularly in projecting future financial needs and in quantifying the potential biodiversity benefits, which were based on historical trends and expert consultations, as well as similar solutions implemented in other countries, if available. Despite these limitations, the preparation phase enables the BFP to focus on targeted and feasible financial solutions, making it a vital step in ensuring the plan's overall effectiveness and success.

The PIR showcases that despite significant progress in Uzbekistan's national legislation and strategies for biodiversity and climate change, several key obstacles persist. The legal framework remains fragmented and sometimes contradictory, with many laws outdated and misaligned with current biodiversity trends. The private sector faces challenges due to the lack of a supportive environment, clear tenure rights, and effective biodiversity risk disclosure frameworks. Economic planning often fails to incorporate biodiversity conservation and climate change adaptation measures. Additionally, there is a lack of public awareness and advocacy, with insufficient data on the benefits of a green economy and ecosystem services. Funding for crucial biodiversity conservation areas is inadequate, both in public finances and the private sector. The government's subsidy policies remain highly

[22] Biodiversity Financial Needs Assessments in Uzbekistan. Perepada L, Radjabov T. Umarova Sh. 2024 (to be updated)

[23] FAO, FAOLEX Database: Uzbekistan, Strategy for biodiversity conservation in the Republic of Uzbekistan for the period of 2019-2028 - https://www.fao.org/faolex/results/details/en/c/LEX-FAOC189329/

focused on supporting agriculture and the extractive sector without due consideration of their impact on environment and biodiversity.

Recommendations from the PIR include unifying legislation through the adoption of a comprehensive Environmental Code, ensuring stakeholder participation, and creating an enabling environment for private sector engagement. Accession to the Convention on Access to Information, Public Participation in Decision-making, and Access to Justice in Environmental Matters (Aarhus Convention) is also recommended. Strengthening international cooperation with donors and financial institutions is essential for biodiversity programs. Establishing mandatory biodiversity targets for each economic sector, with strict sanctions for violations, is crucial. A deeper impact analysis, followed by redesigning and/or repurposing of climate- and nature-harmful subsidies is needed to ensure reduced pressure on ecosystems and increased funding of the environmental sector. Effective communication strategies are needed to raise public environmental awareness and promote a green economy. Finally, embedding biodiversity financing mechanisms into public finance is vital for sustained progress which is reflected in the next steps of listing and shortlisting of potential solutions in the country[24].

The BER[25] offers an in-depth analysis of the country's biodiversity-related expenditures from 2020 to 2022. The review identifies key trends and challenges in biodiversity funding, revealing that despite efforts to support conservation, state funding has been on a downward trend. In 2022, total environmental spending accounted for just 1.21% of the national budget, with direct biodiversity expenditures making up a mere 0.33%. A significant portion of this funding was allocated to the Forestry Agency, primarily for afforestation and forest maintenance activities. The document also highlights the critical role of international funding from organizations like the UNDP, German Corporation for International Cooperation (GIZ), and the GEF, which have been instrumental in advancing biodiversity initiatives. However, gaps remain, particularly in engaging the private sector, as biodiversity financing frameworks for businesses are still underdeveloped.

One of the key recommendations from the BER is the need to improve financial systems, including the introduction of a biodiversity revenue and expenditure tagging mechanism in public finance. Such a mechanism would enable more precise tracking of biodiversity-related spending, ensuring that it aligns with national and international conservation commitments. The report also advocates for stronger legislative frameworks, enhanced public-private collaboration, and increased international cooperation to address the shortfall in biodiversity funding. These findings form the foundation for identifying financial gaps and have directly informed the next steps in screening and prioritizing FSs as part of the BFP process.

The FNA is also an important part of the BIOFIN process, focused on identifying the funding gap between current financial resources and what is needed to achieve national biodiversity goals. By analysing the financial flows towards biodiversity programs and comparing them with the actual financial requirements for implementing strategies, the FNA highlights where funding falls short. The assessment estimates the financial gaps across critical activities outlined in the current NBSAP, projecting future costs and taking into account factors like inflation and policy changes. This identification of the funding gap is crucial, as it directly informs the prioritization of financial solutions in the next step. By understanding where the greatest financial shortfalls exist, decision-makers can better target efforts and resources towards high-impact solutions, ensuring more effective and sustainable biodiversity management. The FNA provides the foundation for screening potential FSs

[24] https://www.undp.org/uzbekistan/publications/biodiversity-finance-policy-and-institutional-review

[25] BIOFIN, (2024), Biodiversity expenditure review - https://www.undp.org/uzbekistan/publications/biodiversity-expenditure-review

by clearly outlining the financial gaps that need to be addressed, guiding the subsequent steps of the BFP.

Listing of existing and potential solutions: The listing was based on the list of integrated solutions in the BIOFIN Catalogue of Finance Solutions[26] in line with the recommendations in the BIOFIN Workbook (2018)[27]. The Finance Resources for Biodiversity (FIRE) [28] has been reviewed to complement the solutions provided in the catalogue. Additional resources including Little Book of Investing in Nature[29], CBD's technical series papers on biodiversity[30] and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) literature[31] have been reviewed to add to the list of potential financial solutions.

Prioritizing finance solutions. The rapid screening of the FSs in the BIOFIN catalogue was done by the national BIOFIN team led by the International Sustainable Finance Expert and in consultations with the Ministry of Mining Industry and Geology (MoMG), Ministry of Ecology, Environmental Protection and Climate Change (MoE), Ministry of Agriculture, and Ministry of Water Resources (MoWR). In addition, the screening was influenced by the preferences of Ministry of Economy and Finance of the (MoEF), which were consulted on June 5th, 2024. This rapid screening used a 5-point scale for three criteria groups: 1) impact on biodiversity, 2) financial impact and 3) likelihood of success. The result of the rapid screening was the identification of 24 FSs being selected for further detailed screening. The detailed screening was performed based on 20 questions used in additional consultation as listed in the BIOFIN Workbook and 11 FSs have been selected as priority solutions.

There are at least three donors-funded projects in Uzbekistan, including the BIOFIN, that consider biodiversity finance and shortlisting of potential FSs to be implemented in the country. To prevent inefficiencies in the use of donor resources and to create synergies among the projects, proper coordination mechanism featuring regular meetings, briefings and mutual document sharing has been established to coordinate with the Global Biodiversity Framework Early Action Support (GBF-EAS) project and with the "Integrated Conservation Management and Restoration of High-Value Landscapes in Uzbekistan" project to be funded under GEF-8 cycle. More information can be found in the appendix of this document.

Formulation of proposed priority solutions: To develop the final proposal for priority solutions feedback from previous consultations with key stakeholders have been taken into consideration. The table in the Appendix 3 provides an overview of financial solutions shortlisted across the three biodiversity-focused projects, indicating their shortlisting and selection for the BFP. The selected solutions are to be described in the technical proposals of this report.

[26] https://www.biofin.org/finance-solutions

[27] https://www.biofin.org/knowledge-product/biofin-2018-workbook

[28] https://fire.biofin.org/

[29] https://globalcanopy.org/insights/publication/the-little-book-of-investing-in-nature/

[30] https://www.cbd.int/climate/resources.shtml

[31] https://www.ipbes.net/assessing-knowledge

III. The investment case for biodiversity finance in Uzbekistan

On a global level, financial flows into nature-based solutions (NbS) need to almost triple to US$542 billion by 2030 to meet the Rio targets[32] according to the State of Finance for Nature 2023 report. However, only 18% of these financial flows come from the private sector. A large issue surrounding these financial flows is that subsidies that have harmful impacts on nature are approximately ten times bigger than current public financial flows to NbS of US$165 billion[33]. Subsidies, often in areas such as agriculture, energy, and water, have been shown to often lead to negative impacts on biodiversity, through pollution, habitat destruction, and over-exploitation of resources[34].

As it's been analysed in the PIR, Uzbekistan has introduced numerous subsidies aimed at promoting growth across sectors such as agriculture, tourism, education, and industry. While these subsidies have supported economic development, their impact on biodiversity has been mixed. For example, subsidies for greenhouse agriculture have the potential to reduce deforestation, but the increased use of mineral fertilizers driven by these subsidies may negatively affect water quality and aquatic ecosystems. Additionally, subsidies that target agricultural water use, like those covering the electricity costs of water pumps, may indirectly harm biodiversity by encouraging water over-extraction, threatening aquatic habitats.

The BER specifically highlights the financial allocations made to the agricultural sector, showing a strong government focus on promoting sustainable practices. In 2021, for instance, UZS321 billion (US$30.2 million)[35] in subsidies were directed toward adopting water-saving technologies in irrigated agriculture — an important step toward improving biodiversity conservation. However, concerns remain about certain subsidies, such as those for well drilling in remote areas, which may lead to unsustainable groundwater use and negatively impact local ecosystems resulting from overgrazing. The BER stresses the need for a balanced approach to subsidies, ensuring that while they boost productivity, they do not inadvertently cause long-term environmental damage.

Subsidies in sectors beyond agriculture are also important for biodiversity. In tourism, for example, subsidies for hotel construction and infrastructure development aim to stimulate growth, but they carry risks such as habitat disruption and increased carbon emissions. On the other hand, initiatives like the national "Yashil Makon" (Green Land) project and afforestation programs are having positive effects on biodiversity by increasing forest cover, combating desertification, and restoring ecosystems in critical areas like the Aral Sea region. As outlined in the PIR, these initiatives show the government's commitment to integrating biodiversity conservation into broader economic planning.

The BER further emphasizes the need for a systematic review and revision of subsidy programs to ensure alignment with biodiversity goals. For instance, financial support to Uzbekistan's Ministry of Agriculture should evolve to prioritize more sustainable agricultural practices, such as reducing dependence on harmful pesticides and encouraging organic farming methods. The report also suggests expanding biodiversity-friendly subsidies to sectors like forestry, which could strengthen conservation efforts and reduce the strain on ecosystems.

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[32] Rio targets: Limit climate change to 1.5°C, protect 30 per cent of land and sea by 2030 (30x30 target) and reach land degradation neutrality (LDN) by 2030. The NbS finance gap is the difference between current finance flows and the Rio-aligned scenario NbS finance needs.

[33] https://wedocs.unep.org/bitstream/handle/20.500.11822/44278/state_finance_nature_2023.pdf?sequence=1&isAllowedy

[34] UNDP BIOFIN (2024). The Nature of Subsidies. - https://www.biofin.org/sites/default/files/content/knowledge_products/The%20Nature%20of%20Subsidies%20%28Web%29.pdf

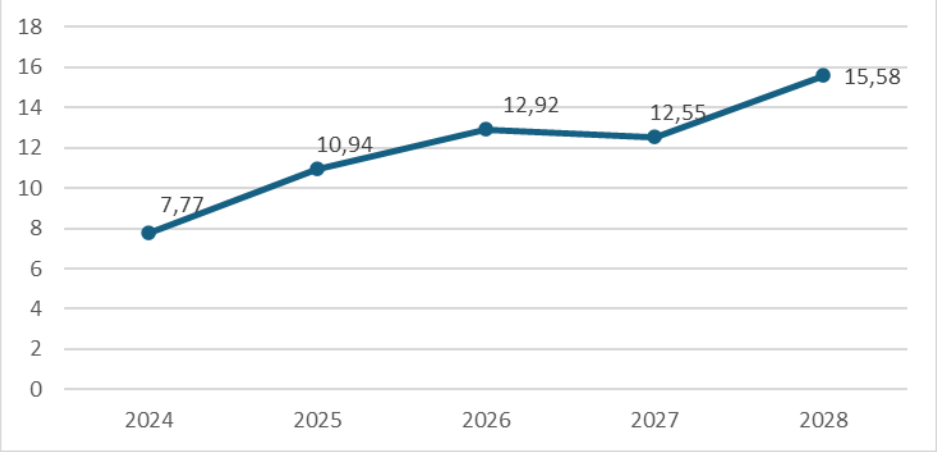
[35] Average annual exchange rate for 2021 was US$1 = UZS 10,647

Reforming these subsidies provides the opportunity to not only reduce their negative impacts but also to redirect them towards more sustainable and nature-positive activities. BIOFIN's "Nature of Subsidies" provides a direct guide to enacting this change, with the process of redirection involving the identification of harmful subsidies, redesigning them, and subsequently implementing the required changes. Successful implementation of this concept provides one of the strongest avenues towards closing the biodiversity finance gap, through targeting both variables in the equation.

The BER also highlights a declining trend in state spending on environmental protection, including biodiversity, from 2020 to 2022. By 2022, total environmental spending comprised 1.21% of the state budget, with direct biodiversity spending at only 0.33%. A significant portion of direct biodiversity expenditures was managed by the Forestry Agency under the MoE for afforestation and forest maintenance. In addition, the extra-budgetary Fund of the MoE, revenues from fines, fees, and compensation for the use of natural resources dropped significantly from US$5.96 million in 2020 to US$3.08 million in 2022. The revenue distribution highlighted the fact that regions like Karakalpakstan and Tashkent city generated the most revenues, while regions in the Fergana Valley were less productive. International entities significantly support Uzbekistan's biodiversity conservation efforts and are cornerstones to biodiversity finance in the country. There is still a significant gap in biodiversity finance which needs to be closed through the introduction of innovative solutions[36].

The FNA reveals significant biodiversity finance gap with total financial deficit in Uzbekistan of estimated to be almost US$60 million from 2024 to 2028 (Figure 2). The report provides a comprehensive overview of the projected financial deficit in the implementation of the current NBSAP. If the nationwide "Yashil Makon" (Green Land) project, with its estimated annual cost of US$200 million, is included in the upcoming new NBSAP, the financial gap identified in the FNA may further significantly increase[37]. The FNA findings reveal that the national public finance system lacks effective mechanisms for tracking biodiversity expenditures, complicating the identification of funding gaps. This underscores the need for improved financial tracking systems, such as biodiversity expenditure tagging, to enhance transparency and accountability in resource allocation.

Figure 2: Biodiversity finance gap in Uzbekistan



[36] https://www.undp.org/uzbekistan/publications/biodiversity-expenditure-review#:~:text=The%20document%20presents%20data%20that,is%20a%20critically%20low%20figure.

[37] The Yashil Makon project was not considered in the current FNA's financial analysis, as it was beyond the scope of the NBSAP, which the FNA exclusively focused on

The gap between the financial resources needed for ecosystem restoration and the limited funds currently being allocated could become a cause of concern if this disparity continues to be ignored. Urgent and resolute measures are necessary to close this gap and strengthen the financial assistance dedicated to ecosystem restoration and conservation. An essential step in this effort entails an expansion of the range of financial sources, which includes the establishment of collaborations between the public and commercial sectors, soliciting contributions from private companies, and leveraging resources offered by foreign funds and organizations.

Having said that, the current NBSAP places a strong focus on creating new sources and methods for biodiversity funding. It sets forth two financial targets: "by 2020, efforts are made to mobilize financial resources from diverse sources, including the state budget, special funds, private sector, land users, and international investments," and "by 2025, financial investments aimed at supporting biodiversity conservation and the maintenance/restoration of ecosystem services are significantly increased compared to 2015"[38]. This is a strong direction towards biodiversity finance and call to action for biodiversity finance at scale.

There is a strong need to transition from traditional funding sources, such as public budgets and philanthropic donations, to more diversified and sustainable financing for biodiversity which involves shifting from relying on public and philanthropic sources only to mobilizing private capital and creating sustainable financial mechanisms. This approach aims to generate larger and more consistent funding flows for biodiversity in Uzbekistan. By engaging the private sector and developing innovative financial instruments additional funds can be directed to make biodiversity initiatives more actionable and implementable, thereby helping the Government achieve its CBD commitment. These innovative financial solutions are explored further in the context of Uzbekistan in the following chapters.

Threats to biodiversity and importance of the BFP

There are multiple threats to biodiversity in Uzbekistan. They are driven by policies, unregulated resource use, and land-use changes. While sustainable economic growth improves living standards and will continue to ensure positive outcomes for people and nature into the future, it also comes at a great environmental cost, with GHG emissions being the second highest in the region. The energy sector is dominated by natural gas and significantly contributes to these emissions, although there are efforts underway to boost renewable energy. Uzbekistan plans to expand to a 40% energy mix share for solar and wind energy by 2030, signalling a shift toward sustainability[39].

The country's reliance on natural resources and growing domestic demand are impacting biodiversity. Fossil fuel depletion and water scarcity highlight the urgent need for energy diversification and sustainable resource management[40]. Issues are exacerbated through climate change, as rising temperatures and reduced water availability threaten agricultural productivity and habitats rich in biodiversity. The extreme water diversion seen in the Aral Sea underscores the severe consequences to ecosystems and human well-being that results from environmental mismanagement.

[38] https://unece.org/sites/default/files/2024-02/Non-technical%20Illustrative%20Summary%20of%20UZB%20NSoER.pdf

[39] Gazeta.uz, (2024), Share of renewable energy in Uzbekistan's electricity generation reaches 18% on Sunday - https://www.gazeta.uz/en/2024/05/15/renewable/

[40] Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan, IISD (2023). National State of the Environment Report. https://www.iisd.org/system/files/2024-02/uzbekistan-state-of-the-environment-en.pdf

Further biodiversity risks come from industrial emissions and outdated pollution controls, affecting air and water quality that subsequently impacts ecosystems and communities alike[41]. Agricultural inefficiencies, including significant water losses, cause natural habitat degradation and endanger species. Operations of land conversion for agriculture and infrastructure disrupts critical ecosystems, threatening rare and endemic species and reduces ecological resilience with *tugai* (riparian) and floodplain ecosystems particularly vulnerable.

Integrating biodiversity into green growth strategies is essential for sustainable development in Uzbekistan. Effective policies must balance economic progression with ecosystem preservation, recognizing the vital role biodiversity plays in climate adaptation, water management, and sustainable land use. It is to be understood that compromising the healthy and continued existence of biodiversity undermines economic progression achieved through the act of exploitation, as the critical systems themselves play a key role in resilience against climate risk and serving communities through natural resources. A multi-sectoral approach that prioritizes biodiversity will support long-term economic stability and environmental health.

The BFP is integral in mobilizing the necessary finance to support initiatives that protect against these threats to Uzbekistan's natural ecosystems, while also protecting the economy and well-being of people. The BFP strengthens capacity at the national level for Uzbekistan to preserve biodiversity, supporting climate resilience, and aligning conservation goals with sustainable development policies. Furthermore, initiatives proposed under the plan are beneficial for agricultural productivity, promoting eco-tourism, and enhancing water and soil resources, thereby contributing to diversified green economic growth. People benefit from equitable access to resources and promote community-based conservation, leading to enhanced livelihoods and socio-economic inclusion. Finally, nature is at the core of the BFP's mission, and it works to safeguard ecosystems, restore habitats, and combat biodiversity loss holistically, preserving essential services like water filtration, soil health, and climate regulation. The implementation of innovative FSs through the BFP fosters a resilient, inclusive, and sustainable future for Uzbekistan and its citizens.

[41] UNDP (2023). Uzbekistan – Biodiversity Finance Policy and Institutional Review. https://www.biofin.org/sites/default/files/content/knowledge_products/PIR%20Uzbekistan_ENG_24%20April%202024_LP_TRedited.pdf

IV. Finance Solutions

The FSs selected for Uzbekistan address various areas in which to enhance biodiversity finance. These solutions are outlined in this section with justification for implementation within the unique context of Uzbekistan, with identified key objectives and expected impacts for each approach. This supporting rationale is accompanied by the analysis of each approach's specific risks and plans for mitigation, along with the key steps for implementation and associated responsible bodies.

The Blended Finance Facility acts as the central component of the FSs implementation plan, where auxiliary solutions are generally to be operated out of the Blended Finance Facility, with a few exceptions out of additional facilities. The Blended Finance Facility itself is to be operated off-budget and independently, with the organizational, administrative and operational setup based on the most advanced and tested international transparency and accountability practices. It is to be established and endorsed by a Presidential and Government Decrees and is poised to play a pivotal role in directing resources towards critical biodiversity and environmental initiatives. The Blended Finance Facility goes beyond a sole financial instrument, rather acting as an overarching strategic vehicle for driving change in Uzbekistan's biodiversity conservation efforts. The Blended Finance Facility is designed with a long-term perspective approach to financial sustainability, enabling the creation of a robust framework for supporting ongoing and future biodiversity initiatives in the country.

The Table 2 below categorizes the finance solutions into four types, based on where approaches are implemented or generate revenue from. The larger area given to a solution is indicative of its projected potential for revenue generation.

Table 2. Selected financial solutions by sector and potential for implementation

Government and Public Sector Initiatives	Private Sector and Market-Based Approaches	Community and Grassroots Financing	Integrated and Cross-Sectoral Solutions
Repurposing Harmful Subsidies **REDD+**	**Biodiversity Credits** **Green/Nature Bonds** **Biodiversity Offsets**	**Crowdfunding** **Conservation License Plates**	**Biodiversity Revenue/Expenditure Tagging** **Blended Finance Facility** **PES** **Academic Capacity Development**

Blue: Highest Potential for Implementation
Amber: Medium Potential for Implementation
Red: Low Potential for Implementation

a) Finance Solution №1: Development of a new national **Blended Finance Facility**

- ***Summary***

Establishment of a Blended Finance Facility is the key financial instrument under this BFP, acting as a central conduit with the purpose of enabling other FSs and channelling public and private funding towards nature positive actions. It presents a timely opportunity, due to alignment with Uzbekistan's commitments under the Kunming-Montreal GBF, enabling the direction of urgently needed resources into biodiversity and nature-positive projects while promoting cross-sectoral trust. This facility aims to mobilize an initial US$60 million through a blend of public and private capital to support investments in ecosystem restoration, sustainable agriculture, and nature-positive development. Operating independently from the national budget but having government representatives in the governance structure, it will employ a layered investment approach with senior, mezzanine, and junior tranches to attract diverse investors. The expected outcomes span the spectrum of biodiversity impacts this facility can enable from other FSs that include biodiversity conservation, ecosystem restoration, and sustainable landscape management, contributing to national and international environmental goals. The legislative implementation and institutionalization of the facility presents as the most significant step of implementation, whilst other key steps involve conducting feasibility analysis, selecting an asset manager, developing ESG-aligned investment eligibility categories, and conducting capacity building activities to scale impact.

- ***Justification for the solution & Uzbekistan's context***

In Uzbekistan, vehicles of this nature aimed at supporting environmental initiatives are not a new idea. The country already has a Fund for Ecology and Waste Management acting similarly to the Blended Finance Facility in some regards, but this fund faces several challenges. Its outdated structure and limited functionality have turned it into a passive tool, mainly controlled by environmental authorities, rather than an effective mechanism for addressing urgent ecological challenges. The fund has been criticized for being insufficient, functioning more as an extension of the MoE's budget rather than driving meaningful change in areas like biodiversity conservation and climate resilience.

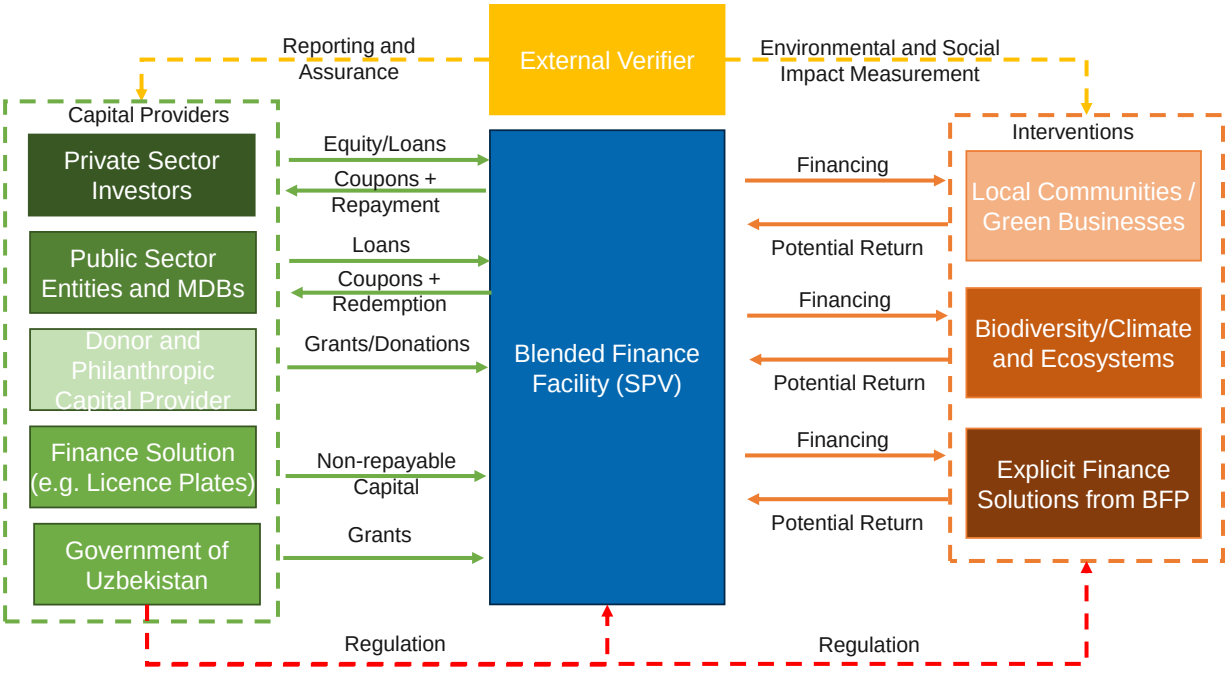
Acknowledging these shortcomings, Uzbekistan's new government authorities have recognized the need to reform the existing Fund. However, progress has been slow, and the reforms introduced so far have shown little promise. The current setup is not capable of mobilizing the necessary resources or building the trust required to engage both public and private stakeholders effectively. This highlights the importance of establishing a reliable and transparent financial infrastructure that all stakeholders can trust – a system that can effectively mobilize resources to tackle environmental challenges.

Blended finance facilities are essential tools for mobilizing capital to support nature-based projects, which are often underfunded despite their potential to address biodiversity loss, climate change, and social issues like water scarcity and poverty alleviation. The proposed solution is to set up a Blended Finance Facility as a central instrument for nature finance in Uzbekistan. The facility will have operational independence from the government, and it will not be included in the annual budget of the country. However, presidential or government endorsement would be necessary, while the administrative and operational setup will be structured based on international best practices for transparency and accountability. A recent comparative study of private vs. public mutual investment vehicles showcased that private sector mutual investment vehicles in form of funds outperform their public counterparts in several key areas, including better risk-adjusted return expressed as Sharpe

ratio[42], expense ratio signalling lower fees to investors, more active asset management and better asset allocation[43]. The facility will be set up in Uzbekistan under local legislation, including an investment law. It needs to be tested, however, if a setup in a jurisdiction like Luxemburg or Singapore will enable more financial flows from the international private sector.

The facility will be financed through a blended finance approach, utilizing a combination of public and private resources. Private capital coming from national and international investors and public capital provided by the government of Uzbekistan as well vertical funds (e.g. GCF or GEF). The legal setup of the facility needs to be optimized towards international best practice. The Government's contribution can be ensured by endorsing and adopting the Conservation License Plates (FS №6) and Biodiversity Credits (FS №3), without requiring direct financial investment from the state budget. These mechanisms allow for resource mobilization through innovative finance solutions, ensuring that the facility operates without imposing additional fiscal burdens on the government. This decree should explicitly state that the facility is not only entrusted to pilot and introduce innovative finance solutions but also has a strategic role in supporting the Government's efforts to reform the environmental sector. The facility will help identify gaps in existing programs and areas not covered by government initiatives and funding. It will coordinate the inputs of the donor community to align Official Development Assistance (ODA) with national priorities, such as the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework (GBF). Additionally, the facility will work closely with the private sector, both locally and internationally, to unlock its potential as a key funding source for environmental initiatives. The figure below offer an overview of anticipated scheme of interactions of the Blended Finance Facility to perform its tasks.

Figure 3: Overview of the Blended Finance Facility



[42] The Sharpe ratio compares the return of an investment with its risk. The Sharpe ratio describes how much excess return an investor receives for each additional unit of risk the investor takes. A higher ratio implies a higher investment return compared to the amount of risk of the investment.

[43] https://www.researchgate.net/publication/378591234_Comparative_Analysis_of_Private_and_Public_Mutual_Funds_A_Performance_Evaluation

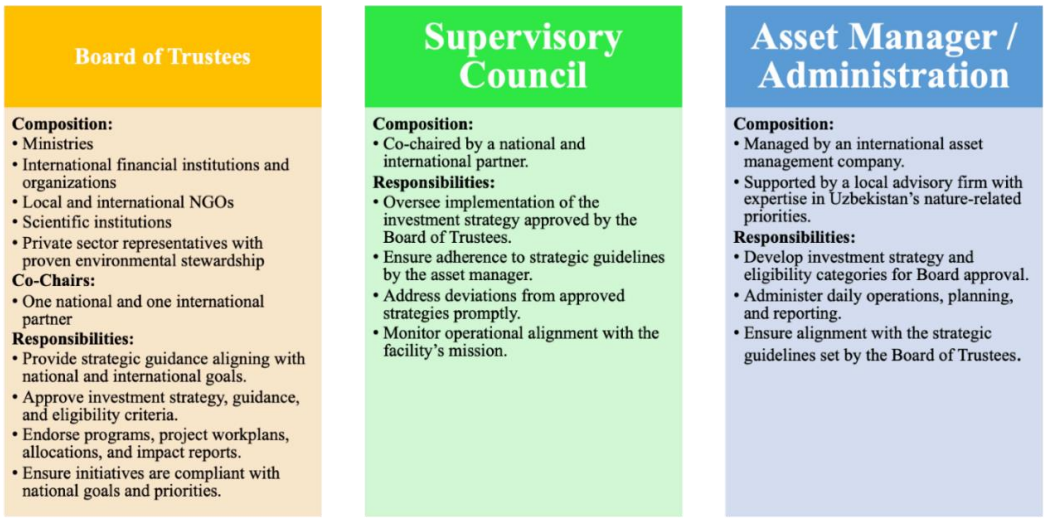
Figure 3 shows a schematic diagram of the Blended Finance Facility, showing the flow of capital between supply and demand while highlighting the role of governance and oversight mechanisms in the operation. On the capital supply side (left), diverse contributors are shown including private sector investors (domestic and international), public sector entities, MDBs, DFIs, philanthropic donors, and the Government of Uzbekistan. In this, the government serves a multifaceted role, acting not solely as a capital provider through grants or guarantees but also as a regulatory facilitator and a participant in the advisory board of the facility. This involvement works to create an enabling environment for investment while ensuring alignment with national biodiversity and climate priorities. Additionally, finance solutions as included in the BFP can provide capital in the form of non-repayable debt, further diversifying the funding base. As an example, the income generated from Conservation License Plates (FS №6) can be paid to the facility as non-repayable capital.

On the capital demand side (right), the diagram highlights the range of interventions that can be financed through the Blended Finance Facility in the form of grants and loans. These interventions target key areas such as local communities and green business, biodiversity conservation, ecosystem restoration, and the explicit finance solutions from the BFP. Return-generating loans ensure the facility's financial sustainability by enabling repayment to capital providers, while grand-based financing supports high-impact projects where immediate financial returns are less feasible. The asset manager holds the responsibility of balancing the investment portfolio to achieve a dual mandate of delivering measurable environmental outcomes and meeting a certain target financial return for capital providers on the supply side.

The External Verifier holds a key role in ensuring accountability, transparency, and credibility. They independently conduct environmental and social impact measurements to validate the outcomes of funded projects and mitigate greenwashing, while also providing reporting and assurance to capital providers and other stakeholders.

The governance structure comprises of three main components, each with distinct roles and responsibilities, ensuring that the facility operates effectively and aligns with both national and international commitments. Figure 4 below provides an overview of this.

Figure 4: Overview of Governance Structure



Board of Trustees

The Board of Trustees is expected to include key national government organizations, such as the MoE and MoEF, international financial institutions, international organizations, local and international non-governmental organizations (NGOs) and scientific institutions. Another characteristic of the facility will be the inclusion of private sector representatives. They will play an important role in shaping the Blended Finance Facility's strategic direction giving the perspective of the local business. Only companies with a verifiable track record in environmental stewardship and sustainable development will be eligible to represent the Uzbek private sector on the board. This ensures that private sector involvement actively contributes to the facility's mission of driving sustainability and environmental progress. This board should be co-chaired by both a national and an international partner, who have equal voting rights. Their key responsibilities encompass providing strategic guidance that aligns with national interests and international commitments. They are also responsible for endorsing and approving the investment strategy, investment guidance and eligibility criteria suggested by the asset manager, along with approval of programs, project workplans, allocation and impact reports. The Board of Trustees ensures that the organization's initiatives are both strategically sound and compliant with overarching national goals and priorities.

Supervisory Council

The Supervisory Council, also co-chaired by a national and an international partner, oversees the implementation of the investment strategy proposed by the asset manager and approved by the Board of Trustees. Their role is crucial in ensuring that the facility's strategic guidelines and operations remain on track and that the strategic directives are properly executed. The council's oversight ensures that the asset manager adheres to the established guidelines and that any deviations are promptly addressed.

Asset Manager / Administration

The asset manager develops the strategy and the investment eligibility categories, which are proposed to the Board of Trustees for endorsement and approval. The asset manager fulfils the administrative functions of the facility. It is recommended that the management is done by an experienced and reputable international asset management company supported by a local advisory firm with strong local knowledge of nature-related priorities. This arrangement ensures that daily planning, operations, and reporting activities are conducted efficiently and in alignment with the investment strategy whilst operating within the strategic guidelines of the Board of Trustees. Outsourcing to an international asset manager ensures that the expertise required for financial management and operational efficiency is given, ensuring that the facility's resources are managed effectively and transparently. Involving local partners ensures that local priorities and circumstances are incorporated into the investment strategy.

- ***Objectives***

This financial solution is fully in line with new national targets adopted by Uzbekistan under the Kunming-Montreal GBF and specifically corresponds to the National Target 19e (NT 19e) that prescribes instituting by 2030 mechanisms to leverage private finance, including blended finance, in support of biodiversity[44]. The objective of the facility is to address the financial gap identified in the FNA, which is estimated to be around US$60 million and can be sourced from private sector and

[44] https://www.cbd.int/gbf/targets

concessional financing for nature and climate. The establishment of a centralized (blended) finance structure in Uzbekistan aims to provide a cohesive and efficient approach to financing nature-related projects and supporting nature-positive companies across the country. Scalability and sustainability of nature-related financing efforts can be enabled by consolidating resources into a single national-level facility. The facility can streamline the allocation of financial resources from different sources, facilitate better coordination among various stakeholders, and implement standardized evaluation and monitoring processes. This can enhance the impact of projects focused on ecosystem restoration, biodiversity conservation, and sustainable landscape management. Furthermore, a unified facility can attract significant international financing and partnerships, leveraging capital from organizations like the World Bank, Asian Development Bank, GEF, UNDP and a wide range of bilateral development partners. Over time, as the facility establishes its reputation and introduce FSs that generate revenues, there may be potential to issue Nature Bonds in line with the elaboration in FS №10. This would expand the facility's reach by attracting institutional investors such as wealth and pension funds, further enhancing its ability to mobilize resources for biodiversity and climate-focused initiatives. Such a structure can also integrate innovative financing mechanisms and promote an inclusive approach to natural resource management (incl. vulnerable social groups, women and local communities), ensuring long-term ecological and economic benefits for all.

This will be achieved by:

- Conducting a feasibility study to assess the economic, technical, and operational viability of the facility, analyse funding demand, and evaluate whether a new facility is needed or existing legal conduits can be leveraged.
- Undertaking a legal and institutional analysis to identify regulatory, institutional, and financial barriers, ensuring the facility aligns with Uzbekistan's laws and policies while enabling innovative financing mechanisms.
- Securing government stakeholder support by presenting evidence of the facility's benefits, including fiscal risk minimization, private capital mobilization, and alignment with international commitments under the Kunming-Montreal GBF.
- Building partnerships with investors and development finance institutions (DFIs), such as the World Bank, ADB, and bilateral donors, to secure concessional funding, technical expertise, and private sector participation.
- Developing a business plan at the portfolio level to outline investment strategies, project selection criteria, and risk management frameworks, prioritizing high-impact biodiversity and climate projects.
- Establishing an implementation unit responsible for operational management, stakeholder coordination, and ensuring compliance with governance and monitoring frameworks.
- Structuring and operationalizing the facility by developing governance frameworks, financial architecture, and monitoring systems to ensure transparency, adaptability, and measurable outcomes in resource mobilization.

➢ *Expected Impact*

The Blended Finance Facility is expected to play a crucial role in mobilizing the necessary capital for biodiversity and nature-positive projects in Uzbekistan, being the catalyst to implementing additional FSs for addressing key ecological challenges outlined in the NBSAP. With investments made through the facility being aligned with the GBF, financial flows are guaranteed to contribute to domestic biodiversity targets and global environmental goals.

Through offering senior, mezzanine, and junior tranches, each being tailored to different risk appetites, the investment profile of the facility is designed to attract diverse investors. The facility aims to mobilize an initial US$60 million that will be directed towards high-impact biodiversity initiatives, including ecosystem restoration, sustainable agriculture, and conservation efforts. The tranche structure's relative de-risking capacity for de-risking private investment and thereby enables greater private sector participation in biodiversity projects, often otherwise considered too high-risk and underfunded.

In line with maturing investments and return generations under the Blended Finance Facility, the need for concessional financing is expected to gradually decrease. Within a 5-year span, the required credit enhancement for junior and mezzanine tranches is expected to be reduced from 30-40% to 10-20%. The phased transition will foster a more sustainable and market-driven model of biodiversity in Uzbekistan, ensuring long-term viability and the scaling of financial flows. Furthermore, investors are offered exposure to multiple biodiversity-related projects, helping mitigate individual project risk and strengthening overall resilience of investments, increasing investor confidence, and broadening the impact of biodiversity finance. The centralized financial management and alignment with best practices provides the expected effect of more transparent and accountable resource allocation, aligning interest of stakeholders, attracting confidence, and fostering cross-sectoral trust and collaboration, as well as improving overall governance of the environmental sector.

- ***Potential Financial Results***

The anticipated financial returns from the solution need further deep dive and structuring to come up with reasonable estimates. Depending on the FS which will be channelled through the facility, there will be different aggregation of the expected financial results from the table below:

Finance Solution	Name	Expected Financial Result to 2034 (US$)
FS №3	Biodiversity Credits	**5-15 million** at baseline or **50-100** million at scale up scenario
FS №4	Repurposing Subsidies	**960.6 million** (from agriculture sector alone extrapolated from 2023 subsidies)
FS №6	Conservation License Plates	**12 million**
FS №7	Crowdfunding	**19.155 million**
FS №9	REDD+	**2.5 billion**
FS №10	Nature Bonds	**100 million** (from single issuance)
Total		**3,641.75 million** (with FS 3 ranges averaged at US$50 mln.) **3,591.75 million** (excluding FS3) **1,091.75 million** (excluding FS 3 and FS 9)

- ***Key implementation steps***

№	***Step***	***Process Lead***	***Key stakeholders***	***Indicative Timeframe*** *(steps can be done in parallel)*	***Estimated Budget*** *(in US$)*

1	*Advancing the initiative by conducting iegal and feasibility analysis*	*MoE*	*UNDP, MoEF, Outsourced advisory service*	*3 months*	*10,000*
2	*Developing necessary legislative, governance and accountability frameworks*	*MoE, MoEF*	*UNDP, Outsourced advisory service*	*6 months*	*30,000*
3	*Identification and selection of strategic partners for establishment and implementation (such as ADB, GGI, EBRD, etc.)*	*MoE, MoEF*	*UNDP, Outsourced advisory service*	*3 months*	*20,000*
4	*Establishing necessary legislative, governance and accountability frameworks*	*MoE, MoEF*	*UNDP, Strategic Partners*	*6 month*	*10,000*
5	*Selection of the Asset Manager*	*MoE, MoEF*	*UNDP, Strategic Partners, Outsourced advisory service*	*2 months*	*10,000*
6	*Development of investment eligibility categories aligned with ESGs and SDGs*	*Asset Manager*	*UNDP, MoE, MoEF, Strategic Partners*	*2 months*	*10,000*
7	*«No Product» Roadshow*	*Asset Manager*	*UNDP, MoE, MoEF, Strategic Partners*	*1 months*	*30,000*
8	*Formal Launch of the Blended Finance*	*MoE, MoEF,*	*UNDP, Strategic Partners*	*1 month*	*20,000*
9	*"Product" Roadshow of the developed concept of the Blended Finance Facility*	*Asset Manager*	*UNDP, MoE, MoEF, Strategic Partners*	*3 months*	*Funded by Asset Manager*
8	*Securing a key anchor investor*	*Asset Manager*	*UNDP, MoE, MoEF, Strategic Partners*	*6 months*	*Funded by Asset Manager*
9	*Fundraising and allocation to environmental projects*	*Asset Manager*	*UNDP, MoE, MoEF, Strategic Partners, NGOs, Private sector*	*regular*	*Funded by Asset Manager*
10	*Monitoring and analysis of the results, annual reporting (financial and impact reports)*	*Asset Manager*	*UNDP, MoE, MoEF, Strategic Partners, NGOs, Private sector*	*regular*	*Funded by Asset Manager*
	Total			***3 years***	***150,000***

➢ *Potential Risks and Risk Mitigation*

Description of Key Risks	Likelihood and potential impact of the risk	Mitigation plan
Design Stage		
Legal requirements	Likelihood: **Medium**. The set-up of a legal entity may create uncertainties around regulation and cross-border transactions Impact: If financing vehicle is not correctly structured the cash flows can be lower than expected	There will be legal analysis and advice during the different stages of the set-up. Analysis should be aligned
Fundraising Risk – Securing commitments from investors	Likelihood: **High**. The ability to attract investors will be key. In former blended finance projects, the level of risk-adjusted return is often cited as the main reason why institutional investors remain sidelined Impact: If insufficient interest is raised, financing at large is at risk	The blended nature of the facility should allow for a risk distribution, which should improve risk adjusted returns for investors
Fundraising Risk – Securing commitments from donors	Likelihood: **High**. The ability to attract donor capital is crucial especially for the subordination and de-risking of the facility. Impact: If insufficient interest from donors, attracting investors is at risk	Early outreach to bilateral and multilateral donors as well as philanthropic funds is key to secure soft commitments and allocation of funds.
Implementation Stage		
Regulatory risk	Likelihood: **High**. As this will be a new financial product, there are likely new regulatory frameworks and laws needed to work efficiently. There will be revenues from relatively new financial solutions, e.g. Biodiversity Credits, which are subject to regulatory change Impact: An unfavourable change in the regulatory framework may result in reduced revenue through e.g. credits schemes, which may undermine the rate of return for investors	Clearly communicating the risks to investors and leaving sufficient space to adjust for the regulatory changes Engaging the government from the beginning and securing long term assurance on the favorable regulatory framework
Operational risk	Likelihood: **Medium**. As the project aggregators generally have some experience with project development – yet execution can be challenging within developing economies Impact: Less results & impact being generated than expected and thus lower return on investment	Project Management Organisation (PMO) with relevant experience will be selected Creating buffers into the structure, vetting project aggregators on their risk mitigation plans and diversifying revenue streams as much as possible
ESG risks	Likelihood: **Medium**. When financing and implementing projects according to Euro-centric standards, there is a risk of "sustainability colonialism" where the local ecosystems and cultures are not included. The facility is potentially designed in Europe but implemented in Uzbekistan, which poses the risk of enforcing unsuitable ideas into the local context. Impact: Facility financing activities not aligned with local stakeholders' priorities, resulting in negative impact	On the ground activities and strategies will be prioritized by a multi-stakeholder governance UNDP's SES and the World Bank's Environmental and Social Safeguards Framework will be followed

b) Finance Solution №2 – Introducing **Biodiversity Offsets** as a regulatory instrument in Uzbekistan

- ***Summary***

Biodiversity Offsets are conservation activities aimed at compensating for biodiversity loss due to development projects, a concept introduced to Uzbekistan in 2013 through a UNDP project that developed guidelines and a draft law for the oil and gas sector. The proposed FS aims to build on this work by reviewing the draft law, resuming stakeholder consultations, and facilitating the adoption of the legal framework to implement biodiversity offsets across various industrial sectors in Uzbekistan.

Uzbekistan plans to allocate 57% of investments to the oil and gas sector according to medium-term industrial plans of the government. This will put Uzbekistan's biodiversity under pressure. Biodiversity offsets, as the final step in the mitigation hierarchy, are designed to address residual impacts on biodiversity that cannot be avoided, minimized, or restored. These offsets aim to ensure no net loss (and preferably a net gain) of biodiversity by restoring, enhancing, or protecting biodiversity in other areas. The design of offset mechanisms can integrate with frameworks like the Blended Finance Facility to direct resources toward high-priority conservation projects and interventions. The next steps will be resumption of stakeholder consultations and legislative initiative, as well as capacity building and learning lessons from other countries, including Kazakhstan's Biodiversity offset journey.

- ***Justification for the solution and Uzbekistan's context***

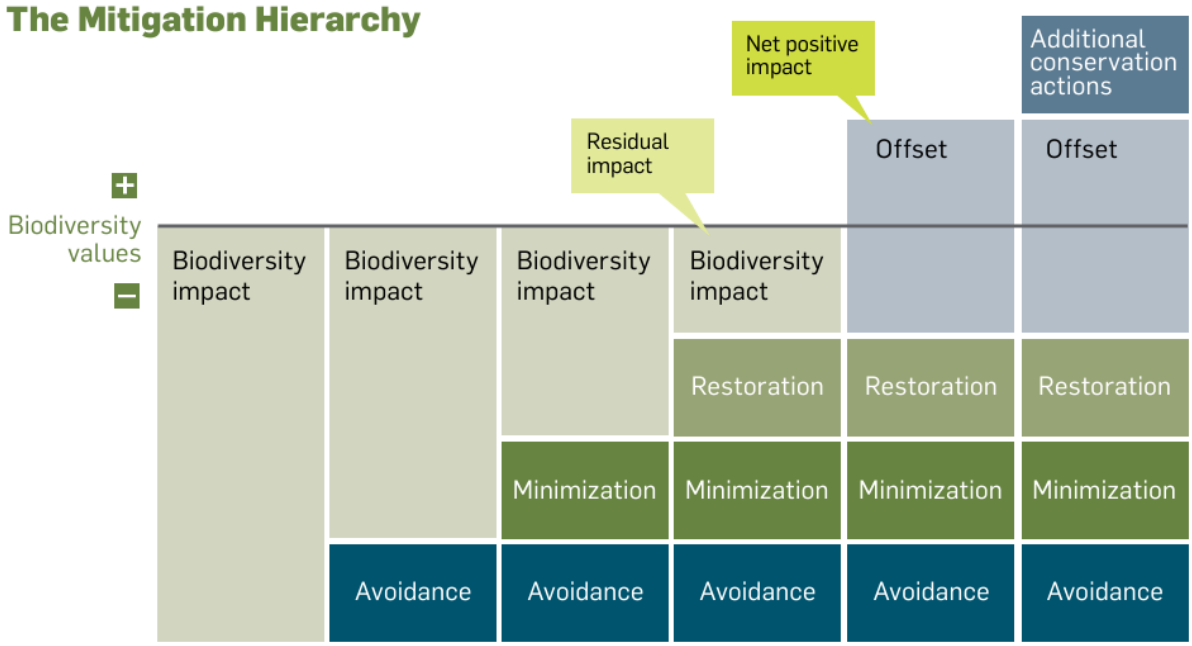
Biodiversity Offsets represent conservation activities designed to compensate the biodiversity loss caused by development projects. This concept was first introduced to Uzbekistan authorities in 2013 through the GEF-funded UNDP project, "Integrating Biodiversity Conservation Principles into Uzbekistan's Oil and Gas Sector". As part of this project, guidelines for biodiversity conservation methods in the oil and gas sector in Uzbekistan's arid ecosystems[45] were developed, along with a draft law. Despite being submitted to the Cabinet of Ministers for approval, the draft law was never presented to the parliament for adoption and enactment. Therefore, the proposed FS could leverage the work and outcomes of the UNDP project by continuing from where it left off. This would involve reviewing the draft law in light of the current national context, resuming stakeholder consultations, and ultimately adopting the legal act to implement the biodiversity offsets scheme across various industrial sectors in Uzbekistan.

According to the Business and Biodiversity Offsets Programme (BBOP), offsets are "measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development and persisting after appropriate prevention and mitigation measures have been implemented"[46]. Biodiversity offsets are conservation measures designed to compensate for the unavoidable ecological impacts of projects, supplementing existing prevention and mitigation efforts. These offsets are only suitable for projects that have strictly adhered to the mitigation hierarchy (Figure 5), a recognized framework for biodiversity conservation. The primary goal is to achieve No Net Loss (NNL) of biodiversity, and preferably a Net Gain (NG), through measurable and enforceable schemes that are effectively implemented, monitored, and evaluated. Biodiversity offsets are not to be interpreted as primarily a money-generating mechanism.

[45] Guide to biodiversity conservation methods in the oil and gas sector in arid ecosystems of Uzbekistan: Methodological manual / Akramkhodjaev A. A., Sherimbetov Kh. S., Bykova E. A., Chernogaev E. A. - Tashkent: Baktria press, 2015. - 120 p.
[46] BBOP (2009), Business, Biodiversity Offsets and BBOP: An Overview

While they may often result in the generation of funds for targeted conservation approaches, this is rather a secondary benefit. The primary purpose remains the ecological impacts relating to biodiversity harm reduction. However, it is crucial to recognize that there will always be biodiversity loss preceding an offset. Offsets are considered a last resort and may be deemed inappropriate in certain circumstances where they cannot ensure these outcomes[47].

Figure 5: The mitigation Hierarchy and biodiversity offsetss[48]



Given the importance of the mining, oil and gas sectors for the country and the medium-term industrial plans allocating 57% of investments to these sectors[49], there is a pressing need for all current and future mining, oil and gas activities in Uzbekistan to reduce their negative effects on biodiversity, thereby enhancing the conservation prospects of the impacted ecosystems[50]. The establishment of biodiversity offsets as part of the mitigation hierarchy for these sectors should be implemented to achieve this goal.

Uzbekistan's steppes represent one of the few remaining examples of the globally endangered dry temperate grassland biomes. For example, the Ustyurt plateau in northwest Uzbekistan, an important winter habitat for the migratory and critically endangered saiga antelope, exemplifies the significant conservation challenges due to rapid environmental changes and increasing industrial activities, particularly oil and gas extraction. Traditional conservation methods fall short in this dynamic context, as the saiga's extensive migratory patterns and the region's evolving ecosystem require more adaptable solutions. This context provides one potential contextual application where biodiversity offsets provide a promising opportunity to address challenges as part of a broader national mechanism. They

[47] IUCN, (2016), Issues Brief: Biodiversity Offsets - https://www.iucn.org/sites/default/files/2022-04/biodiversity_offset_issues_briefs_final_0.pdf

[48] UN Global Compact & IUCN (2012), A Framework for Corporate Action on Biodiversity and Ecosystem Services.

[49] BIOFIN (2023), Uzbekistan Biodiversity Finance Policy and Institutional Review.

[50] UNDP, (2015), Mainstreaming biodiversity in Uzbekistan's oil and-gas sector policies and operations - https://www.gefieo.org/sites/default/files/documents/projects/tes/3950-terminal-evaluation-annex.pdf

would aim to compensate for habitat loss and fragmentation in the plateau region caused by increased focus on oil and gas exploration by the government.

A comprehensive feasibility study by the Imperial College of London was conducted to explore the potential use of biodiversity offsets in the Ustyurt plateau[51]. The study involved assessing the impacts of industrial activities on the region's biodiversity, with a particular focus on the saiga habitat. Researchers used custom simulation models to predict whether NNL of biodiversity could be achieved under various scenarios. These models considered different socio-ecological baselines and counterfactual scenarios to determine the feasibility and effort required to achieve conservation objectives. The study also involved mapping and measuring vegetation and habitat loss due to infrastructure development, providing a detailed understanding of the ecological impacts of industrial activities. The feasibility study concluded that a combination of flexible and non-flexible offsets is optimal for conserving the saiga antelope in the Ustyurt plateau. Flexible offsets, which allow for variations in the type, location, and timing of conservation actions, are particularly beneficial in dynamic and changing environments. The study highlighted the importance of adaptive management strategies, ongoing monitoring, and tailored offset calculation methodologies to effectively mitigate the adverse effects of industrial development. By integrating conservation efforts with industrial growth plans especially in the mining and oil and gas sectors, biodiversity offsets can provide a sustainable framework for the long-term preservation of Uzbekistan's unique and vulnerable ecosystems, ensuring that economic development does not come at the cost of biodiversity loss.

The current Uzbekistan legal framework does not have an explicit mandate for biodiversity offsets. However, it holds related principles such as “polluter pays” within its environmental laws[52]. Establishing a functioning offset mechanism will require developing a dedicated legal framework that explicitly mandates biodiversity offsets and integrates them within national policies. This framework should formalize the mitigation hierarchy, requiring project developers to prioritize avoiding, minimizing, and restoring biodiversity impacts before resorting to offsets. Institutionalizing the hierarchy within environmental impact assessments and conservation strategies presents a significant opportunity to ensure systematic and transparent biodiversity management. Efforts to introduce biodiversity offsets in Uzbekistan began in 2013 through the GEF-funded UNDP project, “Integrating Biodiversity Conservation Principles into Uzbekistan’s Oil and Gas Sector”. This initiative developed guidelines for biodiversity conservation in arid ecosystems and drafted a law to incorporate offsets into environmental permitting processes. Although the draft law was submitted to the Cabinet of Ministers, it was never presented to parliament for adoption. The proposed financial solution could build on this foundational work by revisiting the draft law, aligning it with Uzbekistan’s current context, and resuming stakeholder consultations to finalize a comprehensive legal framework for biodiversity offsets across industrial sectors.

Offset-generated funding can be directed towards various conservation areas such as state-managed protected areas (PA), community-based conservation areas, or directly through to the Blended Finance Facility. Lessons from Kazakhstan’s application of biodiversity offsets suggest that channelling funds into a mechanism similar to the facility proposed in this report can enhance targeted conservation outcomes[53]. Kazakhstan’s approach to integration of biodiversity offsets has emphasized capacity

[51] Imperial College London Department of Life Sciences, (2014), Biodiversity offsets for moving conservation targets - https://www.saigaresourcecentre.com/sites/default/files/2021-08/joebull-compressed.pdf

[52] International Energy Agency (2022). Concept of environmental protection of the Republic of Uzbekistan until 2030. https://www.iea.org/policies/15258-concept-of-environmental-protection-of-the-republic-of-uzbekistan-until-2030

[53] Van Zyl, H., UNDP BIOFIN (2021). Kazakhstan Biodiversity Offsets Guideline (BIOFIN). DOI:10.13140/RG.2.2.29856.76805

building for government officials and developers, alongside stakeholder engagement, to create an enabling environment. Uzbekistan can draw from this model by implementing training programs and fostering Public Private Partnerships (PPP) to support offset mechanisms, in addition to developing tools such as biodiversity mapping and offset calculators to enhance decision-making and monitoring. In the case of Kazakhstan, offsets are embedded into the Environmental Code and EIA processes, ensuring regulatory compliance, while using both flexible and non-flexible offset mechanisms to allow tailored conservation actions based on project impacts. Lessons from this process can inform implementation in the Uzbekistan context.

- ***Objectives and Key Tasks***

The fundamental objective of biodiversity offsets in Uzbekistan is to ensure that economic development, including resource extraction and infrastructure projects, does not result in a net loss of the country's unique biodiversity once other preventative measures have been exhausted. In line with Uzbekistan's national priorities, offsets aim to achieve measurable conservation outcomes that maintain or enhance the country's ecosystems and biodiversity as a last resort activity within the mitigation hierarchy. This requires setting specific, context-sensitive conservation objectives tailored to Uzbekistan's environmental, legal, and institutional landscape. Establishing these goals ensures that the offsets provide tangible and accountable benefits to the ecosystem, maintaining or enhancing biodiversity levels despite development pressures. The following key tasks are identified in implementing offsets:

- Conducting a design study to assess the feasibility of biodiversity offsets, evaluating regulatory, ecological, and economic conditions required for their effective implementation while considering Uzbekistan's development priorities and unique ecosystems.
- Mapping existing extractive projects to identify priority sites for piloting biodiversity offsets and ensuring alignment with the mitigation hierarchy framework.
- Promoting transboundary cooperation with Kazakhstan, leveraging shared habitats (i.e. saiga antelope ranges) to align offset policies, reduce administrative costs, and improve conservation outcomes based on Kazakhstan's experience incorporating offsets into its Environmental Code.
- Developing a national biodiversity offset policy to provide clear guidance on when offsets are required, how they are implemented, and who is responsible for oversight. The policy will establish rules, designate a competent authority, and ensure offsets adhere to conservation standards.
- Creating financial procedures to channel biodiversity offset funds into the Blended Finance Facility (FS №1) or other appropriate financing vehicles to centralize resource management and optimize conservation funding.
- Developing monitoring, reporting, and verification frameworks to ensure progress toward offset objectives through transparent management plans, site-based monitoring, third-party verification, and compliance enforcement.

- ***Expected Impact***

Implementing biodiversity offsets in Uzbekistan is expected to yield positive impacts on both biodiversity and socio-economic development. By integrating these offsets into industrial projects, particularly in the mining, oil and gas sectors, Uzbekistan can achieve a balance between economic growth and environmental preservation.

The primary impact of implementing biodiversity offsets will be the protection and enhancement of biodiversity. By ensuring NNL and striving NG in biodiversity, these offsets will help maintain or even increase the populations of threatened species, such as the saiga antelope, and preserve critical habitats, including the dry temperate grassland biomes of Uzbekistan's steppes. This will contribute to the overall health and resilience of ecosystems, supporting a wide range of flora and fauna.

Offsets aimed at protecting and restoring critical habitats will enhance habitat connectivity, allowing species to move freely across the landscape. This is particularly important for migratory species like the saiga antelope, which require extensive, connected habitats for their seasonal movements. Improved connectivity will reduce the risks of habitat fragmentation and isolation, ensuring better survival prospects for these species.

The implementation of biodiversity offsets will necessitate the strengthening of legal and institutional frameworks in Uzbekistan. This includes updating national laws to incorporate mitigation hierarchies and biodiversity assessment guidelines and ensuring robust enforcement of these regulations. Such frameworks will provide the necessary support for effective biodiversity conservation and ensure long-term compliance and enforcement.

Given the transboundary nature of many of Uzbekistan's ecosystems, international collaboration with neighbouring countries is crucial. Coordinated offset policies and conservation efforts across borders will enhance the effectiveness of biodiversity offsets and promote regional biodiversity conservation. Such collaboration can also lead to shared knowledge, resources, and strengthened regional conservation initiatives.

- ***Potential Financial Results***

The below estimations rely on the fundamental research prepared by Joseph William Bull of the Imperial College London Department of Life Sciences which was calculated for a specific territory within the country[54]. Further analysis and research are needed to expand this analysis to national level.

In a summarized explanation to the extensive calculations, implementing biodiversity offsets in Uzbekistan, particularly on the Ustyurt plateau, represents a significant financial commitment with potential ecological and economic benefits. Gas extraction activities are expected to impact approximately 1,200 km² of vegetation, necessitating compensatory measures to achieve NNL of biodiversity. With compensation ratios ranging from 1:1 to 1:5, the cost of these offsets is estimated to range from US$12 million to US$60 million, based on a restoration cost of US$10,000 per hectare. These offsets are critical for balancing industrial development with ecological preservation, making them an essential component of sustainable development strategies.

Analysing the cost-effectiveness of various offset strategies highlights different financial implications over the coming 5 years. A flexible offset strategy requires an investment of around US$50 million, yielding a sustainability ratio (SR) of 0.8, while a more rigid approach, costing US$75 million, achieves a higher SR of 1.2, indicating better long-term sustainability. A mixed strategy, blending flexible and rigid elements, offers a balanced approach with a budget of US$65 million and an SR of 1.0, optimizing both cost and conservation outcomes. Overall, the financial outlay for biodiversity offsets in Uzbekistan is substantial, with costs ranging between US$36 million and US$75 million, depending on the chosen strategy. By carefully designing and implementing these offsets, Uzbekistan

[54] Imperial College London Department of Life Sciences, (2014), Biodiversity offsets for moving conservation targets - https://www.saigaresourcecentre.com/sites/default/files/2021-08/joebull-compressed.pdf

can protect its biodiversity while supporting continued industrial development, positioning itself as a leader in sustainable resource management.

Table 3. Sustainability ratios (SR) and budget spent (US$) on offsetting in the Ustyurt

LANDSCAPE SCALE		Years over which evaluated				
		5	10	25	50	100
Weak	SR					
	Robust	0.99687	0.9938	0.98376	0.9616	0.8481
	Nominal	1.1171	1.3018	1.6471	1.8742	1.7803
	Opportunity	1.2546	1.6051	2.1409	2.5026	2.7742
	$ (P:R)					
	(i)	145288:0				145288:0
	(ii)	145288:0				0:49250
	(iii)	0:300				0:300
Strong	SR					
	Robust	0.99044	0.97817	0.9394	0.8732	0.7141
	Nominal	1.0007	1.0014	1.0026	1.0032	1.3572
	Opportunity	1.0107	1.0014	1.0713	1.1607	1.8194
	$ (P:R)					
	(i)	145288:0				
	(ii)	145288:0				
	(iii)	0:0				

➢ *Key Implementation Steps*

№	*Step*	*Process Lead*	*Key stakeholders*	*Indicative Timeframe* (steps can be done in parallel)	*Estimated Budget* (in US$)
1	*Initial research and stakeholder consultations*	*MoE*	*UNDP, Relevant ministries and agencies, Academic institutions, Local government bodies, NGOs, Private sector, Outsourced advisory service*	*3 months*	*10,000*
2	*Development and adoption of the necessary regulatory and legal framework*	*MoE*	*UNDP, Relevant ministries and agencies, Academic institutions, Outsourced advisory services*	*6 month*	*30,000*
3	*Identification of potential Biodiversity Offset projects*	*MoE*	*UNDP, Relevant ministries and agencies, Academic institutions, Local government bodies, NGOs*	*6 months*	*10,000*
4	*Design and establishment of monitoring, reporting, and verification (MRV) systems*	*MoE*	*UNDP, Independent auditors, Academic institutions, International devepoment partners, Outsourced advisory services*	*6 months*	*20,000*

5	*Building stakeholders' capacities on biodiversity offsets (workshops and trainings)*	*MoE*	*UNDP, Relevant ministries and agencies, Academic institutions, Local government bodies, NGOs*	*6 months*	*30,000*
6	*Piloting Biodiversity Offset projects in industrial SOEs*	*MoE*	*UNDP, Relevant ministries and agencies, Academic institutions, Local government bodies, NGOs, Outsourced advisory services*	*2 years*	*50,000*
7	*Expanding the practice statewide to include both the public and private sectors, results monitoring*	*MoE*	*UNDP, Relevant ministries and agencies, Academic institutions, Local government bodies, NGOs, Outsourced advisory services*	*Ongoing*	*At the expense of the relevant responsible state body*
	Total			***2 years***	***150,000***

- ***Potential Risks and Risk Mitigation***

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Legal and Regulatory Challenges	Likelihood: **High.** Establishing a legal framework for biodiversity offsets may create uncertainties around regulations and compliance Impact: Misaligned legal frameworks can result in non-compliance and reduced effectiveness.	Conduct a comprehensive legal analysis involving national and international experts. Develop clear, robust, and adaptable legal and regulatory frameworks. Engage stakeholders in the development process to ensure buy-in and compliance. Use initial pilots to inform requirements for legislative change in order to hold transparent and complete information. Piloting of biodiversity offsets could be done to mitigate risks of regulatory and legal challenges and encourage change in legislation.
Lack of Baseline Data	Likelihood: **Medium.** Inadequate baseline data on biodiversity can hinder the design and assessment of offsets. Impact: Poorly designed offsets may fail to achieve No Net Loss (NNL) or Net Gain (NG) in biodiversity.	Conduct detailed baseline studies and biodiversity assessments. Collaborate with academic institutions and environmental organizations to gather comprehensive data. Use advanced technologies like remote sensing for accurate data collection.
Public Awareness and Acceptance	Likelihood: **Medium.** Public awareness and acceptance of biodiversity offsets may be limited initially. Impact: Low public support can undermine the program's legitimacy and effectiveness.	Implement extensive public education and outreach campaigns to raise awareness about the benefits of biodiversity offsets. Use various communication channels including social media, traditional media, and community meetings. Engage local influencers and community leaders to build trust and acceptance.
Lobbying Risk from Developers/Energy Sector	Likelihood: **High** Developers and energy sector stakeholders may lobby against biodiversity offset mechanisms, citing increased project costs and regulatory burdens. Impact: Policy implementation may be delayed, offset requirements may be weakened, loopholes	Engage key industry stakeholders early to address concerns and build alignment. Provide evidence-based advocacy on long-term economic and environmental benefits of biodiversity offsets. Develop incentive structures (such as tax breaks or streamlined permitting) to encourage compliance. Maintain ongoing policymaking process transparency to counteract lobbying efforts and build public trust.

	may be created undermining biodiversity conservation goals.	
Implementation Stage		
Monitoring and Evaluation Challenges	Likelihood: **High.** Ensuring effective monitoring and evaluation of offset projects can be complex. Impact: Ineffective monitoring can lead to failure in achieving conservation goals and misallocation of funds.	Develop robust MRV systems with clear protocols and guidelines. Use independent auditors and third-party evaluations to ensure transparency and accountability. Regularly review and update MRV systems based on feedback and new insights.
Equivalence and Additionally Issues	Likelihood: **Medium.** Ensuring that biodiversity offsets provide equivalent and additional conservation benefits can be challenging. Impact: Offsets may not fully compensate for biodiversity losses, failing to achieve NNL or NG.	Implement rigorous assessment criteria for equivalence and additionally. Use comprehensive baseline data and impact assessments to design effective offsets. Engage independent experts to validate offset designs and outcomes.
Community Engagement and Benefit Sharing	Likelihood: **Medium.** Ensuring meaningful community engagement and equitable benefit sharing can be difficult. Impact: Lack of community support can lead to conflicts and reduce the effectiveness of offset projects.	Develop inclusive community engagement strategies involving local leaders and stakeholders. Ensure transparent benefit-sharing mechanisms that provide tangible benefits to local communities. Use participatory approaches to involve communities in the planning and implementation of offset projects.
Financial Sustainability	Likelihood: **Medium.** Securing long-term funding for offset projects can be challenging. Impact: Insufficient funding can lead to incomplete or unsuccessful offset projects.	Establish a dedicated biodiversity offset funding mechanism supported by public and private sources. Explore innovative financing mechanisms such as environmental trust funds. Ensure financial transparency and accountability to build investor confidence..
Coordination and Integration	Likelihood: **Medium.** Coordinating among multiple stakeholders and integrating offsets into broader land-use planning can be complex. Impact: Poor coordination can lead to overlaps, inefficiencies, and conflicts.	Develop clear coordination mechanisms and institutional frameworks to facilitate collaboration among stakeholders. Integrate biodiversity offsets into national and regional land-use planning processes. Use digital platforms and tools for effective coordination and information sharing.
Technological Integration	Likelihood: **Medium.** Integrating new technologies and systems for monitoring and implementing offsets can face technical challenges. Impact: Technical issues can delay implementation and reduce efficiency.	Engage experienced IT professionals and environmental technologists. Conduct thorough testing and pilot programs before full-scale implementation. Ensure continuous technical support and capacity building for stakeholders.

c) Finance Solution №3 – Investigating the feasibility of a **Biodiversity Credit** market for Uzbekistan, with the possibility of future implementation

- ***Summary***

Uzbekistan may be in a position to pioneer biodiversity credits as an innovative FS to align economic development with ecological preservation. With the country's rapid development across the agriculture, mining, and construction sectors, biodiversity credits can help balance development impacts while contributing to conservation goals. This mechanism incentivizes the private sector to invest in restoring ecosystems, protecting endangered species, and enhancing habitat connectivity, supporting Uzbekistan's commitment to expanding protected areas and restoring degraded ecosystems. Currently, only a few pilot biodiversity credit projects exist around the world, with total cost of US$8 million. These are being tested by select countries with advanced institutional and legislative frameworks. Therefore, implementing this financial strategy in Uzbekistan would first require a dedicated feasibility study to analyse specific legislative and institutional frameworks.

- ***Justification for the solution & Uzbekistan's Context***

Biodiversity credits represent an innovative financial mechanism to address funding gaps for conservation while promoting sustainable land use and economic development in Uzbekistan. They represent an asset created through investments in the restoration, conservation, and development of biodiversity in a specific landscape. It can subsequently be marketed locally and globally to enterprises interested in purchasing such assets to fulfil their corporate ESG obligations. In other words, the value of the asset is determined by the measured and verified progress made in improving the overall well-being of an ecosystem and/or the quantity of target species in the predefined territory. While various approaches and methodologies exist for implementing this new financial instrument, essential requirements such as measurability, monitoring, verification, and certification of the process and results remain. This, in turn, will require a comprehensive approach from the government to create an enabling environment for the introduction of the new mechanism in the local market, including policy, legislation, and institutional changes.

Given the novelty of using this approach in a national context, implementation of it as a solution in Uzbekistan is contingent on an initial dedicated feasibility study to evaluate its viability, potential outcomes, and implementation pathways. If the study suggests positive results, the initiative can transition towards being applied in Uzbekistan, potentially enabling significant environmental and socio-economic benefits. Taking inspiration from projects such as the Bosque de Niebla initiative in Colombia[55], biodiversity credits in Uzbekistan could fund long-term conservation agreements, with each credit tied to measurable biodiversity outcomes, such as conserving or restoring a specified area of land over a defined period. This model could be particularly impactful in priority areas like the Aral Sea basin and degraded forests.

While they may be applied in development contexts to address unavoidable impacts on biodiversity, biodiversity credits differ fundamentally from traditional offset mechanisms. Rather than simply compensating for biodiversity loss, biodiversity credits are intended to provide positive contributions

[55] ClimateTrade (2022). ClimateTrade and Terrasos jointly promote Voluntary Biodiversity Credits to support biodiversity conservation. https://climatetrade.com/climatetrade-and-terrasos-jointly-promote-voluntary-biodiversity-credits-to-support-biodiversity-conservation/

to conservation efforts. When used to address residual impacts, they are to be applied thoughtfully within a mitigation framework, ensuring that any offsetting is done carefully in alignment with like-for-like conservation standards. The country's proactive approach to biodiversity conservation, particularly regarding development impacts like oil and gas infrastructure projects, highlights its dedication to integrating conservation into broader development strategies[56].

The National State of the Environment Report[57] outlines Uzbekistan's commitment to biodiversity conservation, evidenced by 11 newly created protected natural areas between 2019 and 2022, which by most recent stats amount to 6,3 million ha, or 14.08% of the country's total area. The new national targets developed based on the Kunming-Monreal GBF envisage the expansion of PAs to 30% (National Target 3) of land and the restoration of 30% (National Target 2) of degraded ecosystems, in addition to developing and piloting innovative financial mechanism (National Target 19d), including biodiversity credits[58]. By integrating biodiversity credits into its economic strategy, Uzbekistan can prevent habitat fragmentation and enhance ecosystem connectivity, supporting sustainable practices across various sectors, including agriculture, forestry, construction, and mining[59].

Rural communities in Uzbekistan are heavily reliant on ecosystems for their livelihoods, underscoring the necessity of sustainable resource management. Biodiversity credits could provide a mechanism to fund critical conservation activities such as reforestation, wetland restoration and ecotourism. The system could additionally facilitate the establishment of PAs that are privately protected. Although no non-state PAs currently exist in Uzbekistan, the legal framework allows for their creation, and biodiversity credits could serve as a funding stream for these initiatives.

- ***Objectives***

The primary objective of this finance solution is to evaluate and potentially implement biodiversity credits as a sustainable financing mechanism to support conservation efforts, foster socio-economic development, and incentivize sustainable land use practices in Uzbekistan. The scope of the solution is first set by feasibility study before it can be determined whether to implement. Considering that the government has already been working on introducing carbon market mechanisms in Uzbekistan, introduction of the biodiversity credit mechanism could also be possible with the necessary methodological and advisory support from relevant international partners and interested investors. The following outlines how this will be achieved, broken down into first the steps relating to feasibility study, and then those relating to implementation, if the study indicates viability.

Feasibility stage

1. Determining baseline conditions and conducting scenario analysis to establish ecological baselines in targeted areas and assess the additional conservation benefits achievable through biodiversity credits. This step will define measurable indicators and outline expected outcomes compared to a business-as-usual scenario.

[56]WRI, (2024), Can 'Biodiversity Credits' Boost Conservation? - https://www.wri.org/insights/biodiversity-credits-explained

[57]Ministry of Ecology of the Republic of Uzbekistan & IISD, (2023), National State of the Environment Report: Uzbekistan - https://www.iisd.org/system/files/2024-02/uzbekistan-state-of-the-environment-en.pdf

[58]https://www.cbd.int/gbf/targets

[59]Ministry Of Economic Development and Poverty Reduction Uzbekistan, (2020), Rural Infrastructure Development Project Resettlement Policy Framework (RPF) - https://documents1.worldbank.org/curated/en/711031567746568673/pdf/Resettlement-Policy-Framework.pdf

2. Conducting risk analysis and additionality assessment to identify technical, financial, and institutional risks associated with biodiversity credit mechanisms. This analysis will also ensure biodiversity credits deliver new and additional conservation outcomes beyond existing efforts.
3. Analysing and selecting a suitable biodiversity credit methodology based on international best practices. This will involve evaluating frameworks for quantifying and certifying biodiversity improvements and adapting them to Uzbekistan's unique ecosystems and institutional landscape.
4. Developing a roadmap for implementation to outline the necessary steps for operationalizing biodiversity credits, including stakeholder roles, funding requirements, and key milestones.

Implementation stage

5. Identifying strategic implementation partners from public, private, and international sectors to support the design, financing, and rollout of biodiversity credit mechanisms.
6. Building institutional capacity by providing training and technical assistance to relevant government entities, stakeholders, and private sector partners to manage, monitor, and promote biodiversity credit programs effectively.
7. Developing and adopting a legal and institutional framework to support biodiversity credits, including establishing governance structures and robust monitoring, reporting, and verification systems to ensure transparency, accountability, and measurable results.
8. Launching pilot projects to test biodiversity credit implementation in priority ecosystems, such as the Aral Sea Basin or degraded landscapes. Pilot results will provide critical insights to refine methodologies, address challenges, and scale successful approaches nationally.

- ***Expected Impact***

If found viable through feasibility study, biodiversity credits could deliver significant environmental, socio-economic, and institutional benefits for Uzbekistan. Environmentally, they hold the potential to fund large-scale restoration of ecosystems such as the Aral Sea basin wetlands and *tugai* (riparian) forests, enhancing biodiversity, improving water quality, and stabilizing degraded soils. Projects could also target endangered species[60], such as the Bukhara deer and Saiga antelope. However, these outcomes depend on the effective design and implementation of credit mechanisms and their alignment with national conservation priorities.

Although there are unavoidable costs associated with introducing the mechanism, there are also significant potential benefits for the government and society. Creating the necessary conditions and implementing the new mechanism could make investments in biodiversity profitable, thereby generating genuine interest from the private sector. For instance, the introduction of the biodiversity credit mechanism could offer a solution to the persistent problem of rangeland degradation, the largest ecosystem in Uzbekistan. Biodiversity credits can help change the mindset of pasture users, shifting them from a purely consumerist attitude to an ecosystem approach in pasture use. This shift will ultimately have a positive impact on the overall environmental situation in the country and the region. Leveraging this mechanism will naturally require pasture users to reduce pressure on pastures by addressing main degradation drivers, such as overgrazing, and adopting sustainable pasture use practices and high-tech solutions like rotation plans, livestock monitoring, and afforestation in their daily operations.

[60] Fiegenbaum, J. (2024). Navigating Voluntary Biodiversity Credits: A Comprehensive Guide. https://www.fiegenbaum.solutions/en/blog/navigating-voluntary-biodiversity-credits-a-comprehensive-guide

Furthermore, biodiversity credits can be combined with the carbon credit mechanism, as improved vegetation and soil condition on the vast territories of over 20 million hectares of rangelands will significantly contribute to carbon sequestration. In fact, if properly implemented, these two mechanisms combined can provide a sustainable source of income for rural communities by creating new forms of businesses and jobs. They offer an effective win-win for socio-economic and environmental development.

Socio-economic impacts, while promising, will require careful structuring to ensure inclusivity and equity. Biodiversity credits could create jobs in nature stewardship, monitoring, and ecological restoration services, particularly in vulnerable rural areas such as the Nuratau Mountains and Fergana Valley[61]. Additionally, integrating conservation with economic activities such as agroforestry, eco-tourism, and sustainable agriculture could diversify livelihoods. These benefits will hinge on sufficient market demand, investor engagement, and capacity-building efforts to support community participation.

Institutionally, biodiversity credits could establish a sustainable conservation financing mechanism, mobilizing private sector investments to complement public funding. Uzbekistan's GSP+ status with the EU offers a pathway to access international markets, but the success of such efforts will depend on the robustness of the credit system and investor confidence. Regional cooperation, particularly for projects addressing transboundary challenges like water management in the Aral Sea basin, could further amplify these benefits, provided governance and stakeholder alignment are strong.

While the potential is clear, the realization of these impacts will depend on the feasibility study's findings, the creation of a supportive legal framework, and the design of a high-integrity credit system that balances conservation objectives with socio-economic needs.

- ***Potential Financial Results***

Drawing parallels from international projects, biodiversity credits have demonstrated potential to generate revenues between US$10-50 per credit[62], depending on the ecosystem value and regional biodiversity significance. Uzbekistan's rich biodiversity, particularly considering the desert and mountainous ecosystems, positions it as a candidate for high-value credits due to their rarity and ecological significance. The WEF projects that even with significant governance and market development, demand for biodiversity credits is projected to only reach up to US$2 billion globally[63]. This figure makes up only 1% of the US$200 billion per year required to meet 2030 biodiversity goals. This underscores the need for comprehensive feasibility studies and pilot projects to catalyse market interest before implementing them in Uzbekistan.

Estimated Economic Contribution: Assuming effective implementation

Initial market size (Year 1-5): US$5-15 million annually, driven by pilot projects and early adoption by local and international investors.
Medium-term growth (Year 6-10): Potential to scale to US$50-100 million annually as markets mature, supported by a blend of public-private investments and alignment with the Kunming-Montreal GBF.

[61]Critical Ecosystem Partnership Fund (2017). Mountains of Central Asia Biodiversity Hotspot. https://www.cepf.net/sites/default/files/mountains-central-asia-ecosystem-profile-eng.pdf
[62]WEF (2023). Biodiversity Credits: Demand Analysis and Market Outlook. https://www3.weforum.org/docs/WEF_2023_Biodiversity_Credits_Demand_Analysis_and_Market_Outlook.pdf
[63]Rao, R., Choi, E., Czebiniak, R. P. (2024). Can 'Biodiversity Credits' Boost Conservation? https://www.wri.org/insights/biodiversity-credits-explained

These financial results must be approached cautiously, as biodiversity credits remain experimental in their global application. A thorough feasibility study will provide critical insights into market viability, scalability, and the role of biodiversity credits in Uzbekistan's broader conservation finance strategy.

- ***Key Implementation Steps***

№	*Step*	*Process Lead*	*Key stakeholders*	*Indicative Timeframe* (steps can be done in parallel)	*Estimated Budget* (in US$)
Feasibility Stage					
1	*Baseline and Scenario Analysis*	*MoE*	*UNDP, Outsourced advisory services*	*9 months*	*30,000*
2	*Risk Analysis and Additionality*	*MoE*	*UNDP, Outsourced advisory services*	*12 months*	*45,000*
3	*Analysis and Selection of Methodology for Biodiversity Credits and Evaluation of Nature*	*MoE*	*UNDP, Outsourced advisory services*	*9 months*	*50,000*
4	*Roadmap for Implementation*	*MoE*	*UNDP, Outsourced advisory services*	*3 months*	*5,000*
Implementation Stage (if feasibility stage indicates likelihood of success)					
5	*Identification of Strategic Implementation Partners*	*MoE*	*UNDP, Outsourced advisory services*	*9 months*	*30,000*
6	*Capacity building of local stakeholders*	*MoE, Strategic Partner*	*UNDP, MoEF, Outsourced advisory services, Private sector partner*	*12 months*	*50,000*
7	*Developing and adopting relevant legal and institutional framework, including MRV*	*MoE, Strategic Partner*	*UNDP, MoEF, Outsourced advisory services*	*12 months*	*60,000*
8	*Pilot project launch*	*MoE, Strategic Partner*	*UNDP, MoEF, Outsourced advisory services, Private sector partner*	*12 months*	*60,000*
	Total				***330,000***

- ***Potential Risks and Risk Mitigation***

The proposed initial step is to undertake a feasibility for biodiversity credits in Uzbekistan. A more detailed analysis of potential risks and mitigatory actions would be prepared in the circumstance of going forward with the mechanism after study.

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Legal requirements	Likelihood: **Medium**. Establishing a legal framework for biodiversity credits may create uncertainties around regulations and compliance. Impact: Incorrect structuring of the legal framework could result in lower-than-expected cash flows due to regulatory uncertainties and compliance issues.	Conduct comprehensive legal analysis and seek continuous advice during the setup stages. Align legal frameworks with international standards to ensure compliance. Engage legal experts early in the process and ensure ongoing consultations to adapt to evolving legal requirements.
Securing commitments from investors	Likelihood: **High**. Attracting investors is crucial, and the level of risk-adjusted return is often a significant concern for institutional investors. Impact: Inadequate interest from investors could jeopardize the overall financing, putting the biodiversity credit system at risk.	Showcase successful case studies of biodiversity credits to build confidence. Provide clear risk mitigation strategies and demonstrate the financial and environmental benefits of biodiversity credits Engage potential investors early, highlighting the stability and profitability of biodiversity credits.
Stakeholder alignment	Likelihood: **Medium**. Misalignment between ministries (e.g. MoEF, MoE, and Ministry of Agriculture) could create delays or conflict during design stages. Impact: Slow or ineffective project development.	Establish an inter-ministerial task force to coordinate efforts and resolve conflicting priorities. Use participatory approaches to secure buy-in and maintain alignment throughout the project
Implementation Stage		
Regulatory risk	Likelihood: **High**. As biodiversity credits are a relatively new financial product, there will likely be new regulatory frameworks and laws required for efficient operation. Impact: An unfavourable change in regulatory framework could reduce revenue from biodiversity credits, undermining the rate of return for investors.	Clearly communicate risks to investors and ensure flexibility to adjust for regulatory changes. Engage the government from the start to secure long-term regulatory assurance Ensure continuous dialogue with regulatory bodies and create adaptive strategies to cope with potential regulatory shifts.
Operational risk	Likelihood: **Medium**. While project aggregators may have some experience with project development, execution can be challenging, particularly in developing economies like Uzbekistan. Impact: Inefficient execution may result in lower-than-expected results and impact, leading to a reduced return on investment.	Select a Project Management Office (PMO) with relevant experience. Create buffers in project plans, vet project aggregators rigorously, and diversify revenue streams as much as possible Conduct thorough due diligence on project aggregators, provide continuous support, and implement a robust monitoring and evaluation system.

ESG risks	Likelihood: **Medium**. Financing and implementing projects according to international standards could risk "sustainability colonialism," where local ecosystems and cultures are not included. Impact: Financing activities not aligned with local stakeholders' priorities, resulting in negative impact	Prioritize on-ground activities and strategies through a multi-stakeholder governance framework. Follow UNDP's Environmental and Social Safeguards Framework (ESSF) Engage local stakeholders in decision-making processes and ensure projects are aligned with local priorities and cultural contexts
Limited demand for biodiversity credits	Likelihood: **High.** As a nascent market, biodiversity credit demand remains uncertain. Impact: Low demand would result in limited financial viability.	Focus on pilot projects to demonstrate value and feasibility. Target early adopters. Build market confidence through robust MRV systems and alignment with global standards.
MRV system challenges	Likelihood: **Medium.** Developing effective MRV systems is complex and resource intensive. Impact: Weak systems could erode investor trust and project outcomes.	Invest in remote sensing technology and develop transparent digital platforms for MRV. Partner with international experts and institutions to ensure robust MRV systems. Regularly audit MRV processes and provide public reports to build confidence.

d) Finance Solution №4 – **Repurposing Harmful Subsidies** toward biodiversity-positive practices

- ***Summary***

Significant resources are allocated to subsidies in Uzbekistan, however, many of these inadvertently harm ecosystems. Greening harmful subsidies by their strategic repurposing toward sustainable practices offers the opportunity to align financial incentives with biodiversity-positive practices. The solution investigates the agricultural sector as a case study as part of the concept of implementing this financial solution in a phased approach across sectors with harmful subsidies. The focus is on reforming subsidies to promote biodiversity conservation, climate resilience and sustainable land management. Incentivizing practices like organic farming, crop diversification, and water-efficient irrigation offer the opportunity to address environmental challenges such as land degradation and water scarcity while enhancing agricultural productivity. Implementation requires conducting a feasibility analysis before developing eligibility criteria and robust monitoring systems. This approach optimizes public expenditures and provides an opportunity to leverage funds that are already present in the system.

- ***Justification for the solution & Uzbekistan's context***

Harmful subsidies in sectors such as agriculture, water management, and energy in Uzbekistan contribute to environmental degradation, biodiversity loss, and inefficient resource use. Redirecting these subsidies toward biodiversity-positive practices is a key step in meeting Uzbekistan's international biodiversity commitments under the Kunming-Montreal GBF targets 18a and 18b, emphasizing the elimination or repurposing of subsidies harmful to nature while simultaneously scaling up those supporting conservation and sustainable development. Identifying and reallocating harmful subsidies has the dual benefit of minimizing biodiversity-harmful activities while simultaneously increasing funding towards more beneficial ones. This solution is informed by best practices outlined in BIOFIN's subsidy repurposing guidelines[64], which emphasize assessing the impacts of subsidies on biodiversity and designing interventions that balance environmental, social, and economic considerations. In addition, the guidance is to be followed in conducting an initial analysis of existing subsidies to comprehensively map the framework and potential effectiveness of this finance solution.

Agriculture is a key component of the Uzbekistan economy, accounting for about a quarter of each workforce and GDP[94]. The sectoral weight and prior subsidy analysis of agriculture places it as a key focus area for investigating potential implementation of this FS. In recent years, Uzbekistan's agricultural subsidies have increased from approximately US$90 million in 2022 to almost US$140 million in 2023[65]. Notably, 30% of these subsidies support water-saving technologies, which are relatively nature-positive. However, the remaining 70% often encourage practices that lead to soil degradation, water table depletion, and ecosystem harm. Simultaneously, inadequate financing for sustainable farming and conservation further strains natural resources.

[64]UNDP BIOFIN (20220. The Nature of Subsidies. https://www.biofin.org/sites/default/files/content/knowledge_products/The%20Nature%20of%20Subsidies%20%28Web%29.pdf
[65]Ministry of Agriculture of the Republic of Uzbekistan (2024). State Support to Agriculture.

In its 2022 report OECD estimated that approximately US$500 billion support to agriculture in 54 countries was potentially harmful to the environment[66]. This equals five times the public spending towards biodiversity itself. In Uzbekistan, subsidies for agriculture and fossil fuels exacerbate resource overuse and ecosystem stress. The PIR[67] identified subsidies, including those for buying animals[68] and covered costs for the construction of wells and pump stations in pasture lands[69] as existing harmful examples, whereas subsidies for buying bio-protection measures for agricultural exports[70] exist as a positive example. The country already is one of the most water-stressed globally[71] and agriculture accounts for 90% of withdrawal[72], heightening the severity of land degradation and biodiversity threats.

The PIR provides an overview of existing agricultural subsidies in Uzbekistan and their potential impacts on biodiversity73. It can be seen that the majority of subsidies are assessed as harmful, although the more recent Cabinet of Ministers' Decree №460 indicates a positive trend in recent subsidy adoption. Across 2018-2022, the funds allocated saw neutral to positive outweigh harmful and harmful to neutral. However, the 2023 allocation tipped the scale as harmful and harmful to neutral receive more recorded funding.

Moreover, the World Bank report74 ranks Uzbekistan among the top 25 countries globally with the highest energy subsidies, which made up 6.6% of its GDP in 2020. The country boasted some of the lowest electricity and natural gas prices worldwide. Average electricity tariffs were approximately US¢4.5 per kWh, covering about 70% of the actual cost, placing Uzbekistan in the top 10 for cheapest electricity prices out of 230 countries. Similarly, natural gas tariffs were notably low, with an average rate of around US¢72 per m³, which was about half of the cost and 40% of the opportunity cost. However, it is worth noting that since 2020 the Government of Uzbekistan has initiated large scale reforms of the energy sector, encompassing infrastructure privatization and tariffs reforms.

- ***Objectives***

The primary objective of this FS is to reform harmful subsidies in Uzbekistan and redirect them toward biodiversity-positive practices to achieve environmental, social, and economic benefits in line with the BIOFIN's "Nature of Subsidies" guidance. Reforms will align with Uzbekistan's national targets under the Kunming-Montreal GBF, specifically targets 18a and 18b, and the current NBSAP. To achieve this, the following tasks will be undertaken:

1. Conducting a comprehensive review of existing subsidies using the BIOFIN methodology to analyse current allocations and identify subsidies that harm ecosystems and biodiversity, such as

[66]OECD (2022). Agricultural Policy Monitoring and Evaluation 2022. https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2022_7f4542bf-en
[67]UNDP BIOFIN (2023). Public Investment Review. https://www.undp.org/sites/g/files/zskgke326/files/2024-07/pir_uzbekistan_0.pdf
[68]Presidential Decree #4576 & Cabinet of Ministers Decree #280
[69]Presidential Decree #6059
[70]Cabinet of Ministers Decree #460
[71]Asian Development Bank (2022). ADB to Help Improve Food Security, Water Management in Uzbekistan. https://www.adb.org/news/adb-help-improve-food-security-water-management-uzbekistan
[72]KUN.UZ, (2022), Water scarcity in Uzbekistan: Probable drought and escalating environmental challenges - https://kun.uz/en/news/2022/08/10/water-scarcity-in-uzbekistan-probable-drought-and-escalating-environmental-challenges
[73]BIOFIN (2023). Uzbekistan Biodiversity Finance Policy and Institutional Review. https://www.undp.org/sites/g/files/zskgke326/files/2024-07/pir_uzbekistan_0.pdf
[74]World Bank. Uzbekistan: Country Climate and Development Report (2023) https://documents1.worldbank.org/curated/en/099111423124532881/pdf/P1790680f452f10ba0a34c06922a1df0003.pdf

those encouraging inefficient irrigation, overuse of chemical inputs, and unsustainable land use practices.

2. Collaborating with relevant ministries (including MoE, MoA) to design a targeted approach for subsidy reform, ensuring alignment with sector-specific policies and national biodiversity goals.
3. Promoting biodiversity-positive subsidies by redirecting financial support toward sustainable practices, including organic farming, crop diversification, agroforestry, and water-efficient irrigation technologies. This redirection will lead to enhanced ecosystem services, improved agricultural productivity, and measurable biodiversity conservation outcomes.
4. Establishing robust monitoring and evaluation systems to track the impacts of subsidy reforms. A regulatory framework will be developed to ensure reforms achieve measurable biodiversity benefits, enhance transparency, and enable adaptive management throughout the implementation process.
5. Strengthening institutional capacity by fostering coordination among key ministries, private sector actors, local communities, and international organizations. This will involve co-financing biodiversity-positive initiatives and integrating biodiversity considerations into economic planning and decision-making processes.
6. Enhancing climate resilience and rural development by channelling redirected funds into projects such as reforestation, wetland restoration, and biodiversity corridor development. These efforts will mitigate climate change impacts, promote green job creation, and improve livelihoods in rural areas, particularly in regions like Karakalpakstan and the Aral Sea Basin.

- ***Expected Impact***

Implementing subsidy reform to foster biodiversity-positive practices in Uzbekistan offers multidimensional benefits, encompassing cost savings, enhanced ecosystem services and improved economic productivity.

Optimized public expenditure

The central element is the prevention of undermining biodiversity financing and conservation efforts by removing subsidies directed to harmful practices and repurposing the same funds to align with biodiversity objectives. As an example, phasing out inefficient irrigation subsidies would save public funds while those resources could be redirected to promote water-saving technologies such as drip irrigation. Globally, repurposing harmful subsidies has led to significant fiscal savings, which can be generally reinvested in sustainable initiatives[75].

Enhanced ecosystem services and productivity

Redirected subsidies can support sustainable land-use practices, boosting soil health, water efficiency and agricultural yields. The following present examples that can be achieved through implementing this solution:

- Increased soil fertility and microbial activity through organic farming, reducing expensive chemical input reliance while maintaining long-term productivity
- Agroforestry and afforestation products can sequester carbon and stabilize ecosystems, mitigating climate adaptation and desertification costs

[75] UNDP BIOFIN (20220. The Nature of Subsidies.
https://www.biofin.org/sites/default/files/content/knowledge_products/The%20Nature%20of%20Subsidies%20%28Web%29.pdf

- Efficient water management systems, such as those promoted in the FATIMA[76] and MOSES[77] models, have the potential to significantly improve water-use productivity in Uzbekistan, reducing freshwater resource stress.

Improved climate resilience and green job creation

Reforestation, wetland restoration, and biodiversity corridors offer the opportunity to not only combat desertification but also generate employment in rural areas. Initiatives in this field contribute to a green economy fostering sustainable livelihoods while reducing the costs associated with climate-related disasters and habitat degradation.

Economic diversification

Eco-friendly industries, whether in the form of conservation-based tourism or biodiversity-focused businesses, offer the opportunity to enhance economic diversification and enhance natural ecosystem values. Ecotourism has proven to be a significant revenue generator in countries such as Costa Rica[78], and directing subsidies into this sector can provide a similar contribution to Uzbekistan's economy.

Improved international standing and investment opportunities

Considering the inefficiencies identified in the PIR, reforms to address economic and legislative barriers to biodiversity conservation will strongly contribute to meeting Uzbekistan's international biodiversity commitments. In positioning itself as a leader in sustainability, Uzbekistan may be able to attract increased foreign direct investments (FDI) and international funding for conservation. The success of subsidy reforms can demonstrate proof of concept, encouraging private sector involvement and co-financing of biodiversity-positive projects.

Financial impact

An exact aggregate figure for market-wide harmful subsidies remains fragmented, but we can single out the agricultural sector to provide a degree of insight. Considering the 2023 figure of almost US$138 million in subsidies (UZS 1.7 trillion adjusted to the end of 2023 US$rate)[79], with approximately 70% being potentially harmful. This leaves a figure of around US$96.6 million that can be revisited and directed to nature-positive initiatives.

- ***Key Implementation Steps***

№	*Step*	*Process Lead*	*Key stakeholders*	*Indicative Timeframe* *(steps can be done in parallel)*	*Estimated Budget* *(in US$)*
1	*Identification, mapping and impact analysis of existing subsidies*	*MoEF, MoE*	*UNDP, Relevant ministries and agencies, NGOs, Outsourced consulting services*	*6 months*	*30,000*

[76] Fatima project - https://fatima-h2020.eu/

[77] Moses, Managing crop water Saving with Enterprise Services - https://cordis.europa.eu/project/id/642258

[78] UNDP BIOFIN (2023). The Nature of Subsidies. https://www.biofin.org/sites/default/files/content/knowledge_products/The%20Nature%20of%20Subsidies%20%28Web%29.pdf

[79] Ministry of Agriculture of the Republic of Uzbekistan (2024). State Support to Agriculture.

2	*Development of subsidy reforms programme*		*UNDP, Relevant ministries and agencies, Academic and research institutions, NGOs, Outsourced consulting services*	*6 months*	*30,000*
3	*Development of the Monitoring and Evaluation Framework*	*MoEF, MoE*	*UNDP, Relevant ministries and agencies, Academic and research institutions, NGOs, Outsourced consulting services*	*3 months*	*20,000*
4	*Formal approval and launch of the Subsidy Reform Program and designation or establishment of a responsible implementing agency*	*MoEF, MoE*	*UNDP, Relevant ministries and agencies*	*2 months*	*15,000*
5	*Development of subsidy eligibility criteria*	*Responsible implementing agency*	*UNDP, Relevant ministries and agencies, Academic and research institutions, NGOs, Outsourced consulting services*	*2 months*	*20,000*
6	*Implementation of pilot projects in various sectors*	*Responsible implementing agency*	*UNDP, Relevant ministries and agencies, Academic and research institutions, NGOs, Local government bodies, Private sector*	*6 months*	*85,000*
	Total			***2 years***	***200,000***

➢ *Potential Risks and Risk Mitigation*

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Legal requirements	Likelihood: **Medium**. Establishing a legal framework for biodiversity-friendly subsidies may create uncertainties around regulations and compliance.	Conduct a comprehensive legal review early in the design stage to align subsidy frameworks with existing laws and international standards. Engage legal experts and maintain ongoing consultations with key stakeholders, including policymakers from the MoE, MoEF, and Ministry of Agriculture. Incorporate flexibility into the legal framework to adapt to evolving regulations and address compliance challenges.

	Impact: Incorrect structuring could result in lower-than-expected benefits due to regulatory uncertainties.	
Political Risk and Inter-Ministerial Coordination	Likelihood: **High**. Collaboration between MoEF, MoE, and Ministry of Agriculture, as well as other stakeholders, may encounter political tensions and conflicting priorities. Impact: Failure to develop a shared vision could delay the design and implementation phases	Establish an inter-ministerial task force to ensure alignment of objectives and promote cross-departmental collaboration. Use participatory approaches to develop a shared vision and secure buy-in from all stakeholders. Facilitate regular dialogue and capacity-building workshops to maintain alignment throughout the project duration.
Budget Allocation Risk	Likelihood: **High**. Securing adequate budget allocation from the government for subsidies can be challenging. Impact: Insufficient funding could limit the scope and effectiveness of the subsidy program.	Advocate for the importance of biodiversity-positive subsidies to policymakers. Demonstrate the long-term economic and environmental benefits through case studies and pilot projects. Seek additional funding from international donors and organizations to support initiatives and practices.
Awareness and Adoption by Farmers	Likelihood: **High.** Farmers may be resistant to adopting new practices due to lack of awareness, misconceptions, or perceived risks. Impact: Resistance at the design stage could delay program rollout and reduce farmer participation.	Engage stakeholders early by conducting participatory consultations with farmers, cooperatives, and agricultural extension services to co-develop the subsidy framework. Develop a communications strategy to pre-emptively address misconceptions and promote the long-term benefits of biodiversity-friendly practices. Incorporate demonstration projects into the design phase to showcase successful examples of biodiversity-positive farming and build trust. Design subsidies to include flexible support mechanisms, such as phased implementation and optional hybrid systems, to reduce initial risks for farmers.
Implementation Stage		
Awareness and Adoption by Farmers	Likelihood: **High.** Farmers may face challenges understanding and applying new practices during the implementation phase. Impact: Low adoption rates could undermine the goals of the subsidy program and limit biodiversity impacts.	Roll out education and outreach campaigns tailored to different farmer segments, emphasizing economic, environmental, and productivity benefits. Provide tailored training programs and technical support, including hands-on workshops and access to extension services, to guide farmers through the transition. Deploy subsidized hybrid systems as interim solutions, allowing farmers to gradually reduce reliance on harmful practices while experiencing immediate financial and ecological gains. Establish a farmer helpline and peer-support networks to provide real-time guidance and foster community-led knowledge sharing.
Monitoring and Evaluation	Likelihood: **Medium**. Ensuring that subsidies are used effectively and that biodiversity outcomes are achieved can be difficult. Impact: Inadequate monitoring could lead to misuse of funds and failure to achieve conservation goals.	Develop robust monitoring and evaluation frameworks to track the impact of subsidies. Use remote sensing and GIS technologies to monitor changes in land use and biodiversity. Engage independent auditors and NGOs to ensure transparency and accountability.
Market Dynamics and Economic Viability	Likelihood: **Medium**. Market fluctuations and economic conditions can affect the viability of organic and diversified farming practices.	Support farmers through market development initiatives, such as establishing organic certification schemes and creating value chains for organic produce. Provide financial incentives and price support during initial transition periods. Foster partnerships with private sector buyers to ensure stable market demand. Support farmers

	Impact: Economic instability could reduce farmers' willingness to adopt new practices.	through market development initiatives, leveraging Uzbekistan's key export markets in the CIS (Kazakhstan and Russia) and China while expanding opportunities in the EU under the GSP+ scheme. Establish organic certification schemes and create value chains for organic produce to meet market demands. Provide financial incentives and price support during the transition period and foster partnerships with private sector buyers to ensure stable market demand in both existing and new markets.
Environmental and Climatic Variability	Likelihood: **High**. Environmental and climatic variability can impact the effectiveness of biodiversity-friendly practices. Impact: Extreme weather events could damage crops and reduce the benefits of sustainable practices.	Promote adaptive management practices that enhance resilience to climatic variability, such as drought-resistant crop varieties and improved irrigation techniques. Encourage the use of agroforestry and other diversified systems that provide multiple environmental benefits. Develop contingency plans and provide support for farmers during extreme weather events.
Socio-Economic Inequities	Likelihood: **Medium**. Socio-economic disparities among farmers could lead to unequal access to subsidies. Impact: Marginalized and smallholder farmers might be excluded, exacerbating existing inequalities.	Design subsidy programs to ensure more vulnerable stakeholders are not left behind. Implement inclusive policies that ensure fair distribution of resources. Provide targeted support and capacity-building initiatives to empower disadvantaged groups.
Administrative and Bureaucratic Challenges	Likelihood: **Medium**. Implementing a new subsidy program can face bureaucratic hurdles and inefficiencies. Impact: Delays and administrative inefficiencies could hinder timely disbursement of subsidies.	Simplify administrative procedures and reduce bureaucratic red tape. Use digital platforms for application and disbursement processes to improve efficiency. Provide training for government officials involved in the implementation of the subsidy program.

e) Finance Solution №5 – Expanding current SDG and Green Tagging of public expenditures with **Biodiversity Budget Tagging**

Summary

The practice of tagging public expenditures and revenues helps to measure progress towards national targets, harmonise and improve the effectiveness of spending in certain development areas. Biodiversity tagging involves tracking and managing public budget allocations, expenditures and revenues dedicated to biodiversity-related activities. By integrating biodiversity tagging into public finances, Uzbekistan can ensure transparency, accountability, and better resource allocation for conservation efforts. The system can be built on the green and climate budget tagging system that is currently being developed in Uzbekistan, and which aligns with global best practices.

UNDP has developed a proposal for SDG budget tagging that can similarly apply to the biodiversity context. Implementation requires determining the criteria to be used in associating budget items with biodiversity outcomes, which is to be defined and agreed on with the Uzbekistan budget authorities. In addition, exclusion criteria are to be implemented for themes and expenses that do not have direct biodiversity benefits. Figure 6 below explains the stages of Biodiversity Budget Tagging (BBT), adapted from the UNDP methodology for SDG budget tagging[80].

Figure 6: Five-step methodology for Biodiversity Budget Tagging (Adapted from UNDP)

➢ *Justification for the solution & Uzbekistan's Context*

The UNDP, through its "Financing for Sustainable Development in the Republic of Uzbekistan" project, is assisting the Government of Uzbekistan in creating an Integrated National Financing Framework (INFF) to implement national development plans and the SDGs. Thanks to this support

[80] UNDP (2024). SDG Budget Tagging: A proposal to measure SDG Financing. https://www.undp.org/publications/dfs-sdg-budget-tagging-proposal-measure-sdg-financing

Uzbekistan has already made notable progress in integrating climate and SDG considerations into its fiscal policies through the implementation of climate and SDG tagging, supported by the UNDP. This initiative enables the government to systematically identify and monitor expenditures and revenues related to climate adaptation and mitigation within its budgetary framework, enhancing transparency and accountability in public spending. The MoEF has developed and adopted comprehensive climate and SDG tagging guidelines, serving as a framework for classifying and tracking budgetary expenditures and revenues that contribute to the country's climate and SDG objectives.

Based on the latest government efforts and developments in Uzbekistan, climate budget tagging (CBT) is becoming increasingly relevant as a tool for managing public expenditures and revenues toward environmental objectives. The CBT system was operationalized in May 2024 through a government decree[81]. This system enables the classification of budget items based on their climate relevance, distinguishing expenditures and revenues that positively impact climate change mitigation and adaptation from those that do not. This tagging methodology ensures that resources are more effectively allocated towards addressing climate-related challenges while enhancing transparency and accountability in budgetary processes.

In addition to the CBT initiative, the government, with UNDP's support, has developed a green budget tagging (GBT) framework. Biodiversity budget tagging (BBT) can be implemented as part of GBT framework. This broader system, although not yet operationalized, aims to encompass a wider array of environmental goals, such as biodiversity conservation, water and land preservation, and waste management. By integrating these frameworks into the national budget, Uzbekistan is laying the groundwork for a more comprehensive approach to addressing environmental sustainability through public finance. GBT will allow Uzbekistan to track and assess the environmental impact of various government expenditures and revenues, ensuring that funding aligns with the country's broader sustainability goals. According to the OECD, GBT, which includes biodiversity tagging, improves policy coherence and aids in the prioritization of investments. To achieve the overarching objective of this finance solution, the following key tasks should be considered based on experience from Ireland.

Biodiversity expenditure and revenue tagging in public finances, or Biodiversity Budget Tagging (BBT) is an essential tool for managing financial flows toward biodiversity conservation in Uzbekistan. This mechanism involves identifying, attribution, tracking, and managing budget allocations, expenditures and revenues dedicated to biodiversity-related activities, ensuring transparency and efficiency in the use of public funds. For a country grappling with severe environmental degradation due to unsustainable practices and rapid economic development, biodiversity tagging offers a structured way to help balance economic growth with ecological preservation[82]. Uzbekistan's diverse ecosystems, such as in the Aral Sea region, are under threat from industrial and agricultural activities, making effective financial management crucial for conservation efforts[83].

[81]LexUZ - https://lex.uz/ru/docs/6907042#),

[82]OECD, The World Bank, UNDP & IDB (2021), Green Budget Tagging: Introductory Guidance & Principles - https://www.oecd-ilibrary.org/docserver/fe7bfcc4-en.pdf?expires=1721897013&id=id&accname=guest&checksum=CA18B05BE676B6BD3084B8C717D66001

[83]UNDP (2022). Uzbekistan introduces green budgeting and SDG budgeting - https://www.undp.org/uzbekistan/news/uzbekistan-introduces-green-budgeting-and-sdg-budgeting

The implementation of BBT enhances budget allocation by ensuring that financial resources are directed towards high-priority conservation projects. This targeted approach is particularly important in Uzbekistan, where environmental degradation directly impacts economic sectors such as agriculture, which employs a significant portion of the population. By tracking biodiversity-related expenditures and revenues, the government can allocate resources more effectively, ensuring that funds support initiatives that have the most significant impact on preserving and restoring biodiversity and in line with national targets adopted under the international commitments, such as the CBD and UNFCCC.

For example, redirecting subsidies from water-intensive cotton farming to more sustainable crops can help conserve water resources and restore soil fertility[84]. BBT also increases accountability and transparency in public spending. It provides clear insights into how funds are used and their outcomes, enabling better monitoring and evaluation of conservation projects[85]. This transparency is crucial for maintaining trust among stakeholders, including international donors and local communities, ensuring that funds are not diverted to non-conservation activities. For instance, in the Philippines, GBT has improved the tracking of climate-related expenditures and revenues, enhancing the efficiency of climate adaptation projects[86]. Drawing parallels to the potential of BBT within Uzbekistan's government budgeting, a similar system could yield significant advantages for the country's efforts to safeguard its ecological resources.

Taking into account the progress Uzbekistan has already made in implementing climate and green budget tagging, the introduction of BBT could seamlessly integrate into the existing framework. By utilizing the established approaches and guidelines for climate and green finance, Uzbekistan can streamline the process of BBT adoption, ensuring that financial resources are effectively allocated to both biodiversity conservation and climate resilience. This would further enhance the country's ability to mitigate and adapt to climate change while fostering a more sustainable and adaptive environment.

- ***Objectives and Key Tasks***

The overall objective of this finance solution is to promote an improved system for attribution of biodiversity expenditures and revenues that will reflect a better understanding of biodiversity funding within the country's public finance system and will result in accurate reporting. This can significantly support Uzbekistan's environmental and economic goals by ensuring that biodiversity-related finances are effectively allocated and managed. Thus, the objectives of BBT in Uzbekistan are multi-faceted, targeting both ecological preservation and economic efficiency.

Enhancing budget transparency and accountability will be one of the primary objectives of BBT, increasing the transparency and accountability of biodiversity-related financial flows. This transparency fosters trust among stakeholders, including international donors, and ensures that funds are used effectively to achieve biodiversity goals. The combined report for green budget tagging

[84]UZSTAT, (2023), Socio-economic situation of the Republic of Uzbekistan, 1. Gross Domestic Product - https://stat.uz/en/?preview=1&option=com_dropfiles&format=&task=frontfile.download&catid=428&id=3171&Itemid=100000000000

[85]OECD, The World Bank, UNDP & IDB (2021), Green Budget Tagging: Introductory Guidance & Principles - https://www.oecd-ilibrary.org/docserver/fe7bfcc4-en.pdf?expires=1721897013&id=id&accname=guest&checksum=CA18B05BE676B6BD3084B8C717D66001

[86]Republic of the Philippines, (2023), Department of Budget and Management - https://www.dbm.gov.ph/index.php/management-2/427-p453-billion-tagged-as-climate-related-expenditure-for-2023#:~:text=The%20Department%20of%20Budget%20and,73%20billion.

produced by the World Bank, OECD, UNDP and IDB[87] and Ireland's National Biodiversity Expenditure Review[88] are offering several best practices that can be effectively implemented in Uzbekistan to enhance its biodiversity expenditure and revenue tagging efforts that are used to inform the following tasks:

1. Developing a comprehensive classification system tailored to Uzbekistan's context to identify and categorize biodiversity-related expenditures and revenues.
2. Integrating BBT with financial instruments such as green bonds and green budget tagging systems to enhance credibility, attract international investors, and ensure funds are effectively directed toward sustainable biodiversity projects.
3. Expanding the scope of BBT to include subnational governments and state-owned enterprises. This will ensure biodiversity expenditures and revenues are tracked across all levels of governance, providing a comprehensive and transparent view of biodiversity financing nationwide.
4. Building capacity and providing training for financial and environmental officers to implement and manage the BBT system. Training initiatives will include manuals, toolkits, and ongoing advisory support to equip officials with the skills needed to address implementation challenges.
5. Utilizing digitization tools to improve the accuracy, efficiency, and transparency of the BBT system. Technologies such as data analytics platforms, automated tagging systems, and remote sensing tools will streamline the tagging process and enhance real-time tracking of biodiversity-related financial flows.
6. Establishing a system for continuous improvement and adaptation to ensure the BBT system remains relevant and effective. Regular reviews and evaluations will incorporate emerging challenges, insights, and international best practices, maintaining Uzbekistan's leadership in biodiversity budget tagging.

➢ *Expected Impact*

The implementation of BBT within the government budget in Uzbekistan is expected to lead to enhanced financial transparency, improved policy coherence, sustainable economic development, increased international support, and strengthened institutional capacities. These impacts collectively contribute to the conservation and sustainable use of Uzbekistan's rich biodiversity, and nature-based solutions for climate change - benefiting both the environment and the economy. Implementing BBT in Uzbekistan can have profound and far-reaching impacts on the country's environmental and economic landscape.

- **Enhanced financial transparency and accountability.** One of the most immediate impacts would be increased transparency and accountability in financial management related to biodiversity. By clearly identifying and tracking biodiversity-related revenues and expenditures, Uzbekistan can ensure that funds are allocated and used as intended. This transparency builds trust among stakeholders, including international donors and local

[87]OECD, The World Bank, UNDP & IDB (2021), Green Budget Tagging: Introductory Guidance & Principles - https://www.oecd-ilibrary.org/docserver/fe7bfcc4-en.pdf?expires=1721897013&id=id&accname=guest&checksum=CA18B05BE676B6BD3084B8C717D66001

[88]University College Dublin – Planning and Environmental Unit, (2018), A National Biodiversity Expenditure Review for Ireland - https://research.ie/assets/uploads/2018/05/NBER-FINAL-COPY.pdf

communities, fostering greater confidence in governmental processes and encouraging further investments in biodiversity projects.

- **Improved policy coherence and strategic planning.** The BBT can significantly enhance policy coherence by aligning budgetary allocations with national and international environmental commitments. With clear data on biodiversity-related spending, policymakers can make informed decisions, ensuring that financial resources are directed towards bridging existing funding gap and the most impactful projects. This alignment supports the strategic planning necessary to achieve national biodiversity targets and contributes to global efforts such as the Kunming-Montreal GBF.
- **Promotion of sustainable economic development.** The BBT supports the promotion of sustainable economic development by ensuring that biodiversity funds are used effectively. This can lead to the development of green sectors based on nature-based solutions (NbS), such as eco-tourism and sustainable agriculture, which not only protect biodiversity but also create jobs and stimulate economic growth. Incorporating environmental factors into its economic planning will enable Uzbekistan to shift towards a more sustainable and resilient economy.
- **Increased international support and compliance.** Implementing a robust tagging system can enhance Uzbekistan's compliance with international environmental agreements and attract greater international support and funding. Demonstrating a commitment to transparency and effective biodiversity management can make Uzbekistan a more attractive partner for international environmental programs and financial mechanisms. This can lead to increased funding opportunities and technical support, further boosting the country's biodiversity conservation efforts.
- **Facilitation of nature-related interventions.** The BBT can play a crucial role in climate change mitigation and adaptation. Healthy ecosystems are essential for sequestering carbon and protecting against climate-related disasters. By ensuring that financial resources are directed towards maintaining and restoring these ecosystems, Uzbekistan can enhance its resilience to climate change. This integration of biodiversity and climate finance helps build a more adaptive and resilient environment, capable of withstanding climate impacts. Uzbekistan has already made progress in implementing climate and green budget tagging, a critical step in aligning financial resources with environmental and climate goals. Building on this foundation, the introduction of BBT could seamlessly integrate into the existing framework. By utilizing the established approaches and guidelines for climate and green finance, Uzbekistan can streamline the process of BBT adoption, ensuring that financial resources are effectively allocated to both biodiversity conservation and climate resilience. This would further enhance the country's ability to mitigate and adapt to climate change while fostering a more sustainable and adaptive environment.
- **Strengthening of institutional capacities and governance.** The process of implementing a tagging system involves significant capacity building and institutional strengthening. Government officials and stakeholders need to be trained in new methodologies and tools for tracking and reporting biodiversity finances. This capacity building not only enhances the effectiveness of the tagging system but also improves overall governance and management practices within the environmental sector. Stronger institutions are better equipped to handle complex environmental challenges and ensure the long-term sustainability of biodiversity initiatives.

The implementation of biodiversity revenue and expenditure tagging in Uzbekistan is expected to lead to enhanced financial transparency, improved policy coherence, sustainable economic development, increased international support, effective climate change mitigation and adaptation, and strengthened institutional capacities. These impacts collectively contribute to the conservation and sustainable use of Uzbekistan's rich biodiversity, benefiting both the environment and the economy.

- ***Potential Financial Results***

Currently, Uzbekistan allocates approximately 0.33% of its state budget, or around US$70 million annually, toward biodiversity-related initiatives as per the BER[89]. A reasonable assumption is that BBT could help Uzbekistan tag and align biodiversity expenditures and revenues amounting to between 0.5% and 1% of the budget, depending on how comprehensive the implementation of tagging is across sectors and government levels. This could translate to an estimated annual allocation of US$100-150 million tagged for biodiversity. Such tagging not only provides a clearer financial picture but also protects biodiversity funding from reallocation during budgetary constraints, ensuring these resources remain focused on conservation objectives.

Furthermore, aligning budgetary allocations with biodiversity objectives through BBT can attract additional international funding and investment. It may be difficult to quantify the potential figure but demonstrating a commitment to transparent and targeted biodiversity financing positions Uzbekistan as a credible partner in global conservation efforts, potentially unlocking new financial resources to further bolster biodiversity initiatives.

Case Study – Ireland's National Biodiversity Expenditure Review

Ireland's National Biodiversity Expenditure Review (NBER)[90] from 2010 to 2015 offers valuable insights into the financial dynamics that Uzbekistan might encounter. Over six years, Ireland spent approximately EUR 1.49 billion on biodiversity, averaging EUR250 million annually, which accounted for about 0.13% of its GDP. However, despite this investment, Ireland experienced a 31% reduction in biodiversity spending, mainly due to cuts in agri-environmental schemes and broader public sector budget reductions following the global financial crisis[91]. This reduction hindered the capacity of key public agencies responsible for conservation. If Uzbekistan were to implement a similar biodiversity tagging system, it could face challenges in maintaining consistent funding levels, especially during economic fluctuations. However, the tagging system could also help stabilize funding by making biodiversity expenditures more visible and thus more protected during budget cuts.

Ireland's experience also highlighted the risks of relying heavily on public funding, which made up 96.6% of its biodiversity expenditure. For Uzbekistan, a similar dependency could be mitigated by using a biodiversity tagging system to attract additional financial support from both domestic and international sources. By reducing its reliance on public funds and diversifying its funding sources, Uzbekistan could achieve more stable and sustainable financing for biodiversity.

[89] BIOFIN, (2023), Biodiversity expenditure review in Uzbekistan - https://www.biofin.org/knowledge-product/biodiversity-expenditure-review-uzbekistan

[90] University College Dublin, Morrison, R., & Bullock, C., (2018), A National Biodiversity Expenditure Review for Ireland - https://research.ie/assets/uploads/2018/05/NBER-FINAL-COPY.pdf

[91] Morrison Rachel, Bullock Craig, Lynn Deirdre, (2021), Exploring the rise of expenditure reviews as a tool for more effective biodiversity conservation and the protection of ecosystem services - https://www.sciencedirect.com/science/article/pii/S2212041620301832

➢ *Key Implementation Steps*

№	*Step*	*Process Lead*	*Key stakeholders*	*Indicative Timeframe* *(steps can be done in parallel)*	*Estimated Budget* *(in US$)*
1	*Development of a comprehensive classification system and BBT methodology within the existing CBT and ongoing development of GBT frameworks based on best practices, incl. BIOFIN GLOBE Taxonomy. Establishment of Monitoring and Evaluation Framework*	*MoEF*	*UNDP, Relevant ministries d agencies, Outsourced advisory services*	*6 months*	*40,000*
2	*Development of User Guidelines and Instructions*	*MoEF*	*UNDP, Relevant ministries d agencies, Outsourced advisory services,*	*3 months*	*20,000*
3	*Capacity Building and Training*	*MoEF*	*Ishlab chiqilgan BBY metodologiyasi va monitoring va baholash tizimini muassasalashtirish*	*6 months*	*30,000*
4	*Institutionalisation of the developed BBT methodology and M&E framework*	*MoEF*	*Ishlab chiqilgan BBY metodologiyasi va monitoring va baholash tizimini muassasalashtirish*	*3 month*	*10,000*
5	*Pilot implementation central state budget level*	*MoEF*	*MoE, UNDP*	*12 months*	*90,000*
6	*Scaling up on national level*	*MoEF*	*Regional Governments*	*12 months*	*Done by government*
	Total			***3 years***	***180,000***

➢ *Potential Risks and Risk Mitigation*

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Lack of funding	Likelihood: **High**. Securing adequate funding from the government for tagging activities can be challenging.	Streamlining BBT to the green budget tagging development process can reduce its introduction costs. Advocate for the importance of BBT to policymakers. Demonstrate the long-term economic and

	Impact: Insufficient funding could limit the scope and effectiveness of the tagging system.	environmental benefits through case studies and pilot projects.
Pure awareness and support from government entities	Likelihood: **Medium**. Government entities may be resistant to adopting new practices due to lack of awareness or perceived complexity. Furthermore, the solution requires ongoing support to ensure continuation Impact: Low adoption rates could undermine the goals of the tagging system while limited support would hinder the practice of ongoing tagging	Build on the progress made with climate budget tagging and the ongoing development of green budgeting tagging to increase awareness and acceptance. Integrating BBT into the existing climate and green budget tagging frameworks will ease the adoption process by building on systems that government entities are already familiar with. Comprehensive education and outreach programs should focus on the benefits of aligning biodiversity tagging with these existing systems, while targeted training and support will facilitate a smoother transition. Engaging key stakeholders from local government agencies and non-governmental organizations, already involved in climate and green budget tagging efforts, can further drive broader adoption, minimize resistance, and foster continued support.
Implementation Stage		
Monitoring and Evaluation	Likelihood: **Medium**. Ensuring that tagged expenditures are used effectively and that biodiversity outcomes are achieved can be difficult. Impact: Inadequate monitoring could lead to misuse of funds and failure to achieve conservation goals.	Develop robust monitoring and evaluation frameworks to track the impact of tagging. Use remote sensing and GIS technologies to monitor changes in land use and biodiversity. Engage independent auditors to ensure transparency and accountability.
Administrative and Bureaucratic Challenges	Likelihood: **Low**. Adding biodiversity tagging in addition to climate and green tagging already existent in the country should be relatively easy to accomplish with limited resources Impact: Delayed implementation of biodiversity tagging system given priority on climate and green.	Use digital platforms for application and disbursement processes to improve efficiency. Provide training for government officials involved in the implementation of the tagging system.

f) Finance Solution №6 – Sales of **Conservation License Plates** to generate revenue for conservation efforts

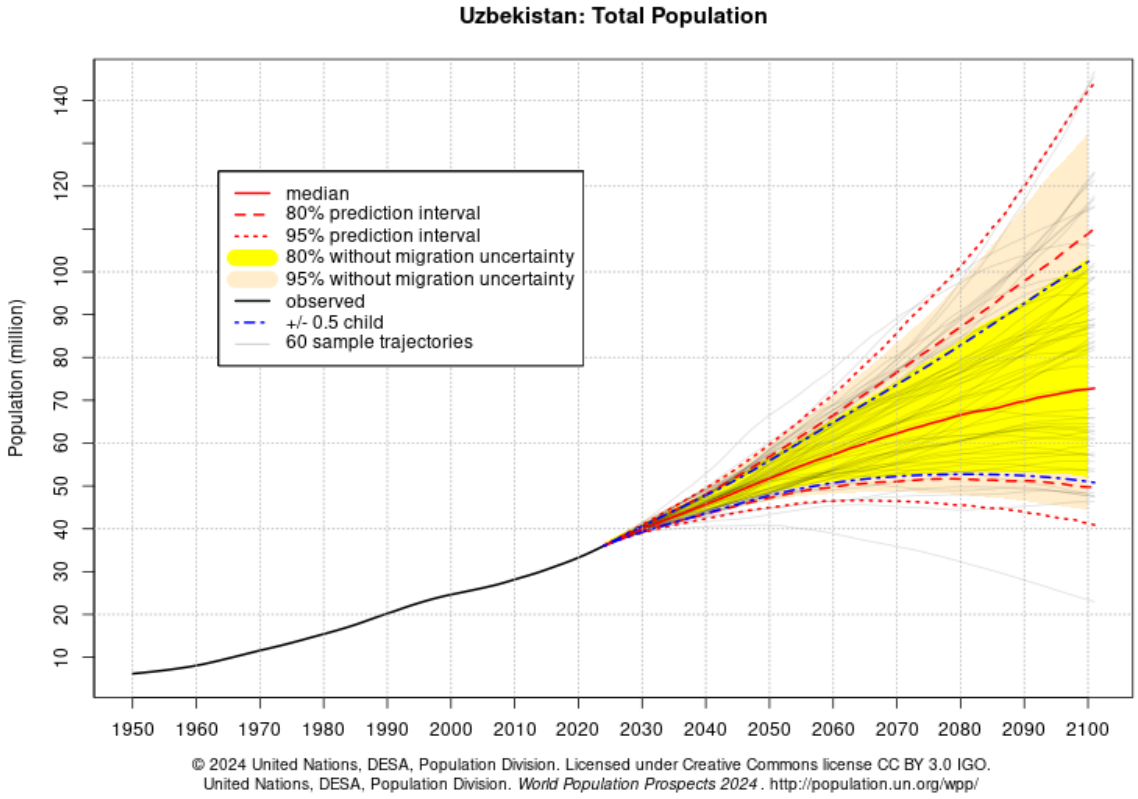
➢ *Summary*

Conservation license plates are a voluntary revenue-generating tool that allows vehicle owners to purchase special license plates at a premium, with proceeds directed towards wildlife conservation. This solution taps into Uzbekistan's growing car ownership market, providing a steady stream of funding for conservation efforts, such as anti-poaching programs and habitat restoration initiatives. The estimated revenue from conservation plates is expected to be US$1.2 million which can be directed to the blended finance facility (FS №1). Key steps will be development of conservation plate designs, production, issuance process design and public awareness campaign.

➢ *Justification for the solution & Uzbekistan's Context*

According to its national statistics agency, Uzbekistan now has more than 4 million registered private cars[92]. This number is trending upwards, with car sales in 2023 reaching a record 18% surge from the previous calendar year[93]. Given the anticipated population growth, which is projected to nearly double

Figure 7: Demographic trends in Uzbekistan



[92] KUN.UZ, (2024), Number of private vehicles in Uzbekistan surged by 10% in 2023 - https://kun.uz/en/news/2024/02/13/number-of-private-vehicles-in-uzbekistan-surged-by-10-in-2023

[93] DARYO, (2024), Uzbekistan records staggering 18% surge in car sales in 2023, over 1.5mn vehicles sold - https://daryo.uz/en/2024/01/17/uzbekistan-records-staggering-18-surge-in-car-sales-in-2023-over-15mn-vehicles-sold

within the next 30 years (Figure 7[94]), and the continued increase in vehicle registrations, there is a significant opportunity to implement conservation license plates, even if the new vehicle registration rate slows. These vehicles can be harnessed to support wildlife conservation in Uzbekistan by offering a special conservation license plate for purchase at a premium price.

Having that option, car owners can actively contribute to wildlife conservation efforts in the country, while enjoying practical benefits, such as free access to National Parks, priority or discounted hunting/fishing licenses, right to picnic/camp in wild areas, and etc.

Several years ago, the Traffic Police and the respective government in Uzbekistan introduced a mandatory auction system for car owners seeking license plates with unique or special combinations, such as pre-ordered sequences of numbers and letters. According to local sources, the average price for these license plate combinations in 2022 was around US$200 per plate on Uzbekistan's exchange, while the most expensive one was purchased for approximately US$28,000[95]. Local media reported that the overall revenue from car license plate trading exceeded US$3 million in 2023, with the record for the most expensive license plate held by a Tashkent resident who paid US$73,000[96].

This interest in the auction system in Uzbekistan could suggest that more vehicle owners are willing to pay a premium to obtain a conservation license plate instead of an ordinary one, giving them a unique feature for their car. The endangered species in Uzbekistan, such as the Saiga Antelope, the Sand Cat, and the Goitered Gazelle, amongst others[97], face significant threats due to poaching, habitat loss, and the decline of prey populations, negatively impacting the entire ecosystem. Consequently, wildlife conservation has gained momentum in Uzbekistan over the past decade.

To meet the financial sustainability requirements for wildlife conservation, this finance solution advocates for the introduction of Conservation Car License Plates in Uzbekistan to collect voluntary payments from vehicle owners. While the concept of "special" premium license plates is not new in many countries, the collection and earmarking of revenues from the sales of special conservation license plates remain untested in Uzbekistan. However, similar mechanisms in other countries have demonstrated potential, suggesting that a transfer mechanism can be developed with adaptive consideration to the Uzbekistan context. Conservation license plates could generate significant revenues by targeting a high-demand market. They provide an easy way for people to support environmental conservation through products they already use. There is a growing demand for individualized products in Uzbekistan, and consumers are willing to pay for them. There are opportunities to extend the range of special license plates offered in Uzbekistan, expanding the available catalogue of individual customization options the consumer can access. The new funding sources will increase the diversity and size of Uzbekistan's conservation funding portfolio and enable effective wildlife conservation and protected area management.

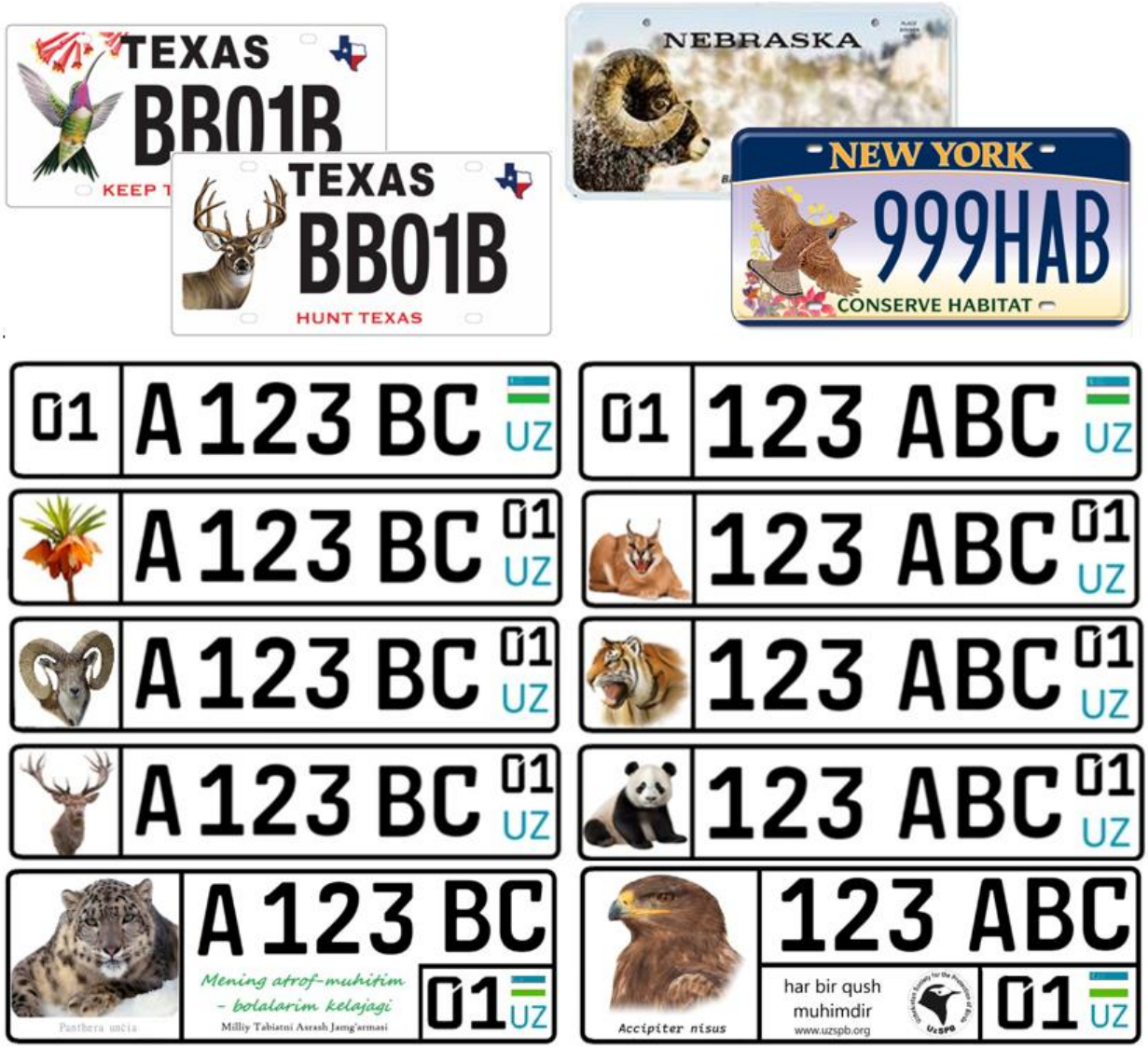
[94] UN Department of Economic and Social Affairs Population Division, World Population Prospects 2024 - https://population.un.org/wpp/Graphs/Probabilistic/POP/TOT/860

[95] Invest in Uzbekistan, (2022), The most expensive license plate of 2022 was bought in Uzbekistan for 348 million soums - https://invest-in-uzbekistan.org/en/novosti-uzbekistana/samyj-dorogoj-avtonomer-2022-goda-v-uzbekistane-kupili-za-348-mln-sumov/

[96] Kun.uz, (2023), Tashkent resident buys license plate for about USD73,000 - https://kun.uz/en/news/2023/10/11/tashkent-resident-buys-license-plate-for-about-73000

[97] Earth's Endangered Creatures - http://www.earthsendangered.com/search-regions3.asp

Figure 8: Example of conservation plates and potential design in Uzbekistan



- ***Objectives***

The primary objective of introducing conservation license plates in Uzbekistan is to create a reliable and continuous source of funding for wildlife conservation efforts. By allocating a portion or all the proceeds from these license plates to conservation projects, the program can provide the financial stability needed to support long-term initiatives such as anti-poaching measures, habitat restoration, and scientific research. Initiatives like Bhutan's Project Finance for Permanence (PFP) have demonstrated how structured and sustained funding can significantly enhance conservation outcomes and serves as an applicable case study mechanism for allocating funding to achieve biodiversity objectives once acquired [98].

By tapping into a new revenue stream through the sale of conservation license plates, Uzbekistan can diversify its funding sources for wildlife conservation. This diversification reduces the dependency

[98]WWF, (2022), A new approach to conservation funding brings long-lasting solutions - https://www.worldwildlife.org/magazine/issues/spring-2022/articles/a-new-approach-to-conservation-funding-brings-long-lasting-solutions

on traditional funding methods, such as government grants and donations, which can be unpredictable and insufficient. The introduction of conservation license plates aligns with the growing demand for personalized products. Vehicle owners in Uzbekistan can choose plates that not only support conservation but also offer a unique feature for their cars, as well as enjoy practical benefits, such as free access to National Parks, priority or discounted hunting/fishing licenses, right to picnic/camp in wild areas, and etc. This market-driven approach can significantly boost the adoption rate of conservation license plates. Similar strategies have been effective in other regions, where personalized and special-interest license plates have generated substantial revenues for various causes[99].

This will be achieved by:

1. Developing conservation plate designs and production processes, including the creation of unique, nature-inspired plate visuals that highlight Uzbekistan's endangered species (i.e. the Saiga Antelope, Sand Cat, and Goitered Gazelle) to appeal to a broad market.
2. Designing the issuance process in coordination with relevant authorities to ensure seamless integration of conservation plates into the existing vehicle registration system.
3. Establishing a revenue allocation mechanism to ensure that proceeds from plate sales are earmarked for biodiversity conservation. This will include clear guidelines for fund allocation and integration with the Blended Finance Facility (FS №1) or designated conservation initiatives.
4. Developing a monitoring and evaluation framework to track the financial, ecological, and social impacts of the program. This system will include transparent reporting mechanisms, independent audits, and adaptive management processes.
5. Launching a public awareness and marketing campaign to promote conservation license plates. The campaign will use traditional and digital media, local influencers, and partnerships with hunter and nature-based professional associations to encourage adoption.
6. Integrating the program into the vehicle registration database to streamline the issuance, renewal, and management of conservation license plates while ensuring accessibility for car owners.
7. Implementing a continuous improvement process to adapt the program over time. Regular feedback collection, performance reviews, and market analysis will ensure the initiative remains relevant and aligned with evolving stakeholder needs

- ***Expected Impact***

The use of conservation license plates in Uzbekistan is expected to have a significant impact on wildlife conservation efforts that extend beyond financial benefits. Such initiatives do not only act as a funding mechanism but also a powerful tool for raising public awareness about the importance of nature and biodiversity conservation. The integration of conservation messaging into everyday life through conservation license plates creates a visible connection between vehicle owners and the country's commitment to protecting its natural heritage.

Considering the growing vehicle market in Uzbekistan, conservation license plates represent an opportunity to engage the public in biodiversity efforts. Individuals who value sustainability and wish to contribute to environmental preservation through a simple, accessible action will acquire the means to do so through this initiative. Furthermore, the program's design, with potential conservation themes

[99] Conservation License Plate Texas - https://conservationplate.org/

on license plates, can promote awareness and foster a sense of pride in supporting wildlife conservation initiatives.

The funds generated through this program will be channelled into the Blended Finance Facility (FS №1), ensuring they are allocated toward biodiversity-focused outcomes. This approach guarantees that the resources raised contribute to sustainable conservation efforts, aligning with national and international biodiversity goals.

- ***Potential Financial Results***

The proposed FS is expected to directly mobilize approximately US$1.2 million annually and indirectly contribute to raising public awareness on the key national biodiversity challenges, thereby increasing effectiveness of other resource mobilization efforts (crowdfunding, voluntary donations, etc.)

In more detail the financial potential of a conservation license plate program in Uzbekistan is considerable, especially given the country's expanding vehicle market. In 2023, Uzbekistan experienced a record 18% year-over-year increase in car sales. Additionally, in 2022, approximately 120,000 license plates were purchased via online trading on the stock exchange, generating around US$24 million — a clear indication of the Uzbek population's interest and readiness in acquiring higher-priced license plates[100].

If we apply a pricing model similar to that used in Texas and conservatively estimate that 1% of Uzbekistan's 4 million registered vehicles opt for conservation plates, the initial revenue could reach approximately US$1,200,000. This estimate is based on an average price of US$30 per plate. Furthermore, annual renewals would provide ongoing financial support. If the same 1% of vehicle owners renew their plates each year, this could generate an additional US$800,000 annually, assuming a US$20 renewal fee per plate. These funds would be specifically earmarked for wildlife conservation, ensuring a stable and continuous funding source for these crucial efforts.

Several alternative models for implementing conservation license plates should additionally be explored:

- **Non-renewal plates:** This model represents a fixed price paid by car owners when registering their vehicle and receiving the license plate. A conservation feature could be offered through an online catalogue (via a special link or page on the official Car Plates Auction platform of UZEX[101] at a fixed rate equal to 1 BCV (basic calculation value), which is UZS 375,000 (or approximately US$30). While this option does not offer benefits or privileges to the owner, its affordability may attract a broader base of vehicle owners and potentially generate more funds for conservation.
- **Renewal plates (subscription):** Under this model, conservation license plates are sold through the same catalogue at a higher fixed price equal to 3 BCVs (approximately US$90) and feature a specially designed plate. These plates would require an annual renewal fee of 1 BCV (approximately US$30) and could come with certain benefits and privileges, such as discounts or access to services that appeal to hunters, campers, hikers, and nature lovers. While this model may result in fewer licenses sold annually, it could provide a more sustainable

[100] Invest in Uzbekistan, (2022), The most expensive license plate of 2022 was bought in Uzbekistan for 348 million soums - https://invest-in-uzbekistan.org/en/novosti-uzbekistana/samyj-dorogoj-avtonomer-2022-goda-v-uzbekistane-kupili-za-348-mln-sumov/

[101] Avtoraqam - https://avtoraqam.uzex.uz

source of funding through regular renewals. With a strong base of 38,000 registered hunters, this option could cater to a dedicated market.

- **Combination of options:** A hybrid approach that combines elements of both the non-renewal and renewal models could be considered to maximize participation and long-term financial sustainability. For instance, an initial lower-cost, non-renewal plate could be offered with the option to upgrade to a premium renewable plate that includes additional benefits for outdoor enthusiasts.

➢ *Key Implementation Steps*

№	*Step*	*Process Lead*	*Key stakeholders*	*Indicative Timeframe* *(steps can be done in parallel)*	*Estimated Budget* *(in US$)*
1	*Technical Analysis, Implementation Roadmap. Development of M&E framework*	*MoE, MoIA*	*UNDP, Outsourced advisory services*	*3 months*	*20,000*
2	*Development of Conservation Plate Designs, Production and Issuance Process Design*	*MoE, MoIA*	*UNDP, Outsourced advisory services*	*6 months*	*20,000*
3	*Establishment of Revenue Allocation Mechanism*	*MoE, MoIA*	*UNDP, Outsourced advisory services*	*3 months*	*30,000*
4	*Establishment of Monitoring and Evaluation Framework*	*MoE, MoIA*	*UNDP, NGOs, Outsourced advisory services*	*3 months*	*20,000*
5	*Public Awareness Campaign and Marketing*	*MoE, MoIA*	*UNDP, Media Partners, NGOs, Outsourced advisory services*	*3 months*	*Financed by national partners*
6	*System Integration with Vehicle Registration Database*	*MoE, MoIA, UZEX*	*UNDP, Outsourced advisory services*	*3 months*	*30,000*
7	*Pilot Program Launch in Major Cities*	*MoE, MoIA*	*UNDP, NGOs*	*6 months*	*Financed by national partners*
8	*Full-Scale Rollout*	*MoE, MoIA*	*UNDP, NGOs*	*ongoing*	*Financed by national partners*
	Total			***2 years***	***120,000***

- ***Potential Risks and Risk Mitigation***

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Legal requirements	Likelihood: **Low**. Establishing a legal framework for conservation license plates may create uncertainties around regulations and compliance. Impact: Incorrect structuring could result in inefficiencies and reduced effectiveness.	Conduct comprehensive legal analysis and seek continuous advice during the setup stages. Align legal frameworks with international standards to ensure compliance. Engage legal experts early in the process and ensure ongoing consultations to adapt to evolving legal requirements.
Public Awareness and buy-in	Likelihood: **Medium**. Public awareness and acceptance of conservation license plates may be limited initially. Impact: Low adoption rates could undermine the program's financial sustainability.	Implement comprehensive communication campaign to inform the public about the benefits of conservation license plates. Use social media, traditional media, and public events to promote the initiative. Engage local celebrities and influencers to endorse the program. Appeal to Hunters and other nature-related unions and professional associations as a guaranteed target group to ensure sustainability of finding in the initial stage Ensure highest level visibility, transparency and accountability of the use of raised funds. Provide clear pricing breakdowns to outline how much from a sale goes toward conservation and to what specific activities.
Pricing and Market Demand	Likelihood: **Medium.** Setting the right price point for conservation license plates is crucial to ensure sufficient demand. Impact: Incorrect pricing could lead to low adoption rates and insufficient revenue.	Conduct market research to determine the optimal price point. Consider offering a range of pricing options to cater to different market segments. Provide incentives such as discounts or additional benefits for early adopters.
Implementation Stage		
Monitoring and Evaluation	Likelihood: **Medium**. Ensuring that funds from conservation license plates are used effectively can be challenging. Impact: Inadequate monitoring could lead to misuse of funds and failure to achieve conservation goals.	Develop robust monitoring and evaluation frameworks to track the impact of the program. Use independent auditors to ensure transparency and accountability. Engage NGOs and community groups in monitoring activities. Use of specialized SPV (such as Blended Finance Facility in FS №1) to ensure high-level MRV standards and public accountability.
Revenue Allocation and Earmarking	Likelihood: **Medium**. Allocating and earmarking revenues from conservation license plates to specific conservation projects may face administrative challenges. Impact: Inefficiencies in revenue allocation could reduce the effectiveness of conservation efforts.	Establish clear guidelines and procedures for revenue allocation in the legal act that will endorse the FS. Ensure regular audits and public reporting on how funds are used. Engage stakeholders in decision-making processes to ensure funds are directed to high-impact projects. Ensure there is a contingency plan for if the Blended Finance Facility either faces delay or is not successfully operationalized. Foster relationships with NGOs or government agencies conducting conservation activities and prepare arrangements to direct funds towards them from conservation plates.

Market Dynamics and Economic Viability	Likelihood: **Medium**. Economic conditions can affect the willingness of vehicle owners to purchase conservation license plates. Impact: Economic downturns could reduce demand and revenue generation.	Support through market development initiatives and public awareness campaigns. Provide financial incentives during economic downturns to maintain demand. Foster partnerships with private sector entities to ensure stable market demand.
Technological Integration	Likelihood: **Low**. Integrating the conservation license plate system with the existing vehicle registration database may face technical challenges. Impact: Technical issues could delay the implementation and reduce the efficiency of the program.	Engage experienced IT professionals and system integrators. Conduct thorough testing and pilot programs before full-scale rollout. Ensure continuous technical support and maintenance.
Administrative and Bureaucratic Challenges	Likelihood: **Low**. Implementing a new program may face bureaucratic hurdles and inefficiencies. Impact: Delays and administrative inefficiencies could hinder timely rollout and tracking of funds.	Simplify administrative procedures and reduce bureaucratic red tape. Use digital platforms for application and disbursement processes to improve efficiency. Provide training for government officials involved in the implementation of the program.

g) Finance Solution №7 – **Crowdfunding** biodiversity-related initiatives

➢ *Summary*

Uzbekistan has a rapidly evolving digital landscape, presenting an opportunity for implementing crowdfunding as an innovative finance solution for biodiversity conservation. Despite its potential, crowdfunding for nature-positive projects remains largely untapped, even as global trends highlight its effectiveness in mobilizing small contributions from diverse audiences. This solution aims to leverage Uzbekistan's young, tech-savvy population and its growing internet penetration to connect funders with initiatives such as planting one billion trees under the "Yashil Makon" (Green Land) national project, afforesting the dried Aral Sea bed, and protecting endangered species such as the Bukharian deer and snow leopards. Interest in nature and biodiversity is increasing among the population in Uzbekistan which is evident through various initiatives, including establishment of Central Asian Green University and successful implementation of the international youth environmental camp in Zarafshan in 2024. Development of a digital platform is the primary precursor to this solution, which will then be followed by integration with mobile banking systems, and establishment of monitoring frameworks to ensure transparency, accountability, and scalable impact.

➢ *Justification for the solution & Uzbekistan's context*

Crowdfunding is a financial mechanism that harnesses small contributions from many individuals to fund projects or ventures. This method has gained traction globally due to its ability to democratize funding, allowing ordinary people to support initiatives they care about. In the context of biodiversity conservation, crowdfunding can be particularly effective as it engages the public directly, building a sense of ownership and responsibility towards environmental preservation. By using digital platforms, crowdfunding campaigns can reach a wide audience, including local communities, international donors, and the diaspora, thereby generating substantial financial support for biodiversity projects in Uzbekistan. The country's digital landscape is evolving rapidly, making crowdfunding a viable option for biodiversity financing. Furthermore, the government's efforts to enhance digital infrastructure and promote fintech solutions further support the potential for successful crowdfunding campaigns. With these technological advancements, crowdfunding can be efficiently utilized to mobilize resources for biodiversity conservation projects across the country.

Uzbekistan's median age of 27 years stands as significantly young when looking at comparisons to countries such as Germany (45 years) and the United States (38 years)[102]. Younger demographics, namely Millennials and Gen Z, have shown rapid adoption of digital services and non-traditional financial tools such as mobile banking and cryptocurrencies[103].

This demographic presents a unique opportunity for biodiversity crowdfunding initiatives, as they are more likely to engage with digital platforms. Uzbekistan has a 98% internet penetration, meaning there are minimal barriers in place to accessing digital services[104]. The increasing reliance on mobile banking and cashless payment systems further lowers barriers to contributing to digital campaigns

[102]Our World in Data (2024). Median Age. https://ourworldindata.org/grapher/median-age?
[103]Kaempfer, J., Elinson, S. (2024). How Gen Z's preference for digital is changing the payments landscape. EY. https://www.ey.com/en_us/insights/payments/how-gen-z-is-changing-the-payments-landscape?
[104]Statista (2024). Digital & Connectivity Indicators – Uzbekistan. https://www.statista.com/outlook/co/digital-connectivity-indicators/uzbekistan

and capturing interest in environmental issues within younger demographics may contribute to the needed funding for biodiversity in Uzbekistan.

Additionally, Uzbekistan's predominantly Muslim population presents a unique opportunity to integrate Islamic finance principles into crowdfunding efforts. Islamic finance, including instruments such as Zakat (mandatory charitable giving) and Sadaqah (voluntary charity), emphasizes ethical investment and social justice, aligning well with conservation goals. Integrating these instruments into crowdfunding models can mobilize significant resources for biodiversity projects. A study on Islamic finance in Uzbekistan highlights the potential of these instruments in filling the financing gap for SMEs and other social causes[105]. Crowdfunding opportunities that resonate with local values and Islamic ethics could result in widespread participation.

This opens a door also for revenue-based Islamic financing of biodiversity projects, which may leverage crowdfunding platforms. Islamic crowdfunding primarily operates through equity-based and debt-based models, utilizing Sharia contracts such as Mudarabah and Musharaka for equity, and Murabaha for debt. In the Mudarabah model, investors (Rab al-mal) provide funds while the fund seeker (Mudarib) manages the project, sharing profits according to a predetermined ratio. The Musharaka model involves a partnership where both the fund seekers and investors contribute capital and potentially share profits. These models ensure that financing is conducted ethically, adhering to Islamic principles, which can enhance trust and participation among Muslim investors. This approach has been successful in other countries, such as Indonesia, where Islamic crowdfunding has effectively bridged the financing gap for SMEs[106].

Quadratic funding is another option to further enhance the crowdfunding model by incentivizing broad participation and amplifying the impact of smaller contributions. This mechanism ensures that the collective support of many small donors carries more weight in funding allocation than a few large donations, creating a more equitable and inclusive funding process. Quadratic funding can be particularly impactful in biodiversity conservation, as it promotes widespread community engagement while attracting matching funds from institutional donors.

The proposed digital fund will see funds channelled through to the Blended Finance Facility (FS №1) as a central mechanism to then be distributed to the specific initiative tethered to the crowdfunding campaign. Contributors will make payments through a secure online gateway, with funds deposited into a dedicated account within the facility. These funds will be held and managed securely, before being released based on predefined milestones or funding targets. The governance structure of the facility, which includes NGOs, private sector representatives, and government stakeholders, will oversee fund allocation to ensure transparency and compliance with biodiversity-focused criteria. Campaign creators will align their proposed budgets and roadmaps with the facility's investment eligibility standards and submit detailed reports to ensure the effective utilization of funds and contribution to broader conservation objectives. This integration enhances accountability, streamlines fund management, and amplifies the impact of crowdfunding initiatives through a trusted financial network.

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[105]Jakhongir Imamnazarov, (2020), Landscaping Analysis of Islamic Finance Instruments in Uzbekistan - https://www.undp.org/sites/g/files/zskgke326/files/migration/uz/ENG_Landscaping-IF-in-Uzbekistan_final.pdf

[106]Zaki Abdullah & Akhmad Susamto, (2019), The Role of Investment-Based Islamic Crowdfunding for Halal MSMEs: Evidence from Indonesia - https://www.researchgate.net/publication/338475437_The_Role_of_Investment-Based_Islamic_Crowdfunding_for_Halal_MSMEs_Evidence_from_Indonesia/citation/download

As a secondary approach in the scenario where the Blended Finance Facility is not operated as the central BFP mechanism, there is also the opportunity for funds from crowdfunding initiatives to be channelled directly to NGOs or specific projects. This option could apply to clear scope initiatives such as species conservation or habitat rehabilitation, where a direct funding route to a trusted implementing partner may enhance efficiency and impact. In such cases, NGOs or project implementers would be responsible for ensuring transparent reporting and demonstrating measurable outcomes for maintaining contributor trust.

- ***Objectives***

The primary objective of utilizing a biodiversity crowdfunding initiative in Uzbekistan is to mobilize financial resources to support conservation projects such as habitat restoration and endangered species protection. By leveraging digital platforms and engaging a broad base of contributors that include local communities, international donors, and the Uzbek diaspora, the initiative aims to democratize funding and foster widespread public participation in biodiversity conservation.

An additional objective is to integrate Islamic finance principles into the crowdfunding model. Ethical instruments like Zakat (obligatory almsgiving) and Sadaqah (voluntary charity) will enable the initiative to align with local values, encouraging participation from Uzbekistan's predominantly Muslim population, helping to mobilize additional financial contributions for biodiversity projects.

This will be achieved by:

1. Conducting a feasibility analysis to assess the technical, operational, and financial viability of the crowdfunding platform, including identifying target audiences, funding goals, and optimal digital tools for campaign management.
2. Designing and developing a user-friendly crowdfunding platform tailored to local and international audiences. The platform will highlight biodiversity projects with clear visuals, storytelling, and transparent reporting mechanisms to showcase tangible results of contributions.
3. Developing a transparent monitoring and evaluation framework to track crowdfunding contributions, ensure funds are allocated effectively, and measure conservation outcomes. Real-time updates, visual progress reports, and success stories will be shared with contributors to build trust and long-term engagement.
4. Integrating Islamic finance principles into the crowdfunding framework to attract contributions through Zakat and Sadaqah. This will include developing guidelines to ensure compliance with Islamic ethical finance standards and promoting the platform as a tool for achieving social justice and environmental responsibility.
5. Launching targeted crowdfunding campaigns for high-impact biodiversity initiatives, including or inspired by:
    a. The "Yashil Makon" Project[107]: Supporting afforestation and reforestation efforts to plant one billion trees, combat desertification, and promote rural job creation.
    b. Afforestation of the Aral Sea seabed: Engaging audiences to fund saxaul tree planting, stabilize soils, and reduce toxic dust storms in one of the world's most significant environmental disaster zones.
    c. Conservation of Endangered Species: Funding anti-poaching, habitat restoration, and protection programs for species like the Bukharian deer and snow leopard, while using storytelling and visuals to connect emotionally with donors.

[107]Ministry of Agriculture of Uzbekistan (2024). Yahil Makon. https://www.agro.uz/tag/yashil-makon/

6. Implementing robust outreach and marketing campaigns to promote crowdfunding initiatives at local, national, and international levels. This will include social media campaigns, collaboration with influencers, diaspora engagement, and storytelling approaches to emphasize project impacts.
7. Launching a pilot crowdfunding campaign to test the platform, gather user feedback, and refine the approach before scaling up. The pilot will focus on a flagship biodiversity initiative, such as the Aral Sea afforestation project, to showcase measurable impacts and generate momentum.
8. Scaling up the crowdfunding platform based on pilot results by expanding its scope to include additional biodiversity projects, improving technical features, and fostering partnerships with local and international organizations to amplify reach and impact.
9. Establishing continuous improvement mechanisms to adapt the platform over time. Regular feedback collection, performance reviews, and updates will ensure the crowdfunding initiative remains relevant, user-friendly, and effective.

➢ *Potential Financial Results*

To estimate financial returns from the solution we will consider the results from 17 UNDP crowdfunding for development campaigns from the last four years. In total, these raised approximately US$3.1 million in total at an average of approximately US$182,000 per campaign[108]. Assuming that for the purpose of this solution, it will be conducted annually, this provides a US$1.82 million revenue over the next decade. To factor in the Islamic finance aspect, we can consider several elements. If we make the assumption that Muslims eligible to pay Zakat (equivalent to US$3,000)[109] equals to 100,000, the total payments will equal to US$7.5 million. If we assume that 10% of this group were to contribute to nature, there would be a potential of up to US$750,000 that could be captured. In addition, all other Muslims are obligated to pay Sadaqah, at minimum of US$1, and we assume that 1 million people contribute this minimum to generate an additional US$1 million annually. These three aspects combined bring the expected financial returns to US$19.32 million over the next decade. If we assume an initial cost of US$150,000 to set up the platform, plus an additional 1% of this in annual maintenance, we can assume a total US$19.155 million in revenue across this period.

➢ *Key Implementation Steps*

№	*Step*	*Lead*	*Support*	***Indicative Timeframe*** *(steps can be done in parallel)*	***Estimated Budget*** *(US$)*
1	*Feasibility Analysis and Roadmap*	*MoE*	*UNDP,*	*6 months*	*10,000*
2	*Development new or improving/using existing Crowdfunding Platform*	*MoE*	*UNDP, Outsourced advisory and technical services*	*6 months*	*30,000*

[108]UNDP (2024). Crowdfunding for Development. https://www.undp.org/stories/crowdfunding-development
[109]Weekly Uzbekistan (2024). В 2024 году сумма нисаба закята составляет 40 млн сумов. https://weekly.uz/articles/8129/

3	*Establishment of Monitoring and Evaluation Framework*	*MoE*	*UNDP, NGOs, Outsourced advisory services*	*3 months*	*20,000*
4	*System Integration with Mobile Banking*	*MoE, MoEF, Central Bank*	*Mobile Network Operators, Banks*	*12 months*	*20,000*
5	*Developing comprehensive communication strategy and action plan*	*MoE*	*UNDP, Outsourced advisory services*	*3 months*	*10,000*
6	*Public Awareness Campaigns and Stakeholder Engagement*	*MoE, Committee of Religious Affairs*	*UNDP, Media Partners, Local Government Authorities, NGOs, Community Leaders*	*ongoing*	*Done by Platform provider*
7	*Pilot Program Launch in Major Cities*	*MoE, Committee of Religious Affairs*	*UNDP, Local Government Authorities, NGOs, Community Leaders*	*6 months*	*Done by platform provider*
8	*Continuous Improvement and Feedback Collection*	*MoE*	*Ministry of Economy and Finance (MoEF), NGOs, Committee of Religious Affairs*	*Ongoing*	*Done by platform provider*
9	*Maintenance of Platform*	*MoE*	*Fintech Companies, IT Specialists*	*Ongoing*	*Done by platform provider*
	Total			***2 years***	***115,000***

- ***Potential Risks and Risk Mitigation***

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Legal requirements	Likelihood: **Medium**. Establishing a legal framework for crowdfunding may create uncertainties around regulations and compliance. Impact: Incorrect structuring could result in inefficiencies and reduced effectiveness.	Link the crowdfunding platform to the Blended Finance Facility (FS №1), leveraging its established legal framework and alignment with international standards. Additionally, engage legal experts early in the setup process and ensure ongoing consultations to adapt to evolving legal requirements.
Public Awareness and Acceptance	Likelihood: **Medium**. While public interest in biodiversity and nature conservation is growing globally, the challenge lies in effectively capturing and channelling this interest through a crowdfunding mechanism. Impact: Low adoption rates would limit the financial potential	Raise public interest through targeted campaigns, influencer endorsements, storytelling, and gamification, while collaborating with local organizations to broaden outreach and engagement. Clearly outline the connection of biodiversity funding to Islamic finance to engage the Islamic community.
Pricing and Market Demand	Likelihood: **Medium**. Setting the right incentives for contributions is crucial to ensure sufficient demand. Impact: Incorrect incentives could lead to low adoption rates and insufficient revenue.	Conduct market research to determine the optimal incentives. Consider offering a range of benefits for contributors. Provide additional incentives such as matching funds or recognition for early adopters.

Implementation Stage		
Monitoring and Evaluation	Likelihood: **Medium**. Ensuring that funds from crowdfunding are used effectively can be challenging. Impact: Inadequate monitoring could lead to misuse of funds and failure to achieve conservation goals.	Integrate crowdfunding funds into the Blended Finance Facility's monitoring framework, leveraging its established evaluation processes and independent audits. Engage NGOs and community groups through the facility's governance to ensure transparency, accountability, and alignment with conservation goals.
Market Dynamics and Economic Viability	Likelihood: **Medium**. Economic conditions can affect the willingness of individuals to contribute to crowdfunding campaigns. Impact: Economic downturns could reduce demand and revenue generation.	Support through market development initiatives and public awareness campaigns. Provide financial incentives during economic downturns to maintain demand. Foster partnerships with private sector entities to ensure stable market demand.
Technological Integration	Likelihood: **Medium**. Integrating the crowdfunding platform with existing mobile banking and internet infrastructure may face technical challenges. Impact: Technical issues could delay the implementation and reduce the efficiency of the program.	Engage experienced IT professionals and system integrators. Conduct thorough testing and pilot programs before full-scale rollout. Ensure continuous technical support and maintenance.
Administrative and Bureaucratic Challenges	Likelihood: **Medium.** Implementing a new crowdfunding program may face bureaucratic hurdles and inefficiencies. A key element is the challenge that arises in implementing the solution if the Blended Finance Facility is not ready or is not deemed the appropriate mechanism for disbursement. Impact: Delays and administrative inefficiencies could hinder timely rollout and tracking of funds.	Partner with well-established local NGOs or a consortium of NGOs already engaged in biodiversity projects, leveraging their credibility and existing presence. This can result in more effective management of campaigns and enable funds to be managed externally to the government, reducing the introduction of bottlenecks. These partners can further serve as contingency beneficiaries in lieu of the fund, receiving the funds directly and allocating them to initiatives related to the specific campaigns.

h) Finance Solution №8 – Introducing a **Payment for Ecosystem Services (PES)** pilot for water and soil conservation in agricultural lands of the Fergana Valley

➢ *Summary*

This finance solution proposes introducing a pilot PES scheme in the Fergana Valley, a critical agricultural region suffering from unsustainable water use, environmental degradation and climate change impacts. The pilot will focus on incentivizing farmers and agricultural cooperatives to adopt sustainable practices that include drip irrigation, crop diversification, and bio-solvent use for soil restoration. By directly compensating farmers for environmental stewardship, the PES scheme will promote water conservation, enhance soil health, and reduce agricultural pressures on Uzbekistan's natural resources. The pilot demonstrates a scalable model to achieve sustainability goals and can ideally drive the development of a PES framework in the country to support additional schemes in other regional contexts. Key steps include developing eligibility criteria for participation, designing payment structures with stakeholder engagement, piloting the scheme in the Fergana Valley, and establishing robust monitoring, reporting, and verification systems to measure environmental and socio-economic impacts.

➢ *Justification for the solution & Uzbekistan's context*

The Fergana Valley is a critical agricultural hub in Central Asia, spanning parts of Uzbekistan, Kyrgyzstan, and Tajikistan. In Uzbekistan, it is a significant contributor to the nation's agricultural output, particularly in cotton and wheat production. However, its agricultural sustainability is threatened by pressing environmental challenges.

Agriculture in the Fergana Valley heavily depends on irrigation, primarily sourced from the Syr Darya river. However, the expansion of irrigated land has led to increased water withdrawals, resulting in land degradation and water resource contamination. Intensive irrigation practices without adequate drainage have additionally led to soil salinization, reducing agricultural productivity[110]. The Fergana Valley includes about 45% of the irrigated area in the Syr Darya River basin[111]. Active use of irrigation in agriculture can lead to changes in the soil's natural composition and cause pollution. Climate change poses additional risks, potentially exacerbating these water scarcity issues and impacting crop yields. Studies indicate particular vulnerability of the Fergana Valley to climate-induced changes in water demand, particularly for water-intensive cotton production[112].

Implementing a PES mechanism in the Fergana Valley aims to address these challenges by incentivizing sustainable agricultural practices. The key structural elements are as follows:

Buyers	• **Government Ministries:** Ministries (i.e. MoE, MoA) funding sustainable practices to meet national biodiversity and climate goals. • **Water Utilities:** Seeking improved water regulation and reduced waste to address growing water stress.

[110]Kenjabaev (2016). Irrigation Infrastructure in Fergana Today:
Ecological Implications – Economic Necessities in R.F. Hüttl et al. (eds.), Society - Water - Technology, Water Resources. Development and Management, DOI 10.1007/978-3-319-18971-0_10

[111]Turdaliev et al (2024). Irrigation-Initiated Changes in Physicochemical Properties of the Calcisols of the Northern Part of Fergana Valley. Appl. Sci. 14(13), 5762; https://doi.org/10.3390/app14135762

[112]Nikanorova, A.D., Milanova, E.V., Dronin, N.M. et al. (2016). Estimation of Water Deficit under Climate Change and Irrigation Conditions in the Fergana Valley of Central Asia. Arid Ecosyst 6, 260–267. https://doi.org/10.1134/S2079096116040053

	• **Agribusinesses:** Sourcing from sustainable supply chains, ensuring long-term resource availability and market competitiveness[113]. • **International Donors and Development Organizations:** Supporting innovative, market-based solutions for ecosystem restoration and sustainable agriculture.
Sellers	• **Farmers and Agricultural Cooperatives:** Implementing sustainable land and water management practices to restore ecosystem services.
Payment Structures	**Action-Based Payments:** • Financial rewards for adopting drip irrigation systems that reduce water use and improve productivity. Drip irrigation can lower water demand while reducing fertilizer and nutrient loss from soil, overall improving crop yields[114]. • Incentives for crop diversification, encouraging a shift from water-intensive monocrops like cotton to drought-resistant and arid-adapted crops such as sorghum, mung beans, and maize. Crop diversification supports soil health and reduces long-term water dependency[115]. • Compensation for the use of bio-solvents to improve soil fertility and reduce water requirements for soil leaching, which is particularly beneficial for saline-prone soils in the region. **Inaction-Based Payments:** • Compensation for refraining from unsustainable practices, such as over-irrigation**,** overgrazing, or excessive use of chemical fertilizers, which degrade soil quality and pollute water sources.
Monitoring, Reporting and Verification	**Baseline Assessments** • Establishing initial water usage, soil conditions, and cropping patterns to measure improvements. **Periodic Monitoring** • Tracking the adoption of sustainable practices and verifying environmental outcomes through on-site checks and remote sensing technologies. **Payment Verification** • Ensuring that payments are tied to actual, measurable results

- ***Objectives***

The primary objective of this finance solution is to implement a targeted PES pilot in the Fergana Valley to incentivize sustainable water and land management practices. This initiative aims to deliver measurable improvements in water conservation, soil health restoration, and biodiversity protection while enhancing farmer livelihoods and contributing to Uzbekistan's national sustainability goals. Furthermore, the insights from this pilot are to inform the development of a legal framework for PES

[113]Previous UNDP work from the 2009 *Investment Guide to the Fergana Valley* highlights the opportunities for investment in the region, noting the potential and underinvestment in agribusiness. https://www.undp.org/sites/g/files/zskgke326/files/migration/uz/uzb_un_eng_Investment_Guide_to_the_Fergana_Valley.pdf

[114]University of Rhode Island (n.d.) Drip Irrigation. https://web.uri.edu/safewater/protecting-water-quality-at-home/sustainable-landscaping/drip-irrigation/

[115]Baldwin-Kordick et al (2022). Comprehensive impacts of diversified cropping on soil health and sustainability. https://doi.org/10.1080/21683565.2021.2019167

that can be used to scale up its application in Uzbekistan across various regional contexts. This will be achieved by:

1. Establishing a PES framework that compensates farmers and agricultural cooperatives for implementing targeted sustainable practices, including drip irrigation, crop diversification, and bio-solvent use to address water scarcity and soil degradation.
2. Developing eligibility criteria for farmer participation to ensure payments are tied to clearly defined and measurable environmental outcomes.
3. Implementing a robust monitoring, reporting and verification system to track environmental progress, verify results, and ensure transparency and accountability in payment delivery.
4. Engaging buyers to establish sustainable funding sources for the PES mechanism.
5. Building farmer capacity through targeted outreach and training programs, ensuring farmers understand the PES requirements, environmental benefits, and long-term economic value of adopting sustainable practices.
6. Conducting a mid-pilot review to assess the PES scheme's effectiveness, identify barriers to adoption, and refine eligibility criteria, payment structures, and monitoring, reporting and verification processes
7. Using pilot results to develop a scaling strategy, expanding successful PES components across the Fergana Valley and informing national policy for sustainable agricultural practices.

- ***Expected Impact***

PES is not designed to mobilize resources directly to be applied to biodiversity but rather act as a direct contributor to achieving biodiversity and nature-related outcomes. Implementing the Fergana Valley PES pilot is expected to deliver measurable environmental, economic, social, and institutional benefits, directly addressing the area's challenges of water scarcity, soil degradation, and biodiversity loss. Increased adoption of drip irrigation will reduce agricultural water use while practices like crop diversification and bio-solvent use will restore soil fertility, reduce salinization, and minimize chemical runoff, enhancing ecosystem resilience and habitat connectivity.

Economic outcomes will see farmer incomes improved through direct payments for sustainable practices, creating new streams of income and reducing reliance on inefficient subsidies. Optimized water usage and healthier soils will stabilize agricultural yields, while water utilities and government agencies will benefit from reduced costs associated with water management and infrastructure. Increased crop productivity increases agribusiness investment potential, giving a pathway to catalyzing increased investment activity in the region.

Beyond direct payments and their strengthening of livelihoods, PES will offer additional social benefits in farmer capacity increases. Training and outreach will equip farmers with skills to adopt sustainable practices, while diversified cropping systems will improve stability of income and reduce vulnerability to environmental shocks. Community engagement in the PES design process will also foster greater resource stewardships.

The Fergana Valley PES pilot can act to demonstrate feasibility of PES as a financial mechanism. This will lead to institutional outcomes in the form of shaping national policies on agriculture, water management, and biodiversity conservation. The pilot will establish a scalable PES model that can then leverage this institutional foundation to be replicated across Uzbekistan's agricultural regions and setting the scene for testing PES in other sectors such as water or forestry.

➢ *Key Implementation Steps*

№	*Step*	*Lead*	*Support*	*Indicative Timeframe (steps can be done in parallel)*	*Estimated Budget (US$)*
1	*Conduct Feasibility Study to Refine PES Design*	*MoE*	*UNDP, Outsourced advisory services*	*6 months*	*50,000*
2	*Identify Buyers, Sellers, and Payment Structures*	*MoE*	*UNDP, MoA, MoWR, Agribusinesses, Farmers, Local Governments*	*3 months*	*15,000*
3	*Develop Eligibility Criteria and MRV Systems*	*MoE*	*UNDP, MoA, MoWR, NGOs*	*4 months*	*20,000*
4	*Pilot Drip Irrigation Payments for Farmers*	*MoE*	*UNDP, MoA, MoWR, Agribusinesses, Farmers, Local Governments*	*1 year*	*100,000*
5	*Pilot Crop Diversification Payments to Transition to Drought-Resistant Crops*	*MoE*	*UNDP, MoA, MoWR, Agribusinesses, Farmers, Local Governments*	*1 year*	*120,000*
6	*Pilot Bio-Solvent Adoption Payments to Improve Soil Health*	*MoE*	*UNDP, MoA, MoWR, Agribusinesses, Farmers, Local Governments*	*1 year*	*80,000*
7	*Monitoring, Reporting, and Verification of Environmental Outcomes*	*UNDP, Verification Agencies*	*UNDP, MoA, MoWR, NGOs*	*1 year*	*30,000*
8	*Conduct Mid-Pilot Review and Refine PES Scheme Based on Findings*	*UNDP, MoE*	*UNDP, MoA, MoWR, NGOs*	*6 months*	*25,000*
9	*Scale Up Successful PES Components Across the Fergana Valley*	*MoE*	*UNDP, MoA, MoWR, Agribusinesses, Farmers, Local Governments*	*Ongoing*	*Financed by national partners*
	Total			***2 years***	***440,000***

➢ *Potential Risks and Risk Mitigation*

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Farmer Resistance to Change	Likelihood: **Medium.** Impact: Resistance to adopting new practices could result in low participation rates, undermining the pilot's success.	Conduct targeted awareness campaigns and training programs to demonstrate the economic and environmental benefits of PES adoption. Engage local farmer cooperatives and trusted community leaders to promote understanding and acceptance of the PES mechanism.
Insufficient Buyer Participation	Likelihood: **Medium.** Impact: Limited participation by buyers (i.e. government agencies, agribusinesses) could reduce funding availability, impacting the pilot's scalability.	Engage buyers early through stakeholder consultations and partnership agreements. Highlight the benefits of PES for water utilities, agribusinesses, and government agencies, including cost savings and resource security. Provide incentives such as tax breaks or recognition for corporate participation.
Overdependence on Subsidies	Likelihood: **High.** Impact: PES may struggle to attract participants if farmers remain reliant on unconditional subsidies for agricultural inputs.	Position PES as a complementary mechanism to subsidies, emphasizing its ability to reward measurable outcomes. Use the pilot to demonstrate the long-term value of PES over inefficient subsidies through clear impact data and financial benefits.

Coordination Among Stakeholders	Likelihood: **Medium.** Impact: Misaligned interests between government agencies, farmers, and private buyers could cause delays and reduce program efficiency.	Establish an independent coordination body to mediate among stakeholders, define clear roles, and align expectations. Foster participatory planning to build trust and ensure local needs are integrated into the PES design.
Implementation Stage		
Monitoring, Reporting, and Verification Challenges	Likelihood: **Medium.** Impact: Inadequate monitoring could result in misuse of funds, unverified outcomes, and reduced program credibility.	Develop robust monitoring, reporting and verification frameworks, using a mix of remote sensing, on-site assessments, and third-party audits. Engage local NGOs and verification agencies to ensure transparency and accountability in tracking environmental outcomes.
Short-Term Focus by Participants	Likelihood: **Low.** Impact: Participants may prioritize short-term financial incentives over long-term environmental stewardship, reducing sustained impact.	Design payment structures that reward both immediate actions (installing drip irrigation) and long-term outcomes (sustained soil fertility improvements). Include multi-year commitments in payment agreements to promote program longevity.
Market Uncertainty for Diversified Crops	Likelihood: **Medium.** Impact: Farmers may hesitate to adopt crop diversification if market demand for drought-resistant crops is uncertain, risking economic losses.	Facilitate market access for diversified crops (sorghum, mung beans) through partnerships with agribusinesses and supply chains. Provide transitional support, including technical assistance and price incentives, to ensure economic viability during the shift.
Lack of Financial Resources	Likelihood: **Medium.** Impact: Insufficient funding could limit the scale and effectiveness of PES implementation.	Secure diverse funding sources through government budgets, international donors, and public-private partnerships. Develop co-financing models to encourage shared financial responsibility among stakeholders.

i) Finance Solution №9 – **REDD+** for forest conservation and prevention of erosion and effects of agriculture induced irrigation

- ***Summary***

Uzbekistan is a landlocked country with 7.26% forest coverage which is threatened by erosion and unsustainable agriculture practices. MoEF has explicitly requested support from UNDP for implementation of REDD+ in Uzbekistan. This finance solution focuses on a feasibility study as well as the three steps of REDD+ as set out by the UNFCCC. The expected impact is a shift to focus on native forest and *tugai* conservation while generating a revenue of at least US$10 per t/CO2 and a reduction of opportunity cost of US$9.19 per t/CO2. Key implementation steps will involve a feasibility study and capacity building campaign co-organized with MoEF.

- ***Justification for the solution & Uzbekistan's context***

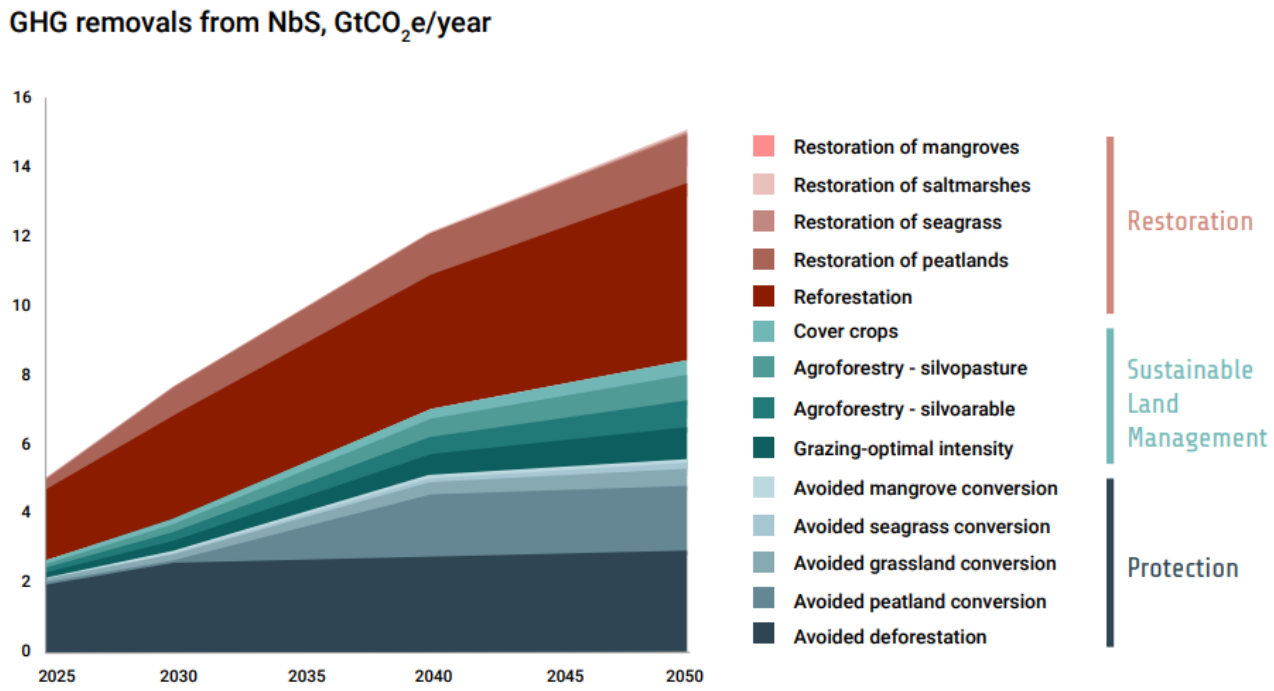
The MoEF approached UNDP with a request to investigate the integration of REDD+ in Uzbekistan. is a low forest cover country and faces significant challenges in forest conservation, with forested lands comprising only about 7.26% of the country's total land area, which is 447,400 km^2, equating to approximately 3.25 million hectares (as of 2020). Nearly 90% of forested land in the country is part of the State Forest Fund, which makes private sector-driven interventions difficult. The integrity of Uzbekistan's large tugai forests has become a pressing environmental concern, largely due to unsustainable water withdrawals and ecological disruptions caused by hydrological infrastructure projects. These unique riparian ecosystems play a critical role in maintaining biodiversity, stabilizing riverbanks, and supporting local communities that depend on their resources. Unfortunately, human activities such as water diversion for irrigation and the construction of dams for hydropower and water storage have placed these forests under significant threat.

Unregulated animal husbandry has exerted this pressure on natural forest ecosystems, as grazing practices often lead to soil compaction and vegetation loss, hindering natural regeneration processes. Furthermore, the growing demand for industrial and fuel wood, particularly in rural regions with limited access to alternative energy sources, has intensified the exploitation of forest resources. The expansion of irrigated agriculture put further pressure on water resources. This land-use change is particularly significant in Uzbekistan, where water-intensive farming practices are prevalent.

Implementing REDD+ in Uzbekistan is a compelling solution due to its unique environmental challenges, pressure on water resources and potential for significant carbon sequestration. Uzbekistan, characterized by its arid and semi-arid landscapes, has been facing increasing desertification and land degradation, exacerbated by climate change and unsustainable land management practices. The country's forest cover is limited but plays a crucial role in biodiversity conservation, climate regulation, and providing livelihoods for local communities. Uzbekistan's commitment to international climate agreements, such as the Paris Agreement, underscores the necessity of integrating REDD+ into its NDC. The country has already shown a proactive stance by engaging in various environmental initiatives aimed at sustainable land use and forest management. Implementing REDD+ would align with these national goals and provide a structured framework to enhance forest conservation and restoration efforts. In Uzbekistan's context its participation in REDD+ can facilitate access to international climate finance from bilateral and multilateral funding sources. This financial support is crucial for implementing comprehensive forest management strategies, enhancing monitoring and reporting systems, and ensuring the sustainability of REDD+ initiatives The

integration of REDD+ into Uzbekistan's environmental policy could also attract investments in green infrastructure and sustainable agriculture, further boosting the country's green economy. Uzbekistan's unique biodiversity and ecosystems would greatly benefit from REDD+ implementation. Forests in Uzbekistan are home to various endemic species and serve as critical habitats for wildlife. By protecting and restoring these forests, REDD+ can help preserve biodiversity, which is essential for maintaining ecological balance and resilience against climate change. Additionally, the enhancement of forest carbon stocks through REDD+ can contribute to global climate change mitigation efforts, positioning Uzbekistan as a proactive player in international environmental initiatives.

Figure 9: Showcasing how important is reforestation and avoided deforestation[116].



- ***Objectives***

The primary objectives of implementing REDD+ in Uzbekistan are to reduce emissions from deforestation and forest degradation, enhance forest carbon stocks, and promote sustainable forest management. These objectives are in line with the country's broader environmental goals and commitments under international climate agreements. This will be achieved by:

1. Conducting a feasibility study to assess the potential for implementing REDD+ activities in Uzbekistan. The study will identify the drivers of deforestation and forest degradation, evaluate the economic, social, and environmental benefits, and examine institutional, legal, and technical capacities to address potential barriers.
2. Building capacity and providing education for government officials and key stakeholders on the three phases of REDD+. Training programs and workshops will enhance understanding of REDD+ principles, methodologies, and international requirements, equipping officials to

[116]UNDP (2021), Considerations for Integrating Nature-Based Solutions in Nationally Determined Contributions: Illustrating the Potential Through REDD+ - https://www.undp.org/publications/consideration-integrating-nature-based-solutions-nationally-determined-contributions-illustrating-potential-through-redd

design, implement, and oversee REDD+ initiatives effectively while fostering inter-agency collaboration.

3. Developing a national REDD+ strategy that outlines Uzbekistan's vision and tailored actions to address deforestation and forest degradation. The strategy will be developed through extensive stakeholder consultations to ensure alignment with national development goals, environmental safeguards, and social equity considerations (Phase 1: Readiness as defined by the UNFCCC).
4. Demonstrating and testing national strategies, policies, and action plans to evaluate their feasibility, effectiveness, and scalability. Results-based pilot activities will be conducted to measure tangible outcomes, such as reduced deforestation and enhanced carbon stocks. This phase will include capacity building and technology transfer, such as remote sensing tools and data platforms, to ensure successful implementation and refinement of strategies (Phase 2: Demonstration).
5. Establishing a robust monitoring, reporting, and verification system to ensure transparency, accuracy, and accountability in tracking emission reductions. A well-designed monitoring, reporting, and verification framework will enable Uzbekistan to meet international reporting standards and qualify for performance-based payments under REDD+.
6. Implementing REDD+ results-based actions at the national level to reduce emissions from deforestation and forest degradation. These actions will involve fully measuring, reporting, and verifying results to meet UNFCCC requirements, enabling Uzbekistan to access results-based payments and demonstrate tangible progress in sustainable forest management (Phase 3: Implementation).
7. Ensuring long-term sustainability and scaling of REDD+ outcomes by integrating lessons learned, stakeholder feedback, and technology advancements. Uzbekistan will establish mechanisms for ongoing improvement, institutional coordination, and continuous monitoring to foster confidence among stakeholders and secure long-term success.

- ***Expected Impact***

The implementation of REDD+ in Uzbekistan is expected to generate significant environmental, social, and economic impacts, contributing to the country's sustainable development goals. REDD+ covers about 62% of forest area in developing countries and we can use this as a baseline coverage assumption[117]. In the case of Uzbekistan, this would equal approximately 2.294 million hectares.

REDD+ will help reduce deforestation and forest degradation, leading to enhanced carbon sequestration and reduced greenhouse gas emissions while providing additional revenue stream to pay for the cost. This will contribute to global climate change mitigation efforts and help Uzbekistan meet its NDC targets. Additionally, improved forest management will enhance biodiversity conservation and ecosystem services, such as water regulation and soil protection.

By involving local communities in forest management and providing alternative livelihood opportunities, REDD+ can improve the socio-economic conditions of rural populations. This includes benefits such as job creation, increased income from sustainable forest products, and enhanced food security through agroforestry practices. Community engagement and capacity-building initiatives will also empower local stakeholders and promote social equity.

[117] UNFCCC (2022). The REDD+ Success Story. https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd#The-REDD-success-story

Access to international climate finance through REDD+ can stimulate economic growth by funding large-scale reforestation and conservation projects. This financial influx will support infrastructure development, technology transfer, and the creation of green jobs. Furthermore, the sustainable management of forests can boost sectors such as ecotourism, which has the potential to generate significant revenue and promote regional development.

Implementing REDD+ will strengthen Uzbekistan's institutional capacity for environmental governance. This includes improving coordination among government agencies, enhancing data collection and reporting systems, and fostering partnerships with international organizations and donor agencies. The establishment of a robust MRV system will also improve the country's ability to monitor and report on its climate actions, enhancing transparency and accountability.

Lessons learned from other countries show that international aid can be accessed when implementing REDD+. For example, in 2020, the Green Climate Fund (GCF) approved US$28 million to aid Colombia in combating deforestation in the Amazon, setting a precedent for what could be achieved in Uzbekistan with similar support. The Colombian project, managed by the Food and Agriculture Organization (FAO) in partnership with the country's Ministry of Environment and Sustainable Development, aims to sustainably manage 60,000 hectares of forest and benefit over 2,000 families. By utilizing results-based payments, Colombia's project supports its Comprehensive Strategy to Control Deforestation and Forest Management (ENREDD+), developing green economic growth and inclusive governance. Uzbekistan could adopt a similar strategy, focusing on the sustainable management of its unique forest ecosystems, involving local communities, and promoting alternative livelihoods to reduce dependency on deforestation-driven activities. This success highlights the potential for REDD+ initiatives in Uzbekistan to leverage international funding and achieve substantial environmental and socio-economic impacts[118].

- ***Potential Financial Results***

The solution will generate additional financial resources through the appropriately selected co-benefit sharing with the conserved and protected areas. The solution will as well enhance avoidance of future biodiversity expenditure due to deforestation and ensure better spending of the financial resources for biodiversity, ultimately increasing revenues from various ecosystem services. Based on a recent study from Environmental Defence Fund (EDF) the average price of REDD+ should be estimated at US$10 per t/CO2 which aligned with the minimum price set by the Leaf coalition. This price is expected to linearly increase by US$1.2 every year resulting in a price of US$22 per t/CO2 in 2034[119]. An additional aspect which should be taken into account is the price are opportunity cost which are estimated at US$9.19 per t/CO2. However, this number can vary significantly depending on a range of factors, including time horizon, carbon density, etc.[120]. Assuming the 2.294 million hectares of REDD+ related areas and the mininal carbon stock of natural forest can be estimated at 50tCO2/ha[121], which leads us to an estimated maximum benefit of US$1.15 billion now and US$2.5 billion by 2034.

[118]FAO, (2020), REDD+ Reducing Emissions from Deforestation and Forest Degradation - https://www.fao.org/redd/news/detail/en/c/1304621/

[119]https://library.edf.org/AssetLink/n7sqq42eg5803g67pi3135a6n6004dv6.pdf?_gl=1*bzraw5*_gcl_au*MTYxMDA2NjQyNS4xNzI0OTYzODY1*_ga*MjAyMDc4MjczNC4xNzI0OTYzODYx*_ga_2B3856Y9QW*MTcyNDk2Mzg2MS4xLjEuMTcyNDk2NDEzNy42MC4wLjA.*_ga_Q5CTTQBJD8*MTcyNDk2Mzg2Mi4xLjEuMTcyNDk2NDEzNy42MC4wLjA.

[120]https://www.sciencedirect.com/science/article/abs/pii/S1389934118300571

[121]World Bank (2016), Estimation of REDD+ cost elements - https://www.forestcarbonpartnership.org/system/files/documents/Manual%20REDD%2B%20cost%20element%20assessment%20tool%20final1.pdf

➢ *Key Implementation Steps*

№	*Step*	*Lead*	*Support*	*Indicative Timeframe (steps can be done in parallel)*	*Estimated Budget (US$)*
1	*Feasibility Analysis*	*MoEF, MoE*	*UNDP, UN-REDD Programme, Outsourced advisory services*	*6 months*	*20,000*
2	*REDD+ Strategy and Action Plan*	*MoEF, MoE*	*UNDP, UN-REDD Programme, Outsourced advisory services*	*6 months*	*40,000*
3	*Establishment of Monitoring, Reporting, and Verification (MRV) Systems*	*MoEF, MoE*	*UNDP, UN-REDD Programme, Research institutions, Outsourced advisory services*	*6 months*	*45,000*
4	*Baseline Data Collection and Forest Inventory*	*MoEF, MoE*	*UNDP, UN-REDD Programme, Research institutions, Local Governments, Local Communities, NGOs, Outsourced advisory services*	*12 months*	*100,000*
5	*Capacity Building for Stakeholders*	*MoEF, MoE*	*UNDP, UN-REDD Programme, NGOs, International partners, Outsourced advisory services*	*9 months*	*60,000*
6	*Pilot Projects in Key Forest Areas*	*MoEF, MoE*	*UNDP, UN-REDD Programme, Research institutions, Local Governments, Local Communities, NGOs, Outsourced advisory services*	*12 months*	*125,000*
7	*Continuous Improvement and Feedback Collection*	*MoEF, MoE*	*UNDP, UN-REDD Programme, Local Governments, Local Communities, NGOs Development partners, Outsourced advisory services*	*ongoing*	*40,000*
	Total			***2 years***	***430,000***

➢ *Potential Risks and Risk Mitigation*

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Legal and Regulatory Challenges	Likelihood: **Medium**. Establishing a legal framework for REDD+ may create uncertainties around regulations and compliance. Impact: Incorrect structuring could result in inefficiencies and reduced effectiveness.	Conduct comprehensive legal analysis and seek continuous advice during the setup stages. Align legal frameworks with international standards to ensure compliance. Engage legal experts early in the process and ensure ongoing consultations to adapt to evolving legal requirements.

Public Awareness and Acceptance	Likelihood: **High**. Public awareness and acceptance of REDD+ may be limited initially. Impact: Low adoption rates could undermine the program's financial sustainability.	Implement comprehensive education and outreach programs to inform the public about the benefits of REDD+. Use social media, traditional media, and public events to promote the initiative. Engage local celebrities and influencers to endorse the program.
Data Collection and Baseline Establishment	Likelihood: **High**. Accurate baseline data is crucial for monitoring progress and effectiveness. Impact: Inaccurate baselines could lead to incorrect assessments and loss of credibility.	Ensure thorough and accurate baseline data collection using advanced technologies and methodologies. Engage experienced researchers and international experts to guide the process.
Implementation Stage		
Monitoring and Evaluation	Likelihood: **Medium**. Ensuring that funds from REDD+ are used effectively can be challenging. Impact: Inadequate monitoring could lead to misuse of funds and failure to achieve conservation goals.	Develop robust monitoring and evaluation frameworks to track the impact of the program. Use independent auditors to ensure transparency and accountability. Engage NGOs and community groups in monitoring activities.
Revenue Allocation and Earmarking	Likelihood: **Medium**. Allocating and earmarking revenues from REDD+ to specific conservation projects may face administrative challenges. Impact: Inefficiencies in revenue allocation could reduce the effectiveness of conservation efforts.	Establish clear guidelines and procedures for revenue allocation. Ensure regular audits and public reporting on how funds are used. Engage stakeholders in decision-making processes to ensure funds are directed to high-impact projects.
Market Dynamics and Economic Viability	Likelihood: **Medium**. Economic conditions can affect the willingness of individuals to participate in REDD+ initiatives. Impact: Economic downturns could reduce demand and revenue generation.	Support through market development initiatives and public awareness campaigns. Provide financial incentives during economic downturns to maintain demand. Foster partnerships with private sector entities to ensure stable market demand.
Technological Integration	Likelihood: **Medium**. Integrating the REDD+ platform with existing forestry and environmental management systems may face technical challenges. Impact: Technical issues could delay the implementation and reduce the efficiency of the program.	Engage experienced IT professionals and system integrators. Conduct thorough testing and pilot programs before full-scale rollout. Ensure continuous technical support and maintenance.
Community Engagement and Participation	Likelihood: **High**. Ensuring active participation of local communities in REDD+ activities is essential. Impact: Low community engagement could result in poor implementation and sustainability.	Develop strong community engagement strategies, including capacity-building programs and participatory planning processes. Provide clear benefits and incentives for community participation.

j) Finance Solution №10 – Updating the Current SDG Bond Framework to enable the Issuance of **Nature/Biodiversity Bonds** to Finance Biodiversity-positive Projects

Summary

Uzbekistan has strong experience and expertise in issuing thematic bonds. It is believed that the opportunities for nature related thematic bonds remain untapped. Global investor demand for nature related finance in thematic bonds tripled over the preceding three years. This finance solution focuses on updating and expanding the current sovereign SDG bond framework in Uzbekistan to cover nature and biodiversity related eligibility categories and sub-categories. It is expected to reduce cost of capital for nature related sovereign expenditure while frontloading investment potential. This is aligned with national GBF commitments and targets. Key steps include identification of eligible categories as well as eligible projects and ensuring robust monitoring and reporting systems to build investor confidence and market credibility.

- ***Justification for the solution & Uzbekistan's context***

The market for thematic bonds emphasizing biodiversity conservation, both terrestrial and aquatic, has experienced notable growth in recent years. According to data analysed by Sustainable Fitch, the proportion of such bonds designating biodiversity conservation as a use of proceeds rose significantly to 16% of all issuances in 2023, compared to just 5% in 2020. This upward trend underscores a growing recognition of the importance of biodiversity within the sustainable finance landscape. Numerous frameworks now include biodiversity-focused use of proceeds, reflecting a deliberate effort by issuers to align financial instruments with environmental priorities. This alignment highlights an increasing commitment to addressing nature-related risks and contributing to global biodiversity conservation goals through targeted financial strategies[122].

Uzbekistan's interest in thematic bonds arise from the significant gap between investment needs, especially and actual expenditure, primarily funded by the state budget. This gap, as outlined in the BER and FNA, cannot be bridged by public funds alone. Consequently, the government aims to attract both domestic and foreign private capital for projects that align with its environmental and development goals. The issuance of nature biodiversity bonds within the framework of Uzbekistan's existing SDG bond framework represents a strategic opportunity to channel financial resources toward nature-related interventions. By leveraging this framework, Uzbekistan can align biodiversity-focused initiatives with broader global sustainability objectives while tapping into the growing market of environmentally conscious investors.

The country's initial issuances and focus on thematic bonds for sustainable projects are significant steps in developing its debt capital market. However, there remains substantial untapped potential in Uzbekistan, which this publication aims to explore. Although Uzbekistan's first conventional sovereign bond issuance occurred in 2019, the country quickly began experimenting with sovereign thematic bonds. In November 2020, the country issued a two-tranche development finance institution (DFI) bond, comprising a 10-year US$555 million tranche and a 3-year UZS 2 trillion tranche, which was oversubscribed by a factor of 2.5. In other words, the demand for those bonds was 2.5 times more than actually allocated number of bonds, which is indicative of the high interest to the opening Uzbek market. Proceeds from this bond are funding various social Sustainable Development Goals, including

[122] https://www.sustainablefitch.com/corporate-finance/biodiversity-in-esg-state-of-sustainable-finance-market-09-10-2023

schools (SDG 4), health institutions (SDG 3), water and sewage infrastructure (SDG 6), roads (SDG 9), and social welfare programs for women, children, and the unemployed (SDGs 1, 5, and 8). In July 2021, Uzbekistan issued its first sovereign SDG bond, supporting social and climate-related SDGs (SDGs 1-9, 11, 13, and 15), developed with UNDP support and verified by Sustainalytics[123] for alignment with international guidelines. This framework also facilitated the issuance of a green bond in October 2023[124].

The current SDG bond framework of Uzbekistan does not explicitly prioritize biodiversity and nature as standalone focus areas. Instead, these issues are indirectly included under broader goals like SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life on Land). The SDG bond and green bond previous issued by the government has prioritized social projects, economic growth and climate over biodiversity, often treating it as a secondary benefit. To address this more targeted financial mechanisms and standardized metrics are needed to elevate biodiversity as a critical component of sustainable development. Given ICMA's central role in providing principles and guidance for thematic bond it is recommended to follow ICMA's guidance on inclusion of biodiversity and nature into the current bond framework.

- ***Objectives***

The overarching objective of this solution is to use the existing infrastructure, knowledge and experience of the MoEF to raise additional financial resources for biodiversity in the capital markets. This will involve strengthening and adapting the existing SDG Bond Framework to align with biodiversity priorities and global standards, ensuring it becomes an effective tool for financing biodiversity-positive projects. This will be achieved by:

1. Reviewing the current eligibility categories within the SDG Bond Framework to identify those already dedicated to biodiversity and nature. This review will assess their alignment with Uzbekistan's national biodiversity priorities, evolving international standards, and commitments under frameworks such as the GBF and CBD, ensuring the categories remain relevant and impactful.
2. Defining the scope of biodiversity-related eligibility categories based on recommendations from ICMA, TNFD, and other global standards. The criteria will prioritize projects focused on reforestation, sustainable agriculture, habitat preservation, ecosystem restoration, and pollution reduction, ensuring clear alignment with global biodiversity targets and robust environmental impact reporting.
3. Reviewing the current pipeline of biodiversity-related projects to identify potential projects eligible for inclusion in the SDG Bond Framework. This process will involve mapping existing public and pipeline projects that contribute to ecosystem conservation, sustainable land and water use, and nature-based climate adaptation, ensuring they meet eligibility criteria for financing under biodiversity-focused bonds.
4. Collaborating with the MoEF to incorporate biodiversity-related eligibility criteria into the SDG Bond Framework. This collaboration will adapt the framework to prioritize biodiversity

[123]Sustainalytics, (2021), Republic of Uzbekistan SDG Bond Framework Second-Party Opinion - https://www.sustainalytics.com/corporate-solutions/sustainable-finance-and-lending/published-projects/project/republic-of-uzbekistan/republic-of-uzbekistan-sdg-bond-framework-second-party-opinion-(2021)/republic-of-uzbekistan-sdg-bond-framework-second-party-opinion-(2021)

[124]OECD, (2023), Financing Uzbekistan's Green Transition: Capital Market Development and Opportunities for Green Bond Issuance, Green Finance and Investment - https://www.oecd-ilibrary.org/docserver/27d2489d-en.pdf?expires=1722690025&id=id&accname=guest&checksum=E3E67A2A3EB09FE51EC7B718772906AF

conservation, nature-based solutions, and sustainable ecosystem management, ensuring it aligns with international market expectations and standards for green and sustainable finance.

5. Advocating for the issuance of a Biodiversity Bond as a flagship initiative under the revised SDG Bond Framework. This will demonstrate Uzbekistan's leadership in sustainable finance, fostering international investor confidence and attracting global capital to fund high-impact biodiversity and ecosystem-focused projects.
6. Developing robust reporting and monitoring systems to ensure transparency, accountability, and measurable outcomes for biodiversity projects financed under the framework. Impact reports will align with international disclosure requirements.

- ***Expected Impact***

The issuance of a sovereign Nature Bond by the Government of Uzbekistan has significant potential to showcase its efforts in conserving its rich and diverse ecosystems and finance nature positive projects. Such a financial instrument would mobilize capital specifically earmarked for biodiversity, thereby addressing critical challenges like habitat degradation, species loss, and ecosystem imbalance. Issuing a sovereign biodiversity bond represents a strategic financial mechanism for Uzbekistan to secure the necessary funds for its biodiversity conservation objectives. By aligning financial resources with environmental goals, the country can safeguard its natural heritage, ensure sustainable development, and fulfil its commitments under international biodiversity frameworks

A sovereign biodiversity bond would provide the necessary financial resources now to implement strategic projects for reduction of biodiversity loss and land degradation. By issuing such a bond, the government could attract investments dedicated to projects aimed at ecosystem restoration, sustainable land management, and conservation of endangered species. This approach aligns with global trends where financial instruments are increasingly utilized to fund environmental initiatives.

The successful implementation of a Nature Bond in Uzbekistan would not only contribute to environmental sustainability but also promote socio-economic development. Healthy ecosystems provide essential services such as water purification, soil fertility, and climate regulation, which are vital for agriculture, industry, and human well-being. Moreover, investing in biodiversity can enhance ecotourism, creating job opportunities and generating income for local communities. The proceeds of the bond could be used to support various financial solutions within this BFP, e.g. tariff adjustments, investments into projects generating biodiversity credits.

- ***Potential Financial Results***

Uzbekistan's growing financial credibility and its commitment to sustainable development have positioned the country for continued success in the sustainable bond market. The strategic focus on sustainability, as well as the lessons learned from earlier issuances, will likely boost investor confidence and amplify the positive financial and environmental impacts of future bonds[125].About 16% of all green, social and sustainable bonds issued globally in 2023 included biodiversity conservation as a UoP, which has tripled since 2020[126]. Taking into account Uzbekistan's first inaugural sovereign Green Bond issued in 2023 and valued at US$660 million the prospective Biodiversity Bond could unlock more than US$100 million. These achievements highlight

[125]UNDP, (2022), Uzbekistan July 2021 SDG Bond Allocation and Impact Report - https://www.undp.org/uzbekistan/publications/uzbekistans-first-sdg-bond-allocation-and-impact-report

[126]Sustainable Fitch (2023), Sustainable Fitch: Biodiversity Gaining Ground in Sustainable Fixed-Income Market - https://www.sustainablefitch.com/corporate-finance/sustainable-fitch-biodiversity-gaining-ground-in-sustainable-fixed-income-market-09-10-2023#:~:text=About%2016%25%20of%20GSS%20bonds,to%20data%20by%20Environmental%20Finance.

Uzbekistan's growing financial credibility and reinforce its commitment to sustainable development, positioning the country for continued success in the bond market. The strategic focus on sustainability, as well as the lessons learned from earlier issuances, will likely boost investor confidence and amplify the positive financial and environmental impacts of future bonds[127].

- ***Key Implementation Steps***

№	*Step*	*Lead*	*Support*	*Indicative Timeframe (steps can be done in parallel)*	*Estimated Budget (US$)*
1	*Expansion of current SDG Bond Framework to include Nature and Biodiversity related Eligibility Categories*	*MoEF*	*UNDP, MoE, Outsourced advisory services*	*6 months*	*20,000*
2	*Identification of Eligible Nature/Biodiversity Projects*	*MoE*	*UNDP, MoE, NGOs*	*6 months*	*10,000*
3	*Capacity Building for Stakeholders*	*MoEF*	*UNDP, MoE, NGOs International partners, Outsourced advisory services*	*9 months*	*20,000*
4	*Establishment of Monitoring, Reporting, and Verification (MRV) Systems*	*MoEF*	*UNDP, MoE, NGOs International partners, Outsourced advisory services*	*12 months*	*45,000*
5	*Marketing Campaign and Stakeholder Engagement*	*MoEF*	*UNDP, MoE, International partners, Outsourced advisory services*	*9 months*	*20,000*
6	*Pilot Issuance of Nature Bonds*	*MoEF*	*UNDP, MoE, NGOs International partners, Central Bank, IFIs*	*12 months*	*90,000*
7	*Continuous Improvement and Feedback Collection*	*MoEF*	*UNDP, MoE, NGOs International partners, Outsourced advisory services*	*Ongoing*	*Financed by national partners*
	Total			***3 years***	***205,000***

- ***Potential Risks and Risk Mitigation***

Description of Key Risks	Likelihood of risk, and impact if realized	Mitigation plan
Design Stage		
Legal and Regulatory Challenges	Likelihood: **Medium**. Establishing a legal framework for green bonds may create uncertainties around regulations and compliance.	Conduct comprehensive legal analysis and seek continuous advice during the setup stages. Align legal frameworks with international standards to ensure compliance. Engage legal experts early in the process and ensure ongoing consultations to adapt to evolving legal requirements.

	Impact: Incorrect structuring could result in inefficiencies and reduced effectiveness.	
Pricing and Market Demand	Likelihood: **Medium**. Setting the right incentives for green bonds is crucial to ensure sufficient demand. Impact: Incorrect pricing could lead to low subscription rates and insufficient revenue.	Conduct market research to determine the optimal pricing. Consider offering a range of benefits for early subscribers. Provide additional incentives such as tax benefits or recognition for early adopters.
Implementation Stage		
Monitoring and Evaluation	Likelihood: **Medium**. Ensuring that funds from green bonds are used effectively can be challenging. Impact: Inadequate monitoring could lead to misuse of funds and failure to achieve environmental goals.	Develop robust monitoring and evaluation frameworks to track the impact of the program. Use independent auditors to ensure transparency and accountability. Engage NGOs and community groups in monitoring activities.
Revenue Allocation and Earmarking	Likelihood: **Medium**. Allocating and earmarking revenues from green bonds to specific projects may face administrative challenges. Impact: Inefficiencies in revenue allocation could reduce the effectiveness of environmental projects.	Establish clear guidelines and procedures for revenue allocation. Ensure regular audits and public reporting on how funds are used. Engage stakeholders in decision-making processes to ensure funds are directed to high-impact projects.
Market Dynamics and Economic Viability	Likelihood: **Medium**. Economic conditions can affect the willingness of investors to participate in green bond initiatives. Impact: Economic downturns could reduce demand and revenue generation.	Support through market development initiatives and public awareness campaigns. Provide financial incentives or phased implementation during economic downturns to maintain demand. Foster partnerships with private sector entities to ensure stable market demand.
Technological Integration	Likelihood: **Low**. Integrating existing financial management systems with existing infrastructure has limited technical challenges. Impact: Technical issues are not expected to delay the implementation and reduce the efficiency of the program.	Engage experienced IT professionals and system integrators. Conduct thorough testing and pilot programs before full-scale rollout. Ensure continuous technical support and maintenance.
Administrative and Bureaucratic Challenges	Likelihood: **Low**. Implementing new eligible categories within existing frameworks should not face bureaucratic hurdles and inefficiencies. Impact: No delays expected.	Use digital platforms for application and disbursement processes to further improve efficiency. Provide training for government officials involved in the execution of the product.

k) Finance Solution №11 – Institutionalization of the BIOFIN process through the integration of the **BIOFIN Methodology** into the curriculum of the Central Asian University of Environmental Studies and Climate Change (Green University)

- ***Summary***

Integrating the BIOFIN methodology into Uzbekistan's institutional frameworks is crucial for sustaining ongoing environmental reforms. The proposed finance solution builds on Uzbekistan's broader environmental initiatives by integrating a BIOFIN-based academic module into the Master's in Sustainable Finance Program and developing a Professional Certificate Course for government officials and private sector professionals. These programs will equip participants with skills to design and implement innovative financial solutions, including green budgeting, resource mobilization, and nature-positive investments aligned with frameworks like the NBSAP and NDCs. Uzbekistan's transition to a green economy is placing increasing demands on public institutions and private enterprises to adopt biodiversity-focused financial strategies and the integration of the BIOFIN methodology will strengthen national capacity, enabling the long-term alignment of financial planning with biodiversity and climate goals. The next steps for implementation include the design and piloting of both programs, faculty recruitment and training, a PR and communication campaign to promote enrolment, and the establishment of monitoring systems to ensure program quality and sustainability.

- ***Justification for the solution and Uzbekistan's context***

Uzbekistan is undergoing a significant green transition that has been bolstered by significant institutional reforms including the creation of the Ministry of Ecology, Environmental Protection, and Climate Change and the establishment of the Central Asian University of Environmental Studies and Climate Change (Green University). Despite this momentum, a critical shortage of institutional capacity in biodiversity finance provides a barrier to progress. This gap limits the ability of Uzbekistan to design, implement, and monitor financial mechanisms that address biodiversity conservation needs, slowing progress toward national priorities and global commitments.

The BIOFIN methodology stands as a globally recognized framework for mobilizing financial resources for biodiversity and provides a clear and practical solution to address these systematic challenges. By integrating the BIOFIN methodology into the Green University academic curriculum and professional training programs, Uzbekistan will ensure the development of a workforce capable of analysing biodiversity finance needs, mobilizing resources, and aligning financial mechanisms with the country's environmental and development goals.

While there are no immediate financial outcomes generated from this finance solution, it is expected to provide significant benefits to resource mobilization. Training public servants, private sector professionals, and policymakers through this initiative will enhance Uzbekistan's ability to secure and manage biodiversity financing effectively. It is anticipated that the implementation of this solution will provide a direct contribution to achieving Target 19 of the Kunming-Montreal GBF, which calls for a 15% increase in public biodiversity conservation funding. As a practical illustration, the direct allocation to biodiversity in the 2020 state budget was approximately US$80 million as per the

BER[128]. Through strengthened institutional capacities delivered by this curriculum, the annual allocation is projected to reach US$80.5 million by 2030.

The initiative further recognizes the importance of engaging both public and private sectors to ensure a holistic and systematic approach to sustainable financing for biodiversity. Uzbekistan's public sector will benefit from enhanced capacity to integrate biodiversity finance into national and sectoral budgets, whereas the private sector leaders trained under the Professional Certificate course will be empowered to integrate biodiversity considerations into business and investment decisions, fostering nature-positive financial practices. This element synergizes with other financial solutions under the BFP in providing improved private sector engagement and awareness that may address buy-in risks attributed to implementation.

Uzbekistan's ongoing environmental reforms and NBSAP provide an ideal foundation for this initiative. Institutionalizing the BIOFIN methodology within Green University will ensure the expertise required to mobilize and implement biodiversity finance solution is properly embedded across the country's institutions. By establishing a formal academic module and professional training pathways, this curriculum creates an enabling environment for the long-term sustainability of biodiversity financing efforts, positioning Uzbekistan as a leader in biodiversity finance capacity building within Central Asia.

- ***Objectives***

Integrating the BIOFIN methodology into the Green University curriculum has the primary objective of enhancing Uzbekistan's national capacity in public administration, private, and corporate sectors to address biodiversity finance challenges. This will be achieved by developing and integrating a specialized academic module into Green University's Master's in Sustainable Finance program and offering it as a Professional Certificate Course for civil servants, government officials, and private sector professionals.

This will be achieved by the following activities:

1. **Design and Development of Academic and Professional Training Programs**

This will involve the development of a specialized BIOFIN academic module for the Master's in Sustainable Finance program based on the BIOFIN Workbook (2024), ensuring alignment with Uzbekistan's biodiversity priorities and global frameworks. Additionally, a Professional Certificate Course will be designed and tailored to the needs of government officials and private sector professionals, with flexible options for online or part-time learning. The process will require a survey to assess target group preferences for delivery methods and content relevance.

2. **Establishment of Faculty and Institutional Capacity**

At least two faculty members experienced in financial disciplines will be recruited for short-term UNDP-supported contracts, ensuring Green University assumes responsibility for their long-term retention. Faculty members will receive training and participate in capacity-building workshops relating to the BIOFIN methodology, content delivery, and assessment approaches, led by an international consultant. The faculty readiness will be finalized through an in-person workshop prior to the launch of the program.

[128] BIOFIN (2023). Biodiversity Expenditure Review. https://www.undp.org/sites/g/files/zskgke326/files/2024-07/ber_uzbekistan_eng.pdf

3. **PR and Communication Strategy for Enrolment**

A comprehensive PR and communication plan will be developed and launched to raise awareness about the academic module and Professional Certificate Course. The strategy will include the production and dissemination of promotional materials, organization of workshops and management of targeted meetings during admission periods to ensure sufficient enrolment.

4. **Pilot Implementation of Programs**

Pilot implementation will involve launching the BIOFIN-based academic module for graduate students in the Master's in Sustainable Finance program, ensuring the module integrates practical exercises and case studies aligned with Uzbekistan's NBSAP, INFF, NAPs, and NDCs. The Professional Certificate course will be rolled out to target groups (such as civil servants and private sector professionals) as a pilot, subject to refinement based on feedback.

5. **Monitoring, Review, and Sustainability**

Monitoring and assessment mechanisms will be implemented to evaluate the effectiveness of both elements of the solution. Bi-annual reviews will be conducted and will be supported by update workshops for refining content and delivery. Merit-based financial support is to be provided for up to ten students annually to ensure participation and program accessibility. Pathways are to be established for retaining qualified faculty beyond the project lifecycle and ensuring the program's long-term integration within the organizational structure of Green University.

6. **Supportive Institutional Advocacy**

Advocacy will be undertaken for adoption of the Professional Certificate Course as a mandatory requirement for civil servants involved in biodiversity finance, budgeting, and financial planning across sectors.

- ***Expected Impact***

It is expected that this finance solution will enhance Uzbekistan's national capacity for addressing biodiversity finance challenges by institutionalizing the BIOFIN methodology at Green University. There is an expected transformative impact across the institutional, financial, environmental and social dimensions, directly supporting the country's transition to a green economy.

The outputs of this initiative will lay the foundation for significant long-term outcomes. First, stakeholder engagement will be strengthened by building a skilled workforce capable of addressing challenges in biodiversity finance. This will enhance the capacities of key stakeholders across sectors to enable them to participate meaningfully in biodiversity-positive financial planning and decision-making.

Graduates will be equipped with practical knowledge and tools that will contribute to the development of nature-positive financial solutions. These solutions will mobilize additional resources, optimize public funding, and attract private investments for biodiversity conservation and climate initiatives. The improved institutional capacity will also lead to a greater availability of biodiversity-related financial data and statistics, enhancing evidence-based decision-making. This will support the institutionalization of biodiversity-positive finance policies and decision-making tools, aligning with BIOFIN's theory of change.

Additionally, this solution should lead to the sustainability of BIOFIN results. Embedding the BIOFIN methodology within Green University ensures the continuity and scalability of its outcomes. This

systematic approach will reduce the reliance on external technical assistance, creating a self-sustaining framework for biodiversity finance expertise within Uzbekistan's institutions.

Climate change adaptation and mitigation efforts will receive further support from the initiative by emphasizing the role of biodiversity finance in advancing NbS. Through practical exercises and case studies, participants will learn to align financial strategies with national frameworks such as NAPs and NDCs, which will contribute to reducing greenhouse gas emissions, enhancing climate resilience, and improving ecosystem stability across Uzbekistan.

Gender equality and social inclusion will be advanced through advocating for mechanisms that promote women's participation and access to education. The initiative will leverage state grants, international scholarships, and merit-based fee waivers to support women and underrepresented groups. With over 2,000 targeted grants for women annually, this solution will help close the gender gap in education and employment opportunities related to biodiversity finance, in alignment with Uzbekistan's 2019 Law on Gender Equality.

Finally, the program will generate regional and international impacts. As a state-owned academic institution, Green University has the potential to become a regional hub for biodiversity finance education. By attracting students and professionals from Central Asia, the Caucasus, and beyond, the initiative will position Uzbekistan as a leader in biodiversity finance capacity building and knowledge sharing, amplifying outcomes domestically and internationally.

- ***Potential Financial Results***

While this finance solution primary focuses on institutional capacity building and does not directly generate immediate financial outcomes, it should have long-term impact on biodiversity financing in Uzbekistan. Equipping public servants, policymakers, and private sector professionals with the skills necessary to design and implement biodiversity finance mechanisms, the solution will unlock opportunities to mobilize, optimize, and realign financial resources for nature positive outcomes. The baseline biodiversity funding is at US$70 million in 2020, whereas the projected increased by 2030 with the implementation of this finance solution is US$80.5 million, driven by this improved capacity. Furthermore, trained professionals will strengthen Uzbekistan's ability to align biodiversity finance strategies with existing national policies, enhancing efficiency in public spending and ensuring funds are optimized. Engaging private sector stakeholders and equipping them with tools for incorporating biodiversity considerations into their financial planning and investments is expected to catalyze increased private sector funding for biodiversity projects and mobilize corporate resources to support ecosystem preservation and restoration.

- ***Key Implementation Steps***

№	*Step*	*Lead*	*Support*	*Indicative Timeframe (steps can be done in parallel)*	*Estimated Budget (US$)*
1	*Design Academic Module for "Master's in Sustainable Finance" Program*	*UNDP, Green University*	*Outsouring of advisory services*	*5 months*	*20,000*
2	*Develop Professional Certificate Course for Civil Servants and Private Sector*	*UNDP, Green University*	*Outsouring of advisory services*	*4 months*	*10,000*
3	*Develop PR and Communication Plan to Ensure Enrollment*	*UNDP, Green University*	*Outsouring of advisory services*	*6 months*	*6,000*
4	*Identify and Recruit Faculty Members for BIOFIN Program*	*UNDP, Green University*	*Outsouring of advisory services*	*3 months*	*10,000*

5	*Conduct Faculty Capacity-Building Workshops*	*UNDP, Green University*	*Outsouring of advisory services*	*3 months*	*6,000*
6	*Launch BIOFIN Academic Module*	*UNDP, Green University*	*Outsouring of advisory services*	*1 month*	*N/A*
7	*Monitor and Assess Program Performance*	*UNDP, Green University*	*Outsouring of advisory services*	*Ongoing*	*10,000*
8	*Conduct Review and Update Workshops*	*UNDP, Green University*	*Outsouring of advisory services*	*Ongoing*	*5,000*
9	*Provide Merit-Based Financial Support to Students*	*UNDP, Green University*	*Outsouring of advisory services*	*2 Years*	*20,000*
10	*Advocate for Professional Certificate Course to Become Mandatory*	*UNDP, Green University*	*Outsouring of advisory services*	*12 months*	*Financed by national partners*
	Total			***3 years***	***87,000***

- ***Potential Risks and Risk Mitigation***

Description of Key Risks	Likelihood and potential impact of the risk	Mitigation plan
Design Stage		
Resistance to Change	Likelihood: **Low**. Faculty and students may resist new curricula. Impact: Less support for and participation in initiative.	Engage stakeholders early, provide clear communication, and offer training sessions.
Resource Allocation	Likelihood: **High**. Insufficient resources (staff, funding, facilities) can hinder implementation. Impact: Quality of program may suffer, and it may not achieve initial implementation or continuation.	T Conduct thorough resource planning and secure necessary funding in the budget of Green University.
Market Demand	Likelihood: **Medium.** Uncertainty about student interest and job market relevance. Impact: Low participation rate.	Conduct market research to gauge demand and align the module with industry needs
Implementation Stage		
Quality Assurance	Likelihood: **Medium**. Ensuring the new module meets academic standards. Impact: Ongoing participation may deteriorate, and capacity-objectives fail to be achieved.	Establish a robust quality assurance process, including regular reviews and feedback mechanisms

V. Summary and Action Plan

The Summary Action Plan is designed to guide the implementation of Uzbekistan's Biodiversity Finance Plan. It provides a structured approach to support national partners in effectively implementing biodiversity finance solutions and achieving their goals. This action plan outlines three potential scenarios for implementing the finance solutions: Centralized, Decentralized, and Ad-Hoc. Each scenario presents distinct pathways with specific advantages, disadvantages, and strategic actions. These approaches aim to offer flexibility while ensuring progress towards national biodiversity goals.

- ***Centralized Approach: Establishment of the Blended Finance Facility:***

The Centralized Approach proposes positioning the Blended Finance Facility (FS №1) at the core of Uzbekistan's Biodiversity Financing Strategy. As a Special Purpose Vehicle (SPV), the fund would mobilize and manage biodiversity funding, consolidating financial resources to address national priorities. By centralizing financial flows, this approach aims to create a straightforward, transparent, and accountable system capable of attracting substantial international investments and supporting public-private partnerships. The Blended Finance Facility would also introduce finance solutions, such as biodiversity offsets, biodiversity credits, subsidies repurposed for nature positive outcomes, conservation licence plates, REDD+, green bonds, and payment for ecosystem services, positioning it as a cornerstone in the reform of Uzbekistan's biodiversity sector.oThis approach offers Uzbekistan the ability to present a unified strategy to donors and investors, ensuring stable, long-term funding for biodiversity projects. It would also imply stronger governance and coordination among stakeholders, due to the central entity overseeing the distribution and effective use of funds. However, careful planning and coordination are essential to mitigate risks, such as over-centralization and potential resistance from stakeholders who may prefer localized control. Transparency and a clear demonstration of the benefits will be crucial in gaining buy-in from all involved parties.

Advantages:

- **Streamlined Financial Management:** Centralizing finances allows for improved oversight, reducing duplication and ensuring that resources are allocated efficiently.
- **Attracts International Investment:** The fund structure serves as a credible platform for international donors and private investors.
- **Long-term Vision:** Enables the development of cohesive, long-term financing strategies aligned with national biodiversity goals.
- **Enhanced Accountability and Transparency:** Easier implementation of international standards for transparency and compliance.
- **National Strategy Alignment:** Has strong alignment with national strategies like the Year of Environment Protection and Green Economy 2025, contributing to national goalso

Challenges:

- **Risk of Over-centralization:** May limit flexibility for localized biodiversity solutions and innovation.
- **Complex Setup and Costs:** Establishing the fund will require time, legal work, and financial resources.
- **Perceived Loss of Control:** Some stakeholders may feel they have reduced influence over fund management.

- **Potential Bureaucratic Delays:** Centralized control could slow down decision-making and project implementation, in addition to facing political resistance.
- **Risk of Delayed Operationalization of Other Financial Solutions:** The time required for establishing the Blended Finance Facility as a central mechanism could delay the implementation of other financial solutions that rely on its structure and coordination

➢ ***Decentralized Approach of Implementation (Supply Driven)***

This approach is independent of a centralised fund structure and is implemented by various stakeholders. By removing the reliance on a single central fund, the decentralized model focuses on distributing responsibility and financial flows across sectors, local governments, and stakeholders This model allows different sectors or regions to manage financial flows independently, using solutions such as biodiversity-positive subsidies, sustainable tourism initiatives, and water sector tariffs. Finance solutions are able to be employed concurrently, promoting broad engagement and enabling simultaenous action across multiple fronts. The solution is supply-driven, with financial flows driven by available capital and stakeholder readiness. By giving more autonomy to regional and local governments, this approach gives them the opportunity to address their unique biodiversity priorities.

Decentralization offers greater flexibility, allowing stakeholders to respond more swiftly to regional needs and develop local biodiversity projects. This is especially advantageous in areas where biodiversity challenges vary, such as the Aral Sea's ecological restoration or mountainous regions facing severe deforestation or water-related challenges. However, with this flexibility comes the complexity of managing and coordinating these diverse financial streams. Strong transparency and accountability frameworks are essential to ensure funds are used appropriately and biodiversity goals are met across all regions.

Advantages:

- **Flexibility and Adaptability:** Decentralizing biodiversity finance allows for solutions that address specific regional challenges and priorities.
- **Enhanced Stakeholder Engagement:** By distributing responsibility, more stakeholders, including local governments, NGOs, and the private sector can take ownership of biodiversity financing, fostering innovation and diverse solutions.
- **Reduced Risk of Single-Point Failure:** With multiple financial flows running in parallel, the system becomes more resilient, minimizing the risk that one failure could disrupt the entire biodiversity finance structure.
- **Promotion of Regional Solutions:** Regions can adapt financial mechanisms to their specific biodiversity needs, leading to more targeted and effective outcomes in alignment with regional priorities.

Challenges:

- **Coordination Difficulties:** Managing multiple financial sources can create challenges in coordination, making it harder to track where funds are going and how effectively they are being used.
- **Potential Fragmentation:** Without strong central oversight, biodiversity financing could become fragmented, with regional efforts lacking alignment with national goals.
- **Limited National Political Momentum:** Without strong central oversight, decentralized approaches may lack cohesion with national biodiversity targets.

- **Transparency Risks:** Ensuring consistent transparency and accountability across various financial streams may be more difficult in a decentralized model.
- **Higher Administrative Costs:** The decentralized approach requires governance and monitoring systems at multiple levels, which could increase administrative overhead.

➢ *Flexible Implementation of FS (Demand Driven)*

This approach uses a toolkit of financial solutions which are available on a need basis. The Ad-Hoc Implementation approach offers a flexible implementation where financial solutions are deployed as needed. Unlike the more structured centralized or decentralized models, this approach allows biodiversity finance to be adapted according to immediate requirements, crises, or emerging opportunities. The solution is demand driven, differentiating it from the decentralized model, where resource mobilization occurs as priorities emerge, avoiding the need for pre-planned structures. With this, solutions are introduced progressively and is ideal for focused deployment in contexts such as pilot projects, short-term needs, and testing innovative approaches. This strategy's flexibility enables the use of financial mechanisms such as Payments for Ecosystem Services (PES), biodiversity credits, or crowdfunding initiatives, activated as specific needs arise without the constraints of a pre-defined comprehensive plan.

While the ad-hoc model provides a high level of flexibility, it carries the risk of creating a fragmented biodiversity financing landscape if not properly managed. Without a central coordination mechanism, there may be a lack of long-term strategic vision, potentially leading to inefficiencies and missed opportunities to align projects with broader national biodiversity goals. This approach may be most effective for short-term interventions or pilot projects, where the ability to respond rapidly is more critical than long-term planning.

Advantages:

- **High Flexibility:** This model allows for immediate, demand-driven deployment of financial solutions, making it ideal for responding to urgent biodiversity needs or crises.
- **Encourages Innovation:** With no rigid framework, the ad-hoc approach fosters experimentation and innovation through pilot projects and creative financial mechanisms.
- **Quick Response:** Solutions can be rapidly implemented as needs arise, reducing the time between identifying a problem and mobilizing resources.
- **Resource Optimization:** Financial resources are tailored to specific projects or regional needs, ensuring they are directed where they can have the greatest impact.

Challenges:

- **Lack of Strategic Direction:** Without a centralized plan, the ad-hoc approach may lack long-term focus and political buy-in, risking misalignment with national biodiversity goals.
  Lower Political Commitment: May not attract high-level government endorsement or international funding due to perceived lack of strategic coherence.
- **Inefficiency Risks:** The absence of a coordinated framework could lead to inefficiencies, such as duplicated efforts or fragmented initiatives, reducing overall effectiveness.
- **Scaling Challenges:** While useful for short-term needs, scaling up ad-hoc solutions to meet national biodiversity targets may prove difficult without more structured planning.
- **Weaker Accountability:** The flexibility of this approach can complicate consistent governance and monitoring, potentially leading to reduced transparency and accountability in fund management.

Institutional Ownership and Implementation Framework

To ensure the effective implementation of the BFP beyond the aforementioned approaches, a well-defined institutional framework is critical. This section outlines the ownership structure, government mechanisms, and key partnerships required for driving the BFP forward and integrating within Uzbekistan's broader environmental and economic strategies.

Ownership

The MoE is the principal custodian of the BFP, leveraging its statutory mandate to oversee biodiversity conservation and its role as the focal point for international conventions (i.e. CBD, CITES). The leadership role of the MoE is to ensure that biodiversity finance initiatives are fully aligned with national and international commitments. They have the following primary responsibilities:

- Draft and implement the legislative and policy frameworks underpinning the BFP
- Manage the execution of financial solutions
- Act as the central coordination hub for biodiversity-related projects and financing

In partnership, the MoEF plays a strategic role in integrating biodiversity financing into national fiscal policies and facilitating innovative mechanisms to attract international funding. They play a key part in driving the transition toward a green economy, and the Uzbekistan Government positions biodiversity conservation as a central part of its green transition policies.

Formalizing Implementation

Implementation of the BFP would benefit from a Presidential Decree. This would act to establish the BFP as a national priority, aligning it with Uzbekistan's 2025 Year of Environment Protection and Green Economy initiative, and define the roles and responsibilities of the MoE, MoEF, and other stakeholders. Furthermore, it would act to authorize the operationalization of the Blended Finance Facility under the centralized approach, and other financial solutions under the BFP framework in any case. The decree will be instrumental in securing high-level political backing, providing the necessary momentum for implementing the BFP across sectors and regions.

Governance Structure

A clear governance structure will enable the effective coordination and monitoring of the BFP. The table below provides an overview of the relevant entities:

Entity	Description	Role/Responsibilities
Climate Council and National Climate Centre	The Climate Council under the President of Uzbekistan and the National Climate Centre under the MoE were established in 2024 and can act as Steering Committee (SC). The former serves as the highest state consultative body in Uzbekistan while the latter serves as a working body of it. This gives the Centre wide authority and administrative power for advancing climate and nature-related initiatives.	It is proposed that these bodies expand their mandate to include biodiversity financing oversight, leveraging existing authority and networks. With the Climate Centre being a key partner of the Uzbekistan BIOFIN programme, they could advocate for the adoption of a separate legal act to enact the proposed BFP and authorize the introduction of selected financial solutions.

Technical Working Group (TWG)	The TWG is to act as operational arm of the BFP, coordinated by the MoE and supported by representatives from key ministries, private sector, academia, and NGOs	The TWG will develop technical guidelines, oversee pilot projects, and ensure alignment with biodiversity finance goals
Potential Biodiversity/Nature Council	Although it may face less immediate feasibility, a dedicated council for biodiversity could be proposed for long-term strategic governance.	This is considered as an alternative option to the Climate Council, covering consultative and coordination responsibilities in a biodiversity-dedicated context.

Flagship Event on Finance for Nature

A regional/international conference on "Finance for Nature" is to be organized to help increase visibility of the BIOFIN work in Uzbekistan, serving as a platform to raise awareness, build partnerships, and showcase Uzbekistan's leadership in biodiversity finance. With 2025 being announced as a Year of Environmental Protection and Green Economy by the President of Uzbekistan, the foundation is set for government policy and investment priorities, positioning 2025 as an ideal year for the promotion of biodiversity initiatives. It could additionally act to leverage global attention during CITES COP20 in Samarkand.

The event would have the following key objectives:

- Announce key milestones under the BFP, including the establishment of the Blended Finance Facility
- Highlight pilot initiatives and studies relating to individual finance solutions selected within the BFP
- Secure commitments from international donors and private sector partners

The event would have expected outcomes of increased visibility for Uzbekistan in the biodiversity finance field, along with strengthened partnerships with global stakeholders such as the GEF and GCF. This can generate momentum for legislative and policy reforms supporting biodiversity conservation.

Phased Implementation Timeline

Phase	Key Actions	Outcome
H1 2025		
Issue Presidential Decree to Establish the BFP	• Collaborate with Presential Office and key ministries (MoE, MoEF) to draft and finalize the decree • Secure consultations to ensure alignment with the 2025 Year of Environmental Protection and Green Economy • Include provisions for introducing governance structures (such as TWG) and operationalization of financial mechanisms such as the Blended Finance Facility	Formal government endorsement providing political backing, clear institutional roles, and a mandate to integrate biodiversity finance into national policies
Establish the TWG	• Form a multidisciplinary team under the MoE with representatives from relevant ministries, private sector, NGOs, and academia • Define the TWG's terms of reference, operational procedures and reporting structure • Conduct an orientation program for TWG members to align on objectives and priorities of the BFP	A fully operational TWG set to lead implementation and technical coordination of the BFP

Initiate Feasibility Studies for Key Financial Solutions	Conduct studies for financial solutions that include: • **Blended Finance Facility:** assess viability and potential to channel public and private investments • **Biodiversity Offsets and Credits:** Evaluate market potential, regulatory requirements, and implementation models • **PES:** Explore how schemes may incentivize conservation practices and evaluate community willingness	Comprehensive feasibility studies providing actionable insights and a roadmap for piloting financial solutions
Launch Pilot Projects for Financial Solutions	• Develop MRV systems to track pilot project outcomes • Engage local communities and stakeholders to ensure inclusivity and benefit-sharing from activities **Project Examples:** **Biodiversity Offsets**: Collaborate with the oil and gas sector to implement offsets in areas impacted by infrastructure projects, ensuring no net loss of biodiversity **Biodiversity Credits:** Pending positive results from feasibility study, pilot projects may be conducted in priority ecosystems such as the Aral Sea basin and Ustyurt plateau	Demonstration of innovative financial solutions with tangible environmental and socio-economic benefits, informing future scale up efforts
H2 2025		
Host the "Finance for Nature" Flagship Event	• Showcase the BFP's progress, pilot initiatives/outcomes and financial solutions • Announce key initiatives like operationalization of the Blended Finance Facility • Secure commitments from international donors, private sector partners, and DFIs	Elevated visibility of Uzbekistan as a leader in biodiversity finance and strengthened partnerships for scaling up financial solutions
2026-2028		
Scale Up Successful Financial Solutions	• Expand projects in targeted pilot contexts to other critical ecosystems across Uzbekistan • Operationalize the Blended Finance Facility at full scale, with established governance and accountability mechanisms • Introduce Nature Bonds as a financial instrument under the facility to attract institutional investors	National adoption of proven financial solutions, unlocking significant biodiversity conservation investments
Strengthen MRV Systems	• Develop standardized MRV protocols across all financial solutions in place to ensure transparency and accountability • Utilize technologies such as satellite imagery and AI-driven analytics for real-time biodiversity outcome monitoring • Engage independent auditors and third-party evaluators for enhancing credibility	Robust MRV systems that enable transparent reporting, effective decision-making, and confidence among stakeholders
Institutionalize Governance and Stakeholder Engagement	• Transition the TWG into a permanent operational unit under the MoE • Explore establishment of the Biodiversity/Nature Council to provide long-term strategic direction and sustain momentum • Strengthen partnerships with international organizations and donors, ensuring sustained financial and technical support	A well-established governance framework that ensures continuity and scalability of biodiversity finance initiatives

Appendix 1: Linkages to Key National Agendas

The following national agendas are crucial for biodiversity conservation in Uzbekistan and are reviewed in more detail in Uzbekistan's Biodiversity Finance Policy and Institutional Review, issued by the BIOFIN in 2024[129]:

National Biodiversity Strategy and Action Plan (NBSAP) 2019-2028

The National Biodiversity Strategy and Action Plan (NBSAP) 2019-2028 is Uzbekistan's primary framework for biodiversity conservation, developed in alignment with the Convention on Biological Diversity (CBD). This strategy outlines national measures to conserve and sustainably use biodiversity, expand protected natural areas, combat ecosystem degradation, and rehabilitate endangered species. The NBSAP aims to integrate biodiversity considerations into broader national policies and programs, ensuring a holistic approach to environmental sustainability. The "Strategy for the Transition to a Green Economy 2019-2030"[130] focuses on enhancing energy efficiency, promoting renewable energy sources, and adopting sustainable resource use practices. This strategy is crucial for advancing Uzbekistan's green development agenda and addresses key environmental concerns such as water efficiency, forest restoration, and greenhouse gas emissions reduction. It emphasizes the importance of sustainable economic growth that harmonizes with environmental conservation.

The Concept of Environmental Protection until 2030

The "Concept of Environmental Protection until 2030" outlines legislative initiatives aimed at improving environmental governance, including the revision and reform of the environmental impact assessment (EIA) system. This concept underscores the need for a systematic approach in planning state programs and development projects, integrating priorities in environmental protection and biodiversity conservation. The concept is part of a broader effort to align Uzbekistan's environmental policies with international standards and improve the overall ecological state of the country.

Uzbekistan - 2030

"Uzbekistan – 2030 Strategy"[131] adopted in September 2023 is an ambitious plan that includes expanding green spaces, improving waste management, and stabilizing the Aral Sea region. The strategy aims to increase the area of protected natural zones to 12%, enhance geobotanical monitoring, and bolster ecological awareness among citizens. It also focuses on enhancing animal welfare, particularly the treatment and rehabilitation of wild species. This comprehensive plan demonstrates Uzbekistan's commitment to integrating environmental sustainability into its development goals. The "Concept for the Development of the Forestry System until 2030,"[132] ratified by the President of Uzbekistan in 2020, aims to combat desertification and initiate afforestation efforts, especially in the Aral Sea region. This concept emphasizes public participation in forest regeneration, the empowerment of non-state forest enterprises, and the promotion of sustainable forest management

[129]BIOFIN, (2024), Uzbekistan Biodiversity Finance Policy and Institutional Review - https://www.biofin.org/sites/default/files/content/knowledge_products/PIR%20Uzbekistan_ENG_24%20April%202024_LP_TRedited.pdf

[130]https://policy.asiapacificenergy.org/sites/default/files/Strategy%20on%20the%20Transition%20of%20the%20Republic%20of%20the%20Republic%20of%20Uzbekistan%20to%20a%20%2522Green%2522%20Economy%20for%20the%20Period%202019%20-%202030%20%28RU%29.pdf

[131]Uzbekistan Strategy 2030 - https://theasiatoday.org/wp-content/uploads/2023/09/Uzbekistan-Strategy-2030.pdf

[132]FAO, FAOLEX Database: Uzbekistan, Presidential Decree No. PP-4850 validating the Concept of development of the forestry system of the Republic of Uzbekistan until 2030. - https://www.fao.org/faolex/results/details/en/c/LEX-FAOC201687/

practices. It is designed to preserve biodiversity and ensure the sustainable growth of Uzbekistan's forestry sector.

National Action Programme to Combat Desertification (NAPCD)

The National Action Programme to Combat Desertification (NAPCD)[133] addresses the challenges of land degradation and desertification in Uzbekistan. This program includes measures to rehabilitate degraded lands, improve soil fertility, and promote sustainable land management practices. The NAPCD is part of Uzbekistan's commitment to the United Nations Convention to Combat Desertification (UNCCD) and is crucial for maintaining the productivity and ecological health of the country's arid regions.

[133]UNEP, (1999), National Action Programme to Combat Desertification in Republic of Uzbekistan - https://www.unccd.int/sites/default/files/naps/uzbekistan-eng1999.pdf

Appendix 2: Biodiversity Supports Key Economic Sectors and Livelihoods

Biodiversity supports Uzbekistan's agricultural sector by maintaining soil fertility, managing pests, and pollinating crops, which are essential for agricultural productivity and food security. Integrating biodiversity conservation into agricultural policies enhances resilience and productivity, especially in the face of climate change. Sustainable agricultural practices that prioritize biodiversity can lead to more robust crop yields and healthier ecosystems, benefiting both farmers and consumers. For instance, crop rotation and the use of cover crops can improve soil health and reduce pest infestations, leading to higher agricultural outputs.

In Uzbekistan, agriculture is a critical sector that employs a significant portion of the population, particularly in rural areas. The use of diverse plant species and traditional farming methods that align with local ecosystems can enhance resilience to climate variability and extreme weather events. Practices such as agroforestry, which integrates trees into agricultural landscapes, can provide multiple benefits including improved soil structure, water retention, and habitat for beneficial insects and birds. These practices not only boost productivity but also contribute to the long-term sustainability of the agricultural sector.

Furthermore, the adoption of integrated pest management (IPM) techniques, which utilize natural predators and biological controls, can reduce the reliance on chemical pesticides. This approach not only safeguards biodiversity but also protects human health and reduces environmental contamination. Promoting the use of indigenous plant varieties that are well adapted to local conditions can also enhance crop resilience and reduce the need for external inputs such as fertilizers and pesticides. This approach supports both environmental and economic sustainability.

The World Bank's report on Green Growth and Climate Change in Uzbekistan[134] emphasizes the importance of policy frameworks that support sustainable agricultural practices. By fostering collaboration between farmers, researchers, and policymakers, Uzbekistan can develop and implement strategies that enhance biodiversity conservation while boosting agricultural productivity. This integrated approach ensures that agricultural development is both economically viable and environmentally sustainable, providing long-term benefits for the country's food security.

Despite covering only 7% of Uzbekistan's territory, forests play a crucial role in preserving biodiversity and protecting river basins. These forests serve as vital habitats for a wide variety of plant and animal species, providing essential resources and shelters that sustain numerous organisms. The ecological services offered by forests, such as soil formation, water retention, and slope stabilization, are indispensable for maintaining healthy ecosystems. Additionally, forests act as significant carbon sinks, helping to mitigate climate change by reducing greenhouse gas emissions [135].eUzbekistan's forests are classified into three main types: desert forests, mountain forests, and tugai (riverine) forests. Desert forests, found primarily in sandy regions, consist of species like the white saxaul and black saxaul that are resistant to drought and soil salinity. Mountain forests, located in the Western Tien-

[134]The World Bank, (2022), Green Growth and Climate Change in Uzbekistan Policy Dialogue Series: A Compendium of Proceedings - https://documents1.worldbank.org/curated/en/099240007072223752/pdf/P1771080edd66408f0bcd9015de19bc66dc.pdf

[135]Constructive Voices, (2024), Uzbekistan Sacred Natural Sites and Biodiversity - https://constructive-voices.com/uzbekistan-sacred-natural-sites-and-biodiversity/

Shan and Pamir-Alay ranges, are rich in biodiversity and include deciduous and coniferous species such as juniper, pistachio, almond, and walnut. Tugai forests, situated along riverbanks, are dominated by poplar, willow, and tamarisk species. These forests are critical habitats for a variety of wildlife and provide numerous ecosystem services. The preservation and sustainable management of these forest types are essential for combating desertification and improving ecosystem resilience.

The government has undertaken significant afforestation efforts, particularly around the Aral Sea, to stabilize moving sands and mitigate the adverse effects of dust storms. Expanding the area of protective forests helps control desertification, enhance biodiversity, and provide resources such as fuel, forage, and timber. These initiatives are crucial for maintaining the ecological balance and supporting local communities' livelihoods. Moreover, forests contribute significantly to Uzbekistan's climate change mitigation efforts by acting as carbon sinks. Reforestation and afforestation projects enhance carbon sequestration, reduce greenhouse gas emissions, and support the country's climate adaptation strategies. Implementing sustainable forest management practices, including the conservation of existing forests and the planting of climate-resilient tree species, is vital for ensuring the long-term health and productivity of forest ecosystems. By integrating forest conservation into national policies and development plans, Uzbekistan can promote environmental sustainability and economic growth simultaneously.

While ecotourism is still a developing sector in Uzbekistan, an increasing number of travelers are drawn to this Central Asian nation for its adventurous possibilities. From hiking and skiing in its majestic mountains to swimming in pristine lakes, Uzbekistan offers unique experiences for outdoor enthusiasts. Beyond the captivating architecture of UNESCO World Heritage cities like Bukhara and Samarkand, which lie at the heart of the historic Silk Road, Uzbekistan holds a hidden treasure trove of ecotourism adventures. The country's diverse landscape, encompassing steppes, mountains, deserts, and river valleys, offers a glimpse into its rich history. These same landscapes were once traversed by merchants, pilgrims, and armies, leaving behind a legacy of mighty cities built around oases and along the Amu Darya River[136]. Today, these captivating landscapes continue to enthral visitors, and Uzbekistan's burgeoning ecotourism sector provides unparalleled opportunities to immerse oneself in the beauty and wonder of its natural world. Travel and tourism is expected to generate US$480 million in revenues by 2024[137].

The country offers a wide range of outdoor activities, particularly in its mountainous regions such as Chimyon, Zomin, and Nurata, where hiking, trekking, mountaineering, and rafting are popular. Visitors can stay in traditional villages like Sentob, experiencing local lifestyles and eco-friendly living. Ecotourism in Uzbekistan not only provides unforgettable travel experiences but also plays a crucial role in sustainable development, environmental protection, and the preservation of cultural heritage. The steppes and deserts of Uzbekistan, particularly the Kyzyl-Kum desert, offer unique ecotourism opportunities such as camel riding, jeep tours, and stays in traditional yurt camps, providing an authentic nomadic experience. The Aral Sea, a stark reminder of the environmental impact of human activity, emphasizes the importance of sustainable tourism practices. By promoting ecotourism, Uzbekistan supports its rich biodiversity and key economic sectors, fostering a sustainable model that benefits both the environment and local communities[138].

[136]Culture trip, (2024), The Best Ecotourism Experiences in Uzbekistan - https://theculturetrip.com/asia/uzbekistan/articles/the-best-ecotourism-experiences-in-uzbekistan

[137]Statista, (2024), Travel & Tourism – Uzbekistan - https://www.statista.com/outlook/mmo/travel-tourism/uzbekistan

[138]ARARA, Ecotourism in Uzbekistan - https://araratour.com/ecotourism-in-uzbekistan

Appendix 3: Projects in Uzbekistan relating to Biodiversity Finance Solutions

here are at least three projects in Uzbekistan, including the BIOFIN, that consider biodiversity finance and shortlisting of potential finance solutions to be implemented in the country. To prevent inefficiencies in the use of donor resources and to create synergies among the projects, proper coordination mechanism featuring regular meetings, briefings and mutual document sharing has been established. The table below reflects the solutions being shortlisted in this BIOFIN project with an "x" in the column labeled BIOFIN-BFP.

UNDP in close collaboration with the government of Uzbekistan has developed and launched a new project titled "Integrated Conservation Management and Restoration of High-Value Landscapes in Uzbekistan" to be funded under GEF-8 cycle. The project aims to expand innovative integrated approaches for ecosystem restoration and conservation, targeting significant changes in three key landscapes: the West Tian Shan, Nuratau, and Kugitangtau. A separate component of the project focuses on biodiversity finance, intending to develop and test various financial products. The table below reflects the solutions being shortlisted in this project with an "x" in the column labeled GEF.

Another project is the Global Biodiversity Framework Early Action Support (GBF-EAS), an international effort backed by the Global Environment Facility (GEF) and the UNDP. Its goal is to expedite preparedness and initiate early measures for the implementation of the Kunming-Montreal Global Biodiversity Framework (GBF) by offering financial and technical assistance to GEF-eligible Parties to the Convention on Biological Diversity (CBD), including Uzbekistan.oThe GBF-EAS Uzbekistan project consists of four main components, one of which also addresses biodiversity finance. This component focuses on two primary issues: securing new and additional financial resources for biodiversity and eliminating subsidies that negatively impact biodiversity. The tabe below reflects the solutions being shortlisted in this project in the column labeled GBF.

Green means that the respective solution can be further developed and implemented relatively quickly and easily under existing conditions, whereas yellow highlights solutions that require some additional information, advocacy or enabling conditions to be addressed before taking forward. The inclusion of this information in the table below aims to illustrate the strategic coordination and alignment among multiple biodiversity-focused initiatives operating in Uzbekistan. It highlights that solutions are not exclusive to one initiative but rather represent a cross-project consensus based on research, contextual analysis, and stakeholder engagement carried out by multiple sources.

The shared identification of financial solutions works to underscore their viability and adaptability to Uzbekistan's contexts, leveraging insights from the GEF-8-funded initiative and the GBF-EAS. This provides validation and strengthens cases for implementation, grounding their high potential for Uzbekistan with reinforcement through diverse approaches.

Overview of Financial Solutions shortlisted across the three biodiversity-focused projects with finance components

No	BIOFIN-BFP Shortlisted	BIOFIN-BFP Selected	GEF	GBF	Solution
1	x	x	x	Green-Amber	Blended Finance Facility
2	x	x	x		Biodiversity Credits
3	x	x		Green-Amber	Biodiversity positive subsidies
4	x	x		Green-Amber	Biodiversity offsets
5	x	x			Biodiversity Revenue/Expenditure Tagging
6	x	x			Conservation license plates
7	x	x			Crowdfunding/Quadratic Funding
8	x	x	x	Green-Amber	Nature/Biodiversity Bonds
9	x	x			Payment for Ecosystem Services
10	x	x			Promotion of sustainable tourism
11	x	x			REDD+
12	x	x		Green	Tariffs, fees and taxes in the water sector
13	x			Green	Biodiversity business incubator
14	x			Green-Amber	Bonus Malus
15				Green Amber	Corporate engagement in biodiversity-positive business
16				Green-Amber	Government extra-budgetary funds & special accounts
17				Green	Multi-Donor grant funds
18			x		Sustainability Linked Bonds
19				Green	Taxes and fees in the tourism sector
20				Green	Trust Funds

21		Green	User fees & penalties
22	X		Climate credit mechanisms
23	X		Community finance
24	X		Crowdfunding
25	X		Eco-labels
26	X		Green banks
27	X		Green lending
28	X		Hunting permits or concessions
29	X		Increase biodiversity-related ODA
30	X		Islamic finance
31	X		Non-state protected areas

Appendix 4: Example of mapping subsidies

List of state subsidies and their expected impact on biodiversity in the agriculture sector[139]

Document Ref.	**Objective**	**Duration**	**Mechanism**	**Recipients**	**Funds allocated in 2018-2022** (in million US$)	**Allocation for 2023** (in million US$)	**Funds Disbursed as of 01.07.2023** (in million US$)	**Potential Biodiversity Impact** (based on in-depth study)
Presidential Decree #144 & Decree of Cabinet of Ministers #95	Implementation of watersaving technologies in crop cultivation	Unlimited	Partial reimbursement for technology deployment	Agricultural producers (farmers, clusters, cooperatives, etc.)	113.28	35.99	1.93	Neutral to Positive
Presidential Decree #4767	Drilling wells for water supply in challenging areas	Unlimited	Covering well drilling costs	General population & cooperatives	8.77	7.77	3.15	Harmful to Neutral
Cabinet of Ministers Decree #320	Covering electricity costs for water pumps for cotton and grain cultivation	Unlimited	Covering electricity costs for pump stations	Farm enterprises and clusters	53.85	13.21	0	Neutral
Presidential Decree #6059	Construction of wells and pump stations in pasture lands	Unlimited	Covering construction costs	Food industry entities	0.38	1.55	0.78	Harmful
Cabinet of Ministers Decree #368	Support for exported animal feed and forage	Unlimited	Support for entities engaged in animal feed export	Feed industry entities	0.031	0.23	0.12	Harmful to Neutral
Presidential Decree #5017 & Cabinet of Ministers Decree #434	Subsidies for products sold by poultry, fishery, and livestock industries	Until 01.01.2024	Subsidies for sold products	Poultry, fishery, and livestock industries	41.66	31.08	21.75	Harmful to Neutral
Presidential Decree #4576 & Cabinet of Ministers Decree #-280	Buying purebred cattle, sheep, goats, fish, and birds	Until 01.01,2024	Subsidies for buying animals	Livestock enterprises	12.73	0.51	0.32	Harmful
Cabinet of Ministers Decree #-460	Encouraging the use of biological protection in agriculture	Unlimited	Subsidies for buying bio-protection measures for agricultural exports	Farm enterprises and clusters	0	0*	0	Positive

*The document considered as a basis for allocating funds was adopted after the state budget parameters were formed

[139] BIOFIN (2024) Biodiversity Policy and Institutional Review in Uzbekistan. https://www.biofin.org/knowledge-product/biodiversity-finance-policy-and-institutional-review-uzbekistan