



---

Project Identification Form (PIF) entry – Full Sized Project – GEF - 7

## Conservation and sustainable management of lakes, wetlands, and riparian corridors as pillars of a resilient and land degradation neutral Aral basin landscape supporting sustainable livelihoods

### Part I: Project Information

**GEF ID**

10356

**Project Type**

FSP

**Type of Trust Fund**

GET

**CBIT/NGI** CBIT NGI**Project Title**

Conservation and sustainable management of lakes, wetlands, and riparian corridors as pillars of a resilient and land degradation neutral Aral basin landscape supporting sustainable livelihoods

**Countries**

Uzbekistan

**Agency(ies)**

UNDP

**Other Executing Partner(s)****Executing Partner Type**

State Committee on Ecology and Environment Protection

Government

**GEF Focal Area**

Multi Focal Area

**Taxonomy**

Focal Areas, Land Degradation, Sustainable Land Management, Sustainable Pasture Management, Integrated and Cross-sectoral approach, Restoration and Rehabilitation of Degraded Lands, Sustainable Livelihoods, Improved Soil and Water Management Techniques, Sustainable Forest, Land Degradation Neutrality, Land Cover and Land cover change, Biodiversity, Mainstreaming, Agriculture and agrobiodiversity, Forestry - Including HCVF and REDD+, Species, Threatened Species, Biomes, Lakes, Wetlands, Protected Areas and Landscapes, Terrestrial Protected Areas, Productive Landscapes, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approaches, Convene multi-stakeholder alliances, Stakeholders, Beneficiaries, Local Communities, Private Sector, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, SMEs, Civil Society, Academia, Non-Governmental Organization, Type of Engagement, Consultation, Participation, Information Dissemination, Partnership, Communications, Awareness Raising, Education, Public Campaigns, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Capacity, Knowledge and Research, Targeted Research, Innovation, Knowledge Exchange, Learning, Theory of change, Adaptive management, Indicators to measure change, Capacity Development, Knowledge Generation

**Rio Markers****Climate Change Mitigation**

Climate Change Mitigation 1

**Climate Change Adaptation**

Climate Change Adaptation 0

**Duration**

60 In Months

**Agency Fee(\$)**

337,532

**Submission Date**

10/7/2019

## A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-2-7	GET	1,200,000	2,680,000
BD-1-1	GET	526,484	1,000,000
LD-1-4	GET	1,826,484	55,644,000
	<b>Total Project Cost (\$)</b>	<b>3,552,968</b>	<b>59,324,000</b>

## B. Indicative Project description summary

### Project Objective

To enhance the resilience and sustainability of landscapes and livelihoods in the Aral basin, and progress toward Land Degradation Neutrality (LDN), through integrated management of land, lake, wetland, and riparian ecosystems, with engagement of private sector and local communities.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component I. Coordinated water management as basis for LDN and conservation	Technical Assistance	<p><b>Outcome 1.</b> Improved water management for resilient ecosystems and sustainable livelihoods:</p> <ul style="list-style-type: none"> <li>- Water levels in 670,000 ha of irrigated agricultural land adequate for reduced land degradation (<b>**see definition of "adequate" under table</b>)</li> <li>- Water levels in 900,000 ha of Key Biodiversity Areas (KBAs: lake, wetland and riparian ecosystems) sufficient to maintain extent of current ecosystem and ensure natural restoration. (<b>**see definition of "sufficient" under the table</b>)</li> </ul> <p><i>Baseline and targets will be elaborated at the PPG stage</i></p> <p><b>**</b> Definitions used Component I indicators: At the PIF stage, "adequate" is to be understood as a ground water level which allows for at least a 40% lower loss of humus and a 25% lower</p>	<p><b>Output 1.1</b> Revised norms of volume and timing of water supply through key hydrotechnical facilities developed and adopted:</p> <ul style="list-style-type: none"> <li>- Multi-stakeholder task force set up with presence of relevant ministries and water users</li> <li>- Ecologically-justified science based norms of water volumes and supply timing developed for key areas important for agriculture and KBAs</li> <li>- Finalized agreement on norms of volumes and timing of water supply consulted and adopted by relevant authorities.</li> </ul> <p><b>Output 1.2.</b> Integrated LDN-compatible and climate-smart water management plans (<b>***pls, see definition under table</b>) designed in 4 priority districts based on Output 1.1 and used as input to Output 2.1.</p> <p><i>Pls. see main text for details</i></p>	GET	1,000,000	45,000,000

salinity of soil compared to the baseline. The baseline level will be identified during the PPG and the 40/25 % reduction confirmed through elaborate studies during the PPG. "Sufficient" for KBAs is to be understood as a water level under which the upper vegetation within the targeted KBAs is of such amount and quality (species composition) which is in line with requirements of the key water birds and other threatened species occurring at the sites. For each site the exact water regime and indicator species will be defined during the PPG.

\*\*\* The term "LDN-compatible climate-smart water integrated water management plans" is a succinct term coined to depict one of the main important products of the expected project. It reflects the fact that the project is going to work on water management issues (1) in an integrated way, i.e. inviting all key stakeholders on land and water-users and water engineers who are in charge of operating the hydrotechnical facilities which regulate water, (2) that the plans will take into account the imminent climate influence, (3) will make sure sufficient water for the ecologically important KBAs (ecological sensitivity), and that (4) they will aim to support such agriculture that will not deplete the organic soil content and minimize impact on the ground-water table.

Component 2. Sustainable land management for Land Degradation Neutrality in the target landscape	Investment	<p><b>Outcome 2.</b> Practical improvement in soil and vegetation condition management and new livelihood opportunities created for local communities in line with LDN check-list:</p> <ul style="list-style-type: none"> <li>- 90,000 ha of pasture and 10,000 ha of tugai and turanga forests managed sustainably with communities in 4 priority districts.</li> <li>1,500 ha of degraded land restored</li> </ul>	<p><b>Output 2.1</b> LDN progress assessment for Karakalpakstan completed; regional LDN targets confirmed, future actions developed and monitoring systems proposed; LDN action plan updated,</p> <p><b>Output 2.2</b> Integrated land-use spatial planning in 4 priority districts developed and under implementation in line with LDN principles,</p> <p><b>Output 2.3</b> Improved management of pasture land by local communities in 4 priority districts</p> <p><b>Output 2.4.</b> Innovative land restoration supported at most degraded areas (<i>pls see under Innovation for further details</i>).</p> <p><b>Output 2.5.</b></p> <p>Community forest use in riparian corridors in 4 priority districts developed and under implementation.</p>	GET	700,000	8,800,000
Component 3. Conservation of globally significant Aral basin biodiversity	Investment	<p><b>Outcome 3.1</b> Lake, wetland, and riparian corridor KBAs secured through strengthened protected area estate</p> <ul style="list-style-type: none"> <li>- 5 new protected areas established covering net new 3,194,600 ha of protected territory</li> </ul>	<p><b>Output 3.1.1</b> Grounds established for protected area estate expansion securing the integrity of lake, wetland and riparian KBAs in Aral Sea region, through completion of feasibility studies, mapping and inventory, zoning regimes, management and financial planning</p>	GET	1,500,000	2,680,000

- METT scores improved by at least 20% over baseline by end of project in 5 PAs covering 1,129,029 ha

- Stable or improved trend of populations of globally significant biodiversity indicator species, such as Bukhara deer, Goitered gazelle, Central Asian tortoise, Sakar falcon, Greater spotted eagle, and other species within the expanded PA estate

**Outcome 3.2** Lake, wetland and riparian corridor biodiversity mainstreamed in sustainable land-use:

- 4 district level integrated land-use management plans developed, with biodiversity buffer zones under implementation

80,000 people (incl 39,000 women) directly benefit economically from improved sustainability of livelihoods.

**Output 3.1.2** Improved management effectiveness of the existing PAs through PA regime compliance and enforcement, zoning, patrolling, research, species-focused conservation activities, as detailed in the narrative for the project strategy

**Output 3.2.1** PA buffer zones and corridors identified, planned and mapped through integrated district land use management plans (coordinated with Output 2.2) and implemented with supporting regulations

**Output 3.2.2** Training and capacity strengthening of local environmental inspectorates and border security

**Output 3.2.3** Sustainable livelihoods supported in KBA buffer zones and corridors (e.g. fast-growing plantations as alternative to logging; cattle grazing rotation and use of distant pastures).

Component 4. International cooperation and knowledge management	Technical Assistance	<p><b>Outcome 4.1</b> Increased level of awareness among local communities about LDN and key biodiversity values of the Aral Sea Region in connection with the water use patterns:</p> <ul style="list-style-type: none"> <li>- Targeted surveys indicating increased understanding <i>(baseline and targets to be developed at PPG)</i>.</li> </ul> <p><b>Outcome 4.2</b> Uzbekistan's cooperation in the international environmental programming for the Aral Sea basin strengthened.</p> <ul style="list-style-type: none"> <li>- - Uzbekistan present at least at 3 meetings of IFAS</li> <li>- - Analytical reports available to support Uzbekistan in negotiations under Integrated Fund for Aral Sea (IFAS) and the UN Multi-Partner Human Security Trust Fund for the Aral Sea Region in Uzbekistan (UN MPHSTF)</li> </ul> <p><i>(Baseline and target will be set at the PPG stage upon negotiations with donors, private sector, and Government entities)</i></p>	<p><b>Output 4.1.1</b> Education and awareness raising campaigns for local resource users about key biodiversity values and sustainable land-use management regimes and regulations</p> <p><b>Output 4.1.2</b> Awareness campaign for sustainable water use targeting decision-makers at local and regional levels</p> <p><b>Output 4.2.1</b> The Government, scientific community and NGOs supported (e.g. through preparation of science-based technical papers, communications/negotiations with other Aral Sea basin countries, and international advice where relevant) in developing and negotiating decisions on the Aral Sea basin at the international level</p> <p><b>Output 4.2.2</b> Donor/private sector/Government platform on replenishing the UN MPHSTF functions resulting in agreed new projects/activities focusing on integrated approaches towards water resource management and climate-smart land and resource use.</p>	GET	184,968	1,044,000
<b>Sub Total (\$)</b>					<b>3,384,968</b>	<b>57,524,000</b>

### Project Management Cost (PMC)

---

GET	168,000	1,800,000
<b>Sub Total(\$)</b>	<b>168,000</b>	<b>1,800,000</b>
<b>Total Project Cost(\$)</b>	<b>3,552,968</b>	<b>59,324,000</b>

---

**C. Indicative sources of Co-financing for the Project by name and by type**

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Government	Ministry of Water Resources	Public Investment	Recurrent expenditures	40,000,000
Government	Ministry of Agriculture	Public Investment	Investment mobilized	8,000,000
Government	State Committee for Ecology and Environment Protection	Public Investment	Investment mobilized	2,000,000
Government	State Committee for Ecology and Environment Protection	Public Investment	Recurrent expenditures	680,000
Government	Forestry Management Units and Forestry Hunting Enterprises	Public Investment	Recurrent expenditures	1,800,000
Private Sector	Council of Farmers of Karakalpakstan	Grant	Investment mobilized	4,000,000
GEF Agency	UNDP	Grant	Investment mobilized	150,000
Donor Agency	German Federal Ministry for Environment Cooperation and Development (GIZ)	Grant	Investment mobilized	2,000,000
Donor Agency	Government of Japan	Grant	Investment mobilized	694,000
			<b>Total Project Cost(\$)</b>	<b>59,324,000</b>

**Describe how any "Investment Mobilized" was identified**

The major source of project co-financing is the recurrent investment by the Ministry of Agriculture and Ministry of Water Resources into water management infrastructure capital investments in Karakalpakstan, Bukhara and Khorezm regions. The main investment mobilized is associated with the establishment and operation of 5 new protected areas in the region (Ministry of Ecology and Environment Protection), the Ministry of Agriculture's commitment to restore degraded agricultural land, and the private sector cash investments in drip irrigation equipment, processing equipment, and restoration of vegetation cover for pastures. There have also been initial discussions on co-funding from international donors related to water infrastructure, management, and land restoration. Each of these co-financing commitments will be discussed at PPG with the entity providing the co-financing. The amounts will be confirmed. The linkages and relevance to

specific project sites/project activities will be agreed as well. Letters of co-financing will be obtained that will confirm amounts, relevance and coordination with relevant project elements.

## D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Uzbekistan	Land Degradation	LD STAR Allocation	1,826,484	173,516	2,000,000
UNDP	GET	Uzbekistan	Biodiversity	BD STAR Allocation	1,726,484	164,016	1,890,500
<b>Total GEF Resources(\$)</b>					<b>3,552,968</b>	<b>337,532</b>	<b>3,890,500</b>

## E. Project Preparation Grant (PPG)

PPG Amount (\$)

100,000

PPG Agency Fee (\$)

9,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Uzbekistan	Biodiversity	BD STAR Allocation	100,000	9,500	<b>109,500</b>
<b>Total Project Costs(\$)</b>					<b>100,000</b>	<b>9,500</b>	<b>109,500</b>

## Core Indicators

### Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4,323,629.00	0.00	0.00	0.00

### Indicator 1.1 Terrestrial Protected Areas Newly created

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
3,194,600.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
Akdarya-Kazakhdarya interfleuve		Habitat/Species Management Area	22,200.00			

Akpetki	Habitat/Species Management Area	587,700.00	
Central Kyzylkum	Habitat/Species Management Area	1,100,000.00	
South Ustyurt	Strict Nature Reserve	1,400,000.00	
Sudoche Lakes system	Habitat/Species Management Area	84,700.00	

**Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
1,129,029.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Dengizkul State Refuge		Habitat/Species Management Area	50,000.00						
Kyzylkum State Reserve		Strict Nature Reserve	10,311.00						
Lower Amu Darya State Biosphere Reserve		Strict Nature Reserve	68,718.00						
Saigchy State Refuge		Habitat/Species Management Area	1,000,000.00						

### Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1500.00	0.00	0.00	0.00

**Indicator 3.1 Area of degraded agricultural land restored**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1,500.00			

**Indicator 3.2 Area of Forest and Forest Land restored**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

**Indicator 3.3 Area of natural grass and shrublands restored**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

--

**Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

**Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
100000.00	0.00	0.00	0.00

**Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

**Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

**Indicator 4.3 Area of landscapes under sustainable land management in production systems**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
90,000.00			

**Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

10,000.00

**Documents (Please upload document(s) that justifies the HCVF)****Title****Submitted****Indicator 6 Greenhouse Gas Emissions Mitigated**

<b>Total Target Benefit</b>	<b>(At PIF)</b>	<b>(At CEO Endorsement)</b>	<b>(Achieved at MTR)</b>	<b>(Achieved at TE)</b>
<b>Expected metric tons of CO<sub>2</sub>e (direct)</b>	132795	0	0	0
<b>Expected metric tons of CO<sub>2</sub>e (indirect)</b>	0	0	0	0

**Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector**

<b>Total Target Benefit</b>	<b>(At PIF)</b>	<b>(At CEO Endorsement)</b>	<b>(Achieved at MTR)</b>	<b>(Achieved at TE)</b>
<b>Expected metric tons of CO<sub>2</sub>e (direct)</b>	132,795			
<b>Expected metric tons of CO<sub>2</sub>e (indirect)</b>				
<b>Anticipated start year of accounting</b>				

<b>Duration of accounting</b>
-------------------------------

**Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector**

<b>Total Target Benefit</b>	<b>(At PIF)</b>	<b>(At CEO Endorsement)</b>	<b>(Achieved at MTR)</b>	<b>(Achieved at TE)</b>
<b>Expected metric tons of CO<sub>2</sub>e (direct)</b>				
<b>Expected metric tons of CO<sub>2</sub>e (indirect)</b>				
<b>Anticipated start year of accounting</b>				
<b>Duration of accounting</b>				

**Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

<b>Total Target Benefit</b>	<b>Energy (MJ) (At PIF)</b>	<b>Energy (MJ) (At CEO Endorsement)</b>	<b>Energy (MJ) (Achieved at MTR)</b>	<b>Energy (MJ) (Achieved at TE)</b>
<b>Target Energy Saved (MJ)</b>				

**Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
------------	---------------------------------	---	---------------------------------	--------------------------------

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	39,000			
Male	41,000			
<b>Total</b>	80000	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

**Notes:** Core Indicator 1: See Annex B for the lists of new protected areas that the project will help establishing, and the list of existing protected areas where the project will work to improve management effectiveness. The project will support expansion of the existing Sudoche Lake refuge to cover 84,700 ha. In order to avoid double counting, the area of the existing refuge (50,000) was excluded from the list of existing protected areas in the focus of the project. Core Indicator 4 includes 90,000 ha of pasture and 10,000 ha forest pasture land targeted in Component II. Core Indicator 11 target is based on the assessment of population number in the four target demonstration districts: Moynak and Amudaryo in Karakalpakstan and Alat and Karakul in Bukhara region, engaged in forest and pasture management that can potentially benefit from improved livelihoods, to be confirmed at PPG phase. \* GHG emissions avoided as a result of land restoration under Output 2.4 (1,500 ha). Calculated using FAO Exact tool. The copy of the calculation can be presented on request

## Part II. Project Justification

### 1a. Project Description

#### Summary of environmental values of Aral basin lakes, wetlands, riparian corridors and associated landscape

The land and water values of the Aral basin are set within the context of the well-known Aral Sea disaster that has occurred over the past 70 years. Although the ecosystem services available are currently much less than when the Aral Sea was in its previous condition in the first half of the 20<sup>th</sup> century, the region still supports the livelihoods of millions of people in Uzbekistan. In Uzbekistan the Aral basin is formed by a major part of the watershed of the Amu Darya river, as shown in Annex A. During Soviet times, the Amu Darya was tapped in multiple locations for irrigation canals, which are currently used to irrigate vast agricultural tracts. The construction of the irrigation canals, along with significant growth of the local population, the extent of urbanization and intensive land development, and construction of major hydraulic and irrigation facilities in the Aral Sea basin streams without any environmental considerations caused the drying-up of the water resources throughout the basin.

The targeted lower Amu Darya and Aral basin (LADAB) landscape covers approximately 10,000,000 million hectares in the southern and southwestern portions of Uzbekistan (see [Annex A, Figure 2](#)). The LADAB landscape is administratively covered by portions of three provinces: Karakalpakstan, Khorezm, and Bukhara. The Lower Amu Darya river basin includes areas of intense irrigated agricultural lands. [Table 1 \(Annex A\)](#) provides a summary of the land resources in the targeted project landscape.

Rangelands in Uzbekistan are one of the most important life-supporting natural ecosystems. They occupy about half the country, nearly 20,8 million hectares, large parts located in Karakalpakstan, Navoi and Bukhara regions. 80% of rangelands are located in deserts. In 2016, almost 95 percent of meat in Uzbekistan is produced in household plots of dekhkan farms (smallholders). At the same time, poorly managed rangelands lead to a lack of feed, land degradation, a loss of plant biodiversity, and expanding desertification in Uzbekistan, and particularly in the project area. By experts' estimates, about 40-78% of desert pastures are degraded in varying degrees and rates of degradation appear to be increasing. The largest areas of degraded rangelands are located in the project area (Bukhara and Karakalpakstan). Main causes of the pastures' degradation and desertification are anthropogenic factors and uncontrolled growth in the number of the grazed livestock. In addition, on the bare part of the Aral Sea a new salt desert with an area of 5.5 million hectares appeared. Over 90 days a year dust storms spread over 100 million tons of dust and poisonous salts into the atmosphere for thousands of kilometres.

Despite the tragic drying up of the Aral Sea, the Aral basin still contains numerous critically important lakes, wetlands, and riparian ecosystems. Most of the productive lands, as well as KBAs, are associated with the Amu Darya River and its floodplain, as well as with the upper reaches of the Syr Darya river and the downstream parts of the Zarafshan and Surkhandarya. Due to anthropogenic impacts the region has lost over half of its flora and fauna; 11 species of fish, 12 species of mammals, 26 species of birds, and 11 species of plants have virtually disappeared. Despite a significant reduction in areas over the past 60 years, tugai forests growing along the floodplain of the Amu Darya river still play an important role in maintaining environmental stability in the region and serve as center for flora and fauna species. Tugai forests are characterized by more than 267 species of birds. The Amu Darya River retains three endemic fish species, Red List mammal species such as Eurasian otter (*Lutra lutra*) and Bukhara deer (*Cervus hanglu bactrianus*). While lakes, wetland and riparian ecosystems are highly important for resilient landscapes and sustainable livelihoods, they also represent pockets of high biodiversity within the Aral basin's desert landscape. A comprehensive and detailed assessment of Key Biodiversity Areas has not yet been conducted for Uzbekistan, but many KBAs have been identified using partial data sets. The [Table 2 \(Annex A\)](#) lists many of the lake, wetland and riparian KBAs that will be targeted by the project, based on data in the World Database of Key Biodiversity Areas. These are also areas where the national strategy for development of the protected areas system foresees the establishment or expansion of protected areas. The existing protected areas in the Aral Sea region occupy 1,179,029 ha; a summary of existing PAs is included in [Table 3 \(Annex 1\)](#). In addition, special water protection zones, forest enterprises, and state forestry hunting reserves make up another 5.8 mln ha of state territory managed for various forms of conservation, protection, and sustainable use.

#### Key current threats leading to land degradation and biodiversity loss in the Aral Sea basin, and barriers to effective management

##### *Cotton production during Soviet times as a root case*

The Aral crisis was precipitated by an intensive focus on irrigating lands for cotton production during the Soviet Union, and can be considered a primary root cause of the Aral Sea landscape degradation. Uzbekistan has been producing approximately 900,000 tons of cotton every year and exporting about 75% of its production, generating about 20% of the country's GDP. The country's irrigation practices related to cotton production, which were based on unlimited withdrawal of water from main Aral Sea tributaries through decades, ultimately resulted in the drastic shrinking of the Aral Sea itself, proliferation of dust storms, salinization, economic crisis and undermining natural ecosystems

### ***Irregular and unsustainable water management***

Ninety-five percent of agriculture in Uzbekistan depends on irrigation, with most of the water drawn from the Aral Sea rivers, mainly Amu Darya and Syr Darya. Agricultural development in the floodplain of the Amu Darya has increased the area of irrigated agricultural land, but has significantly reduced the forested area in the middle reaches of the river. The drying of large tugai arrays in the lower reaches and Amu Darya delta was also triggered by the construction of the dams, which resulted in a 4-5-fold decrease in the Amu Darya drainage, a decrease in the water level in the riverbed, and 3-4 m lowering of the level of groundwater, and drastic reduction of the area of tugai floodplain forests in Karakalpakstan that currently does not exceed 15-20,000 hectares.

For the lake systems of Sudoche, Zhylytyrbas, Mashankul, Akpetki in the lower reaches of the Amu Darya, the main threats are associated with the possibility of further reduction of the river flow to the delta of the Amu Darya, which would further reduce the flow of water into the lakes. The lake systems depend entirely on the water supplied through the Kokdarya, KS-4 and other canals, which are highly regulated. In addition, the state is increasingly transferring water to reservoirs that are promising for fishing. In recent dry years (2000-2001, 2007-2008), most lakes in the South Aral Sea completely dried up; for example, Lake Sudoche dissolved into several smaller fragments. In the 1970s Lake Sudoche was the largest lake in the Amu Darya delta (42,000 ha); with the gradual shallowing of Aral Sea, following two droughts in 2000-2001, the lake surface area dropped down to 6,500 ha. The recent restoration project made it possible to accumulate water and ensure a more or less stable flow, returning wildlife to this unique wetland.

The drying up of water ecosystems is directly related to the distribution of water resources. A long-term strategy that could lead to reducing land degradation and conserving the Aral basin biodiversity shall be based on an integrated approach to water resource management, with reduced water wastage, increased productivity, strengthening LDN-compatible use (in pasture and forest productive landscape) and mainstreaming of biodiversity considerations into productive activities. An integrated land-use approach needs to be promoted based on modern approaches to agriculture at all levels, from fodder harvesting, improvement of livestock breeds, efficient irrigation techniques, to choosing economically viable crops. Only this approach will allow the rational regulation of the water resources of the Aral Sea basin and, as a result, releasing necessary volumes of water to maintain the lake, wetland, and riparian ecosystem complexes of the Aral basin.

### ***Poor land management resulting in degradation of agricultural lands, wetlands and riparian corridors***

The most serious environmental problems threatening the region's natural resources include increasing soil salinization and reduced water quality, wind and water erosion, and a decrease in the productivity of arable land. Land degradation in the Aral Sea region occurs as a result of the drying out of the Aral Sea, Amu Darya, wind erosion, drought, and salinization. Current land use patterns in productive landscapes do not take account of new data and knowledge about soil productivity, water availability and dynamics, and biodiversity impacts under a changing climate. Livestock plays an important role in the economy of Uzbekistan and accounts for more than 40% of the gross agricultural production in the country, and therefore has significant impacts on land resources and biodiversity. Over the past 15-20 years, there has also been extensive degradation of pastures due to excessive grazing and lack of proper pasture management. The economic costs of land degradation for the country are superimposed on all three levels: (i) at the local level, in terms of reducing productivity; (ii) at the national level, in terms of the loss of agricultural productive capacity and the decline in the share of agriculture in GDP and export revenues, and (iii) globally, in terms of negative impacts on carbon sequestration and climate change, biodiversity, and diminishing of transboundary water resources. Without improving land management processes, including addressing the projected impacts of climate change, land degradation will continue and intensify in the future. It is possible to identify areas of degraded arable land and transfer them to fodder or pasture lands. Degraded land can be restored with phytomelioration; it is possible to create seeded pastures or grow fodder plants; halophytes can be planted to create autumn pastures on saline sites.

### ***Habitat destruction and poor management of lake, wetland and riparian corridor biodiversity***

Anthropogenically-driven desertification is a key driver of changes in ecosystems, natural regeneration, and the maintenance of biodiversity, including changes in the natural succession process, and decreases in floristic diversity. In the absence of floodwaters, the formation of young tugai massifs has practically ceased. However, occasional anthropogenically driven excessive flooding also has negative impacts: in 2015 and 2017 the Sudoche lake was completely filled with water, resulting in the submersion of all suitable islands for flamingo nesting.

Overgrazing is an important problem for tugai forests, i.e. in the floodplain of the Amu Darya, and in some areas of the southern Aral Sea basin on the margins of wetlands. Unregulated livestock grazing on floodplain meadows, transition areas of river floodplains, and wetlands leads to trampling riparian vegetation and destruction of undergrowth of woody and shrubby species (taurangi, willow, loch, tamarisk), that are used for nesting by many near-water species of birds. Cattle eat young shoots, which limits the capacity for natural regeneration, a reduction in forest ecosystems, and affects forage availability for wild ungulates, such as the Bukhara deer. In some areas of the Aral basin, such as the Kyzylkum region, there is not competition for forage between livestock and wild ungulates, but there is competition for water access. There is also a concern regarding the transmission of diseases from livestock to wildlife.

Outside current protected areas the impact of local factors that directly affect lakes, wetlands and forest areas is extremely large. These include fires, unregulated tree cutting, grazing, transport, and recreation. Recreational use of the lakes Karateren, Rogatoye, Aksai is one of the threats to water and waterfowl birds, as well as for mammals using biotopes around lakes for their livelihoods. Investment in targeted conservation activities (restriction of cutting down and grazing, fire control, restoration of tugai), together with solving the problem of water supply, can make it possible to preserve the remaining habitats and biodiversity and provide livelihood alternatives for local people.

## Baseline scenario and associated baseline projects

In the past 30 years the country has shifted way from cotton, toward producing food crops, and this transition continues. This involves structural reforms in agriculture. Accordingly, the cotton planting area will be reduced gradually. The Government's intention is to reduce cotton as much as possible, in particular in highly salinized areas, and to support transition to other crops such as vegetables, fruits, and grains, involving innovative agricultural technologies. With the new initiative a total of 170,000 hectares of land will be available to plant products other than cotton. At the same time, it is important to keep in mind that the Karakalpakstan area, which is one of the main focus areas of the proposed project, has below-average cotton production, at 2.01 tons/ha, vs. the national average of 2.63 tons/ha. In Karakalpakstan, wheat and rice already have more planted area than cotton: 97,653 ha for wheat and rice vs 91,600 ha for cotton. In another key LADAB district, Karakul, 1,172 ha of former cotton lands has already been withdrawn from cultivation. In yet another target district, the Alat district, the plans for 2019-2020 are to re-design irrigation and introduce diversified crops for 693 ha of lands formerly used as cotton plantations

A key baseline initiative is the overall body of work and regional efforts for restoration of the Aral Sea, coordinated through the *International Fund for saving the Aral Sea* (IFAS, please refer to [Annex E](#) for details). IFAS contributes to the sustainability of the Aral Sea basin through the Aral Sea Basin Programmes that serve an umbrella for the relevant national programmes and projects and the donor funding. The content of the current Aral Sea Basin Programme (ASBP-4) will be defined by the end of 2019.

The national level contribution to IFAS included programmes and project within the umbrella *Comprehensive Programme of Uzbekistan for mitigation of consequences of Aral catastrophe, rehabilitation and social-economic development in the Aral Sea coastal area (2015-2018)*, targeted at sustainable use of water resources, social and economic improvements for local livelihoods, biodiversity conservation ecosystem restoration.

The *State Program on development of the Aral Sea region for 2017-2021* includes concrete activities related to afforestation of the dried bottom of the Aral Sea; construction/ reconstruction of watert collectors, pumping stations, improvement of water resources management in South Karakalpakstan through construction/reconstruction canals, creation of tourism infrastructure.

The newly established *UN Multi-Partner Human Security Trust Fund for the Aral Sea Region (MPHSTF) in Uzbekistan (November 2018 – December 2023)* covers Karakalpakstan and Khorezm regions of Uzbekistan and has the Human Security Concept as its programmatic focus. The first Call for Proposals under the MPHSTF was finalized in June, 2019 and includes projects on afforestation as an aspect of environmental security, and social security aspects associated with the access to basic utilities, social protection, water, sanitation, and education.

### .1.a.3 Proposed alternative scenario including expected outcomes and components of the project

#### Geographic and intervention scope of the project:

The project is focusing within the Aral basin landscape, with specific attention to the critical network of lake, wetland and riparian corridor ecosystems. The total area of the landscape addressed by the project is approximately 10,000,000 ha. There are approximately 1.1 m ha of irrigated agricultural lands, 2.2 m ha of pasturelands, and 0.9 m ha of KBAs (lakes, wetlands, and riparian corridors). The remaining area of the landscape is natural desert, semi-desert, and desert-steppe ecosystems, as well as the now-dry and degraded former Aral Sea bed.

The proposed project impact area includes the land resources immediately surrounding and adjacent to these water resources, which are inextricably linked to the sustainable management of these critical water ecosystems. Within the overall desert and desert-steppe Aral basin, these “islands of water” support local livelihoods and the critical biodiversity resources of this region. In addition, these ecosystems serve as a critical buffer to support resilient livelihoods and habitats in the face of climate change impacts, which are already being felt throughout the Aral basin. The project takes an integrated landscape approach, whereby the water, land and biodiversity resources must be viewed and managed in a cohesive manner.

The KBAs within the Aral basin coincide with the water-based ecosystems within the wider desert landscape – the lakes, wetlands, and riparian corridors targeted by the project. These water-driven ecosystems occur primarily along the overall riparian corridor of the Amu Darya river, which flows from the Tian Shan mountains in the southeast to the (former) Aral Sea in the northwest of Uzbekistan. The project focuses on the lower Amu Darya, primarily in the Karakalpakstan (which includes the Amu Darya delta), Khorezm and Bukhara regions. While certain interventions and impacts will affect all 11 administrative districts within the LADAB landscape and beyond, the project will have its main focus and direct its key interventions in four administrative districts in the Amu Darya basin from approximately the Dengizkul Lake in the Alat District of Bukhara Region, downstream through Amudaryo district of Karakalpakstan to the river’s termination at the former Aral sea, in Moynaq, Karakalpakstan.

#### Long-term solution and draft theory of change[1]:

Within the current theory of change and baseline situation, the project strategy stems from the fact that the transition to post-cotton economy is part of the baseline: the land restoration and initial management of these lands is assessed at 1,500 USD per hectare and will be funded solely by the Government. Where the GEF can be incrementally valuable is to complement the post-cotton Government baseline with initiatives that focus on the important other elements within the landscape, which are – integrated water management, sustainable pasture management and retention of valuable ecosystems – all of which ultimately are indispensable to support the and increase the effectiveness of the transition to post-cotton economy in Uzbekistan

The theory of change is based on the assumption that before any significant changes in agricultural practices are deemed economically viable, the inefficiencies should be “fixed” in the water management sector. Once a multisectoral approach to collaborative water management is demonstrated as the only viable scenario, the sectors that depend on irrigation will receive an “inflow” for the reforms that will be driven, inter alia, by the LDN commitments of the country. Without a fundamental change in water management approach, the changes in the sectors that depend on irrigation will hardly be meaningful enough to produce the long-term effects.

Thus, the project will focus first and foremost on the use of water resources is both inadequate and insufficient for the current agricultural needs and maintenance of riparian corridors. The project will rely on the planned reforms in the agricultural sector of the pilot districts mentioned above, and supply the innovative land restoration and pasture management techniques that are currently lacking, thus stimulating a significant cumulative effect towards the reduced agricultural land degradation.

The project strategy is built on the linkages between the productive landscapes and land degradation issues associated with them, biodiversity conservation priorities, and most of all on the resilient and sustainable livelihoods in the Aral basin of Uzbekistan. The project is designed in accordance with the key LDN objectives to increase resilience of productive landscapes (with the main focus on pastures and forest-pastures), improve their productivity, and ensure sustainable delivery of ecosystem services. These ecological goals must be achieved within the context of supporting and securing sustainable and resilient livelihoods for local resource users, whose daily existence depends greatly on the integrity and productivity of these high value arid ecosystems. Therefore the long-term solution is one where government resource managers and local communities plan and implement integrated natural resource use practices that are neutral from the point of view of land degradation, are biodiversity friendly, and support healthy soil and vegetation.

The long-term solution is based on acceptance of the fact that the Government is shifting to maximum cotton replacement in agriculture. This is a given baseline, and the Government invests in it on its own. The project is focusing on addressing land degradation issues where there is a gap (e.g. in pasture management), biodiversity conservation, climate resilience and sustainable livelihoods in the Aral basin and will be based around an LDN and KBA philosophy: an integrated and inclusive approach to the management of land and water resources, with a functional and representative protected area network including biodiversity corridors and buffer zones. This approach will allow the rational regulation and allocation of water usage in the Aral Sea region, and will facilitate the use of necessary water resources to maintain lake, wetland and riparian complexes of the southern Aral Sea region. Healthy ecosystems will ensure resilience of the region to climate and human threats, and the maintenance of ecosystem services for local communities.

The full implementation of the long-term solution will depend on many stakeholders and will be a long-term process. The project will seek to achieve incremental progress toward this long-term solution. The immediate objective of the project is to enhance the resilience and sustainability of landscapes and livelihoods in the Aral basin through integrated management of land, forests, important lake, wetland, and riparian ecosystems, with engagement of private sector and local communities.

### Proposed project strategy:

The four components proposed by this project have been designed within the available GEF and co-financing framework to handle the corresponding drivers of land and water degradation, which are directly linked to the soil erosion and forest loss, diminishment and loss of lake, wetland and riparian biodiversity in this desert landscape. There is an opinion<sup>[2]</sup> that creation of local reservoirs in the delta of the Amu Darya that contribute to the restoration of wetlands, the conservation and sustainable development of biodiversity can be considered as the main way for improving the ecological situation in the region. Maintaining a chain of watered lands along the Aral coastline as buffer zones is an important measure for combating salt and dust transfer, to prevent desertification, and maintaining the biodiversity.

**Component 1** aims to address the irrationalized and unsustainable use of water resources, the negative impacts of which are exacerbated from climate change risks. This will involve developing a cooperative and collaborative management framework for water management, involving all key stakeholders. The component includes the demonstration of rationalized and efficient use of water resources for improved management for LDN and secured lake, wetland and riparian ecosystems.

The major part of Component 1 will seek to develop and implement rationalized, climate-smart and ecologically sensitive integrated water management plans at appropriate scales. This will build on momentum generated by the education and awareness campaign, as well as momentum spurred through other complementary international initiatives. The project will establish a multi-stakeholder water management task force, including both local and regional authorities, as well as civil society and the private sector. With the project's support, the task force will analyze patterns of water use generally at the landscape level, but also in more detail within four targeted demonstration districts (Moynak and Amudaryo in Karakalpakstan and Alat and Karakul in Bukhara region, to be confirmed at PPG phase, based on further stakeholder consultation and baseline assessments). The task force will analyze the current pattern of water supply (volume and timing) through the existing hydrotechnical facilities, taking into account (1) current needs of agriculture; (2) expected climate impacts; (3) alternative agriculture use at lands currently used inefficiently / degraded / not used; (4) fisheries; (5) required ecological flows requirements for KBAs (location and area of lakes, wetlands and riparian zones required in lower Amu Darya); (5) other economic uses. Under the auspices of the Task Force, technical experts will complete an assessment and analysis of current land-use and impacts, and requirements for water use. The flows and water balance necessary to maintain the ecological balance for required lakes, wetlands and riparian zones will be analyzed. Then technical experts will analyze potential land-use changes to reduce water demands and land degradation (e.g. land to be restored, land to be converted from arable farming to pastures or fodder crops, crops to be changed, plowing and irrigation methods to change). Scenarios will be developed of land use and optimal volumes and timing of water supply through the hydrotechnical facilities, aiming at ensuring sufficiency of water both for economic and ecosystem purposes. Scenarios will be put through an intensive stakeholder consultation process. Based on the results of this overall process, integrated LDN-focused and climate smart water management plans for each of the four demonstration districts will be submitted for governmental approval, and then used as a basis for the integrated land use plans under Component II. The project will also include dedicated support to local communities to demonstrate climate-smart water use techniques, such as high efficiency irrigation, low-water use crops, and other water-efficient technologies and approaches. Also completed under Component 1 will be an assessment of the status of hydrotechnical facilities, including planned maintenance and repairs necessary for implementation of optimal scenario (to be covered from co-financing). The assessment of the operation of the hydrotechnical facilities is one of the crucial steps of the optimization of water planning and water use. The hydrotechnical facilities along the key rivers (e.g. regulated sluices, reservoirs, artificial ponds) have their own regimes of operation, i.e. at every prescribed moment in time they contain or discharge a certain volume of water for a certain purpose. As has been described in the PIF, one of the key problems is that their current operation does not take into account ecosystem needs and is not suited for "water-saving" agriculture that this project strives to promote as an alternative to cotton production. It is important therefore, to keep this activity (review and optimization of hydrotechnical facilities), as otherwise it would be not possible to establish optimal water supply for biodiversity and economy.

**Component 2** focuses on the promotion of the LDN principles through sustainable land use planning, improved management of pastures and forest pastures towards their better resilience, improved productivity and retained ecosystem services, and land restoration. The component aims to support sustainable land management practices in production landscapes surrounding lake, wetland and riparian ecosystems. The project will work with local economic actors, private sector and communities to resolve the key issues of unsustainable use of pastures and forests in the project area. In order to mitigate and reduce future land degradation, the project will work with stakeholders to implement management approaches and develop long-term spatial land use and resource management plans.

Component 2 will support the LDN progress assessment for Karakalpakstan: the regional Land Degradation Neutrality targets will be confirmed, future actions developed and monitoring systems proposed. Integrated ecosystem management approach will be in the center for the LDN concept in Karakalpakstan. The LDN progress assessment will include such elements as the response hierarchy through a mosaic of interventions across different land units to avoid > reduce > reverse land degradation; monitoring; stakeholder engagement; private sector outreach; gender aspects. Piloting of LDN assessment and supporting practical LDN implementation in the most vulnerable Aral Sea region of the country will be important to ensure further ownership of LDN concept country-wide, and demonstrate LDN options and benefits.

Integrated spatial planning: The project will develop integrated land use plans for 4 administrative districts of the Aral Sea region (Moynak and Amudaryo in Karakalpakstan and Alat and Karakul in Bukhara region, to be confirmed at PPG phase). The plans will be based on update information on the state of natural resources and land use practices as well as on the integrated water use plans developed under Component 1.

Improved land management and land restoration: The project will support investment in LDN and community livelihoods through the development of pasture management plans in 4 districts where key PAs are located, and which have significant land degradation. The project will demonstrate a tactical grazing management as a core of the pasture management plans. Elements of the tactical grazing management relevant to the specific context can be adopted for reducing pasture degradation in some project areas in consultations with local communities and national/international expertise. Trainings for local communities will increase their knowledge and skills on sustainable pasture management practices - pasture rotation, access to veterinary services, selecting optimal livestock breeds, maintaining adequate record-keeping, feed procurement, and fodder production. In order to improve pastures in Southern Aral Sea region, special attention will be paid to the forest improvement in desert areas.

The project envisages testing and implementing best practices of soil-conserving, minimum or zero-tillage, and restoration of degraded pastures. The main causes of low soil fertility are low content of soil organic matter and widespread soil salinization. Combination of these factors results in decreasing the biotic activity of the soil that is of great importance in soil formation. In this context, a special attention shall be paid to creating field shelterbelts in the agricultural part and pasture shelterbelts in desert pastures. Other measures can include developing licorice plantation and improving irrigated pastures with forage grasses. (*Pls. see further discussion under Innovation*).

Sustainable forest management: The project will work with local forest resource users to develop and implement four community-based forest management plans in key areas of riparian corridors, turanga, and tugai forest. The project will introduce sustainable livestock and pasture use practices, reforestation (planting saxaul, kandym, etc.), fodder production around artesian wells. National scientific institutions participation envisaged in the project, i.e. Seed Production Center under the State Forestry Committee, to the activities on creating fast-growing forest plantations on degraded or low-potential land in the Amu Darya floodplain area (Lower Amu Darya Biosphere Reserve, Kyzylkum Reserve). It is important to save existing forest range while creating new shelterbelts by replenishing missing rows of trees. Application of community forestry model in creating forest plantations will serve for sustainability purposes. In plantation forestry implementation the top priority shall be given to the biodiversity conservation approach. A wide public awareness raising campaign will target various audiences on the importance of preserving tugai forests and the benefits of creating forest plantations and forest shelter belts.

For degraded forest zones, the project will support natural regeneration, through rotational fencing or other management techniques for minimizing livestock impact on specific areas for natural regeneration. The project may also undertake some targeted reforestation for key areas of tugai forest (for further assessment at PPG phase). Within the project, it seems possible to reach agreement with the Ministry of Agriculture or the agricultural lending funds on co-financing activities on converting some certain number hectares of degraded land in the Aral Sea region to productive meadows.

**Component 3** will focus on conservation of globally important biodiversity through PAs system expansion and targeted support in strengthening some of the key existing PAs. The creation of 5 protected natural areas with a total area of 3,194,600 ha is envisaged: nature reserve "South Ustyurt", the national park "Central Kyzylkum", the reserve "Sudoche system of lakes"(on the basis of the existing paper refuge with an area of 50,000 ha), the refuges "Mejdurechye of Akdarya-Kazakhdarya" and "Akpetki". All of these sites are either IBAs or Ramsar sites. Creation of these PAs will improve the coverage and effectiveness of protection of IUCN species in Aral Sea region (birds and mammals). Technical assistance and financial support will be provided for designing the PAs

(including assessment of status of forest and grassland ecosystems, conservation priorities e.g. identification of threatened areas, zoning, wildlife movement patterns), management planning (e.g., development of threat-reduction activities), and development and implementation of a biological system of monitoring and reporting. Once the PAs are established, management plans will be prepared based on baseline monitoring of the PA territory. The project will provide support to the administration of PAs for developing their management plans. The management plans will be approved by the Government. [Table 4 \(Annex A\)](#) summarizes currently proposed new (or expanded) PAs, as outlined in the Roadmap for development of Uzbekistan's protected area system.

Strengthening Management of Existing PAs: The surveillance and enforcement systems in the PAs will be strengthened by establishing and equipping patrol groups with means for surveillance, interception, and prosecution, in order to ensure adequate enforcement. This will be achieved through the local PAs board whose main role will be to make decisions on further development of the PA as well as improve cooperation with local self-governance bodies on sustainable development and the formation of joint ranger groups to enforce anti-poaching, resource use regulations, and monitoring of species.

Lack of field stations in the Ustyurt plateau remote areas and the adjacent Sarykamysh depression in the south with high biodiversity prevents the full-scale security and monitoring activities. Establishing a static base/station in the Sarykamysh Lake area would greatly enhance the wildlife research opportunities. This base could serve as a field cordon for scientists and the reserve inspectorate after a protected area organization. Further adaptation cages for cheetahs can be constructed next to the field corridor for implementing the reintroduction program in Ustyurt.

In order to enhance existing protected areas management following priority measures can be undertaken in Lower Amu Darya State Biosphere Reserve (LABR) and Kyzylkum Reserve. Due to the high numbers of Bukhara deer and the threat of epizootics in LABR a veterinary control will be maintained over the deer population and livestock in the surrounding areas in cooperation with the State Veterinary Committee branches. A special demonstration activity can be included to this component on studying the natural deer spread into new tugai massifs and settling deer in reserve's tugai massifs where natural settle is impossible. The project can support the governmental effort in justifying LABR inclusion to the worldwide network of UNESCO Biosphere Reserves.

The project will support expansion of the existing *Kyzylkum Reserve's* area by creating a buffer zone in the desert part and joining the tugai massifs located in the floodplain of the Amu Darya. To improve the habitats of wild animals in the reserve, particularly Bukhara deer, the prevention of extreme spring-summer floods will be implemented in tugai areas (in coordination with relevant activities under Component 1). A demonstration activity on reintroducing a large group of gazelles can be implemented to address the degradation of plant communities in a desert area due to undergrazing of ungulates. The project interventions in the Saigachy Refuge will include essential activities to maintain watering points for animals. All existing protected areas will be covered by training programs based on best practices in protected areas management to strengthen their staff's capacity.

Biodiversity Mainstreamed in Sustainable Land Management: The project will work to ensure that KBAs are well integrated in sustainable land management practices in landscapes surrounding PAs. PA buffer zones and corridors will be clearly identified, and mapped, and this information will be integrated with land use spatial planning work under Component 2. The project will undertake education and awareness activities for local communities, and will support capacity development of local environmental inspectorates, in order to strengthen monitoring and enforcement. The project micro-grant program (implemented across all 3 components) will include targeted support for sustainable livelihoods that reduce impacts on biodiversity, including measures to reduce competition for forage and water between livestock and wildlife, and support sustainable fishing practices.

**Component 4** combines cross-cutting project activities aimed at awareness raising and knowledge management. There is increasing awareness, understanding, and political will in Uzbekistan to address the water management problems linked to the Aral Sea ecological disaster, including improving the management of irrigation water drawn from the Amu Darya river. However, the general level of awareness and understanding of land degradation issues in the region is still not sufficient to catalyze rapid and comprehensive changes to the water management regime. There are even lower levels of awareness and understanding about climate change risks and potential future impacts to the region. Therefore, the project will carry out an intensive education and awareness raising campaign targeting decision-makers at local and regional levels. An education and awareness raising campaign about key biodiversity values and sustainable land-use management regimes and regulations will also target the local resource users. Within Component 4, the project will support the government of Uzbekistan, the scientific community and NGOs supported in developing and negotiating decisions on the Aral Sea basin at the international level. The project will contribute to the multi-stakeholder dialogue for sustainable national programming through the IFAS and the UN Multi-

Partner Human Security Trust Fund for the Aral Sea Region in Uzbekistan, where it concerns mainstreaming of the integrated approach towards water resource management and climate-smart land use. Project experience will be shared and replicated through national and international learning networks of UNCCD, CBD and GEF.

## Alignment with GEF focal area strategy

The project follows the Four-year Framework of Program Priorities for GEF-7 and fully responds to the guidance that the “Framework encourages integrated approaches to project design”, as well as the GEF growing mandate to support activities that promote synergies across its focal areas. The project is expected to generate global environment benefits that correspond to two GEF focal areas, by tackling the underlying drivers of land degradation and biodiversity loss. Thus, the project takes strategic direction from the GEF-7 programming guidance for the land degradation and biodiversity focal areas.

With respect to land degradation the project links directly to Uzbekistan’s commitment under the UNCCD to achieve its national Land Degradation Neutrality (LDN) targets (linked at the global level to the Sustainable Development Goals target 15.3), and has been designed in line with the UNCCD LDN Checklist. With respect to the biodiversity focal area the project directly targets numerous Key Biodiversity Areas (KBAs) within Uzbekistan’s portion of the Aral basin and lower Amu Darya.

The KBAs within the lower Amu Darya and Aral basin coincide with the water-based ecosystems within the wider desert landscape – the lakes, wetlands, and riparian corridors targeted by the project. These water-driven ecosystems occur primarily along the overall riparian corridor of the Amu Darya river, which flows from the Tian Shan mountains in the southeast to the (former) Aral Sea in the northwest of Uzbekistan. The project focuses on the lower Amu Darya, primarily in the Karakalpakstan (which includes the former/remaining Amu Darya delta), Khorezm and Bukhara regions.

The project Component 3 is programmed for the BD focal area within its Objective 2 “Address direct drivers to protect habitats and species”, with its spatial planning elements addressing Objective 1 “Mainstream biodiversity across sectors as well as landscapes and seascapes”. The main entry point to address direct drivers of biodiversity loss will be “Improving Financial Sustainability, Effective Management, and Ecosystem Coverage of the Global Protected Area Estate” where the project will contribute to the achievement of global and regional targets for the targeted GEF 7 core indicators for the BD focal areas.

Uzbekistan has a strategic national goal to increase its national protected area coverage from 12% of the national territory to 17% of the national territory by 2025. The proposed project will assist and support the implementation of this goal, particularly through increasing coverage of protected areas for lakes, wetlands and riparian corridors in the Aral Sea basin. The project will also work to strengthen the capacity of existing PA covering the most significant KBAs in the country.

## Incremental/additional cost reasoning and expected contributions from the baseline, GEF TF, and co-financing

Baseline	GEF scenario and increment
<i>Component 1: Integrated water management for a restored and resilient Aral basin landscape</i>	
In the baseline scenario, most of the irrigated lands in Uzbekistan, as well as pasture lands that depend of water resources are significantly degraded due to poor water management and overgrazing.  Among key government stakeholders and resource users there is little appreciation for and understanding of integrated resource management that can restore the degr	The project will work to address underlying root causes of land and biodiversity degradation, including the effective management of minimum and maximum water quantity flows. The project will improve water management to achieve LDN in irrigated lands surrounding KBAs. Water efficiency will be improved around KBAs. The project will work with local and national land and water resource stakeholders to develop sustainable approaches that will support local livelihoods and ecosystems that will have increased climate resiliency.

<p>aded landscape, supporting progress toward LDN for Uzbekistan. In the current baseline there are many approaches for improved water management and agricultural practices, but there are virtually no approaches linking improved sectoral production systems with the ecological pillars of the landscape: the lakes, wetlands and riparian corridors.</p>	<p>Baseline: USD 13,000,000 Increment: GEF USD 1,000,000 and Co-financing: USD 45,000,000</p>
<p><i>Component 2: Sustainable land management for Land Degradation Neutrality</i></p>	
<p>The LDN as a principle is unlikely to be widely invested in. Investment in concrete on the ground land use improvements are likely to be marginal. Continued loss of land productivity and aggravation of land security are expected to rise under the baseline scenario.</p>	<p>The project will implement some of the key LDN principles, namely integrated landscape planning, land restoration, sustainable pasture management and sustainable forest management. Land restoration practices will be undertaken to secure models of sustainable agriculture, ultimately reducing erosion and stabilizing ground water table. Forest management will be implemented to halt the loss of tugai forest in riparian corridors.</p> <p>Baseline: USD 3,000,000 Increment: GEF USD 700,000 and Co-financing: USD 8,800,000</p>
<p><i>Component 3: Conservation and integration of globally significant Aral basin lake, wetland and riparian biodiversity in wider landscape</i></p>	
<p>The existing protected areas in the Aral Sea region protect only 1% of endangered species and unique ecosystems. There are significant capacity gaps within the current PA system, preventing them to fulfill their management objectives.</p>	<p>The “islands of water” KBAs will be secured through expansion and strengthening of the PA estate in the landscape. Five new PAs will be established on the net 3,000,000 ha, and management will be improved for 5 existing PAs covering more than 1,000,000 ha.</p> <p>Baseline: USD 600,000 Increment: GEF USD 1,500,000 and Cofinancing Mobilized: USD 2,680,000</p>
<p><i>Component 4: Awareness raising and knowledge management</i></p>	
<p>There is increasing awareness, understanding, and political will in Uzbekistan to address the water management problems linked to the Aral Sea ecological disaster, including improving the management of irrigation water drawn from the Amu Darya river. However, the general level of awareness and understanding of land degradation issues in the region is still not sufficient to catalyze rapid and comprehensive changes to the water management regime. There are even lower levels of awareness and understanding about climate change risks and potential future impacts to the re</p>	<p>An intensive education and awareness raising campaign targets decision-makers at local and regional levels. The local resource users raise their awareness about key biodiversity values and sustainable land-use management regimes and regulations. Uzbekistan’s participation in and role for the international environmental programming for the Aral Sea basin strengthened. Integrated approach to water resource management, with reduced water wastage, increased productivity, and mainstreaming of biodiversity considerations is streamlined within the national and donor funding agenda for the Aral Sea basin in Uzbekistan.</p> <p>Baseline: USD 100,000 Increment: GEF USD 184068 and Cofinancing Mobilized: US</p>

gion.

D 1,044,000

### 1.a.6. Global environmental benefits

The LADAB landscape is strongly interconnected, with multiple ecosystem services dependent on the precious water flowing through the desert steppe and the project's integrated approach generates multiple GEBs. LD benefits come from reduced land degradation and land restoration. The project will provide for improved water management for 670,000 ha of irrigated arable and pasture land. The project will offer sustainable management models for at least 100,000 ha of pastures and forest pastures. The project will demonstrate innovative restoration techniques for at least 1,000 ha of degraded agricultural land. Targeted support for forest and lake ecosystem restoration, in return, will remove the erosion risk of crop fields and pastures. Carbon benefits will accrue as soil carbon is restored and forests regenerated.

The lakes, wetlands and riparian corridors in the LADAB landscape provide ecosystem services, such as climate regulation and air quality, as well as maintaining biodiversity. At the same time, there are vast tracts of degraded land around these areas that can be restored to sustainable production. The project addresses land resources through integrated land use planning, sustainable production and restoration of degraded lands. The rehabilitation of degraded lands will support the needs of agriculture without further expansion into the riparian and floodplain tugai and tauranga forests.

Sizable BD benefits are associated with the improved protection and management status on 900,000 ha of KBAs, and stable status of 10+ global Red List species. The project will provide for expansion of PA estates by an increment of 3,194,600 ha covering 6 KBAs. The GEF investment will significantly contribute to strengthening the management effectiveness of the 1,129,029 ha of existing PAs.

The project will contribute to the national effort toward meeting the Aichi Targets with its incremental effort at preventing the loss of natural habitats and reducing degradation and fragmentation (Aichi Target 5), strengthening management capacity, resilience and financial sustainability of projected areas (Target 11), and restoration and building resilience of key ecosystems and habitats (Targets 10 and 15).

The project has been designed using the UNCCD LDN Checklist. The ecosystem management benefits will be mostly associated with the rationalized and efficient use of water resources for improved management of land, forests, conservation-important lake, wetland and riparian ecosystems, combined with effective nature protection regimes. The wetlands ecosystems will be restored in a few years if a satisfactory water supply and appropriate biodiversity protection are established. The restoration of lake, wetland and riparian ecosystems will come as a natural result of the water discharge regime optimization that will not be under the project's control and won't be completed within the project lifetime.

**Note:** The PIF design has been based on the **LDN Checklist developed by UNCCD** (<https://www.thegef.org/documents/checklist-land-degradation-neutrality-transformative-projects-and-programmes-draft>). Summary of project's adherence to the checklist:

**Criterion A:** Fundamental LDN principles:

- Use landscape approach: Yes. Pls. refer to description of the landscape and maps.
- Promote no-net loss: The project's idea is to optimize water use and promote models of irrigated land, pasture and forest use so that there is no net loss of the organic layer and vegetation. Integrated land use plans under Component 2 will include activities to set the no-net-loss target for the target landscape.
- Avoid-reduce-reverse hierarchy. The project stems from integrated planning (Component 2, first output) which will define areas where productivity loss is going to be avoided, as well as areas that need mitigation or restoration. Concrete investment in restoration is important part of Component 2.
- Contribute to sub-national targets. Under Component 2, the project reviews progress for a sub-national LDN target for Karakalpakstan and implements key activities to trigger its achievement.
- Be site/country-tailored. The project has been fully tailored to the national and landscape context.
- Include LDN monitoring system: will be reviewed as part of LDN target review for Karakalpakstan.
- Gender considerations and stakeholder engagement: Addressed, please see a corresponding sub-sections.

**Criterion B.** Deliver multiple benefits.

- link to multiple SDGs, focal area benefits and sustainable livelihoods. This is the essence of the project, its rationale, objectives and design are fully in line with the multiple-benefits philosophy.

- Provide economic incentives to local actors: The project incentivizes local actors away from destructive behavior through engaging them in alternative economic activities, as well as biodiversity-friendly livelihoods around protected areas. Other incentive mechanisms are discussed in Section Private Sector Engagement.
- Base land decisions on the "assessment" approach. The integrated and multi-stakeholder nature of land use planning is envisaged as part of water use and land use planning in Components I and II.

**Criterion C.** Promotion of inclusive governance.

- safeguard land rights of local users. The idea behind the integrated land use planning in Component 2 is about ensuring that the rights of land users are respected while enabling them to derive maximum long-term benefits from use of ecosystem products and services. UNDP has a Social and Environmental Safeguard Procedure (SESP) which screens projects (including for this criterion) and does not allow projects that do not comply.
- ensure prior informed consent; avoid forced displacement; put in place grievance redress mechanism. Addressed through UNDP SESP protocol (mentioned above), and will be further elaborated at PPG.
- define gender responsive engagement. Addressed, as discussed in the corresponding subsection.

**Criterion D.** Promotion of scaling out.

- Employ science-based approaches and local knowledge. The project is going to be only based on proper science and consideration of established good-practices in development of all of its outputs.
- Apply innovation. Addressed, please refer to the innovation sub-section.
- Capture and disseminate knowledge. Knowledge capture, dissemination and practical use is covered in Component III.

**Criterion E.** Enhance national ownership and capacities.

- employ awareness raising, public campaigns, education and capacity building. This is part of Component III.
- identify and obtain co-financing. This is addressed as part of a GEF standard for ensuring co-financing.
- ensure sustainability. Addressed, as per sustainability sub-section.

**Criterion F.** Promoting innovative financing.

- include/prepare for a component that leverages private sector mobilization. The project does this, within the limitations of the concrete country, as further discussed in the Private Sector Engagement sub-section.
- foster income generation for communities. The project creates alternative income generation through improved pasture management, innovative land restoration technologies, saxaul, tugai and turanga forest management.

With respect to community benefits, the project activities will directly benefit more than 80,000 people, who will benefit from improved livelihoods. Improved air quality, improved economic potential are expected for 3+ million people residing in the LADAB landscape.

**Innovation:**

Integrated water management scenarios:

It is for the first time in the history of Aral Sea basin planning, that conservationists and water managers agreed to come together to discuss needs of KBAs, needs of irrigated lands and other water uses, in an attempt to agree on optimized volumes and timing of water supply through the hydrotechnical facilities within the landscape. The integrated approach of conserving KBA ecosystem services for the benefit of the production landscape is highly innovative in the region.

Improved pastures: The development of pasture management plans, a new element for the sectoral regulatory framework in Uzbekistan, will be based on the landscape function analysis, including pasture and vegetation assessment, total grazing pressure, soil cover and animal conditions, etc. The project will offer a combination of grazing strategies to meet different animal and pasture objectives according to seasonal conditions and livestock demands, e.g. set stocking and rotational grazing. The project will introduce for Uzbekistan an innovative tactical grazing approach that will use a range of best-practice grazing techniques and varying the approach according to the needs of the animals and the pastures as a tactical grazing management strategy.

Sustainable forest management: The project will introduce an integrated approach for the use and management of forests and forest pastures, combining sustainable practices in livestock and use of pastures with the reforestation measures. This integrated approach will support natural regeneration, fodder production, use of alternative energy sources as the main ways of addressing the various forms of prior land degradation. The project will introduce sustainable livestock and pasture use practices, reforestation (planting saxaul, kandym, etc.), and fodder production around artesian wells. Specific methods shall be implemented to promote natural renewal of turanga in tugai forests.

Techniques for degraded land restoration: Under Component II, the project will implement targeted approaches to test and demonstrate land restoration options for highly degraded lands. This may include the transformation of degraded arable or pasture lands to fodder or pasture areas by biodrainage, planting licorice and alfalfa, implementation of smart irrigation techniques that improved its conditions; creating seeded pastures, and growing fodder plants and halophytes on saline sites planted for autumn pastures.

To save the productivity of lost agricultural land the project plans to restore degraded pastures using perennial leguminous forage crops, particularly alfalfa. Being a valuable forage crop, alfalfa is also capable of nitrogen fixation and, if returned to the soil, can increase its nitrogen content. Thus, growing alfalfa creates the seed base for alfalfa and fodder on the one hand, and improves soil fertility on the other hand. Moreover, this keeps arable land productive and decreases natural pasture load and pressures on ecosystems. Finally, alfalfa hay can be used for livestock stall maintenance.

### **Sustainability:**

The proposed project calls for a transformational – deep, systemic and sustainable – change in the water and land management pattern within the LADAB landscape of Uzbekistan. Sustainability of this change will be ensured through strengthened government commitment to both sustainable management of land and water resources, and the effective management of protected areas in the LADAB landscape. The stakeholders' commitment to stay on this path and scale up will be the key prerequisite for the project impact to endure financially, economically, environmentally, socially and politically, long term after the intervention ends. Sustainability of the project results after completion will ultimately depend on ensuring stakeholder ownership by key public institutional partners, and securing their long-term commitment (regulatory, policy, funding and resources) to scale-up and replicate best practices in sustainable water and land management for sustainable livelihoods, and to secure critical ecosystems.

The project's first step of improved water management, through integrated water management plans and efficient irrigation, is critical for ensuring sustainable production, restoring degraded areas, and avoiding loss of KBA ecosystems. The success and sustainability of this key strategic element will be ensured through the development of a cooperative and collaborative management framework for water management, involving all key stakeholders. The demonstration of rationalized and efficient use of water resources for improved management for LDN and secured lake, wetland and riparian ecosystems will make sure that the integrated approach promoted by the project will meet approval of the key on-site stakeholders. The project will work with government partners to identify and develop regulatory mechanisms to incentivize the efficient use of water and make sure that the integrated water management plans offered by the project continue to be implemented after its completion.

Under Component II, the project will work with stakeholders to implement management approaches and develop long-term spatial land use and resource management plans in order to mitigate and reduce future land degradation. A significant potential for sustainability and scaling-up comes from the targeted program for demonstrating various forms of land restoration for degraded lands. The operational and financial sustainability of the PAs in the Aral region, after withdrawal of GEF investment, will be ensured by a commitment from the Government to allocate core financing for PAs from baseline projects sufficient for the optimal management of ecosystems after the project ends.

During implementation the project team will play close attention to the likely sustainability of project results, including developing the project exit strategy. With respect to institutional sustainability the team will ensure the key partner institutions have the individual and technical capacities to support the continuation of project results. Socio-economic sustainability will be enhanced in the project by improving livelihoods of local communities, through the restoration of land resources, improved pasture management, and securing ecosystem services. The project will work through (and assist in establishing, where these have not yet been constituted) local governance structures, including the a multi-stakeholder water management task force and the PA management bodies. Environmental sustainability will be enhanced by reducing degradation of land and forest resources in areas around KBAs, to further support the maintenance and conservation of biodiversity.

### **Replication and dissemination:**

The project will offer and promote approaches towards improved land-use and water management for resilient ecosystems, LDN, and sustainable livelihoods in 11 districts covering some 1,100,000 ha of irrigated agricultural lands. The field-tested irrigation land use practices, such as drip irrigation, and production of alfalfa and licorice, are highly replicable for the region. Alfalfa production will also lead to increased income generation opportunities for the local farmers, with the recent trend of high prices for quality hay associated with increased livestock population.

While the integrated water management plans will be developed initially for four districts, they will be fully replicable to the remaining 7 administrative districts hosting the LADAB landscape. The integrated approach to irrigation water supply management will definitely be applicable beyond the Aral Sea Basin in Uzbekistan (Kashkadarya, Bukhara and Surkhandarya regions) and likewise to neighboring Central Asian countries in the lower reaches of Syrdarya, particularly in some regions of Kazakhstan.

Degraded land restoration program for LDN in areas bordering lakes, wetlands, and riparian corridors will undoubtedly have a huge replication and scale-up potential. LDN progress assessment for Karakalpakstan will be replicated to other desert and semi-desert regions of Uzbekistan.

Sustainable pasture management plans, as well as integrated land-use spatial planning solutions will be applicable for a total of 7 districts in Uzbekistan within the Aral Sea Basin. Within the frame of UNDP and Adaptation Fund joint project, "Developing climate resilience of farming communities in the drought prone parts of Uzbekistan" (2014-2020) 3 pasture cooperatives have been established in Takhtakupir district of Karakalpakstan. The proposed project will contribute to further promoting associated pasture use approach and strengthening the potential of relevant organizations and pasture users. The project interventions will directly improve the management of more than 2.7 m ha, with the potential for replication to the balance of approximately 4 m ha of agricultural lands (mostly pasture lands) throughout the landscape.

---

[1] Please see Annex F for the Theory of Change diagram, which will be further elaborated at the PPG stage.

[2] IFAS

**1b. Project Map and Coordinates**

**Please provide geo-referenced information and map where the project interventions will take place.**

See Annex A

## 2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

The project stakeholder consultations during the project identification phase focused on consultation with key government stakeholders, including the State Committee for Environment (“Goscomecology”), and State Committee on Water Resources. There were not sufficient time or resources available during the project development phase to spend time traveling through the lower Amu Darya and Aral basin landscape, which covers an estimated 10,000,000 ha, and in which millions of people make their livelihoods. At the same time, UNDP has extensive experience working on a variety of projects and initiatives throughout the targeted project area, including extensive experience working directly with local communities and civil society organizations (for example through the UNDP-GEF Small Grants Programme). During the project preparation phase there will be a full stakeholder consultation process, involving all relevant stakeholders.

The indicative information on how the key stakeholders’ roles and means of engagement is presented below.

During the full project preparation phase there will be multiple rounds of stakeholder consultations at different levels, involving the full range of stakeholder types. There are no indigenous communities in the project target area, but there are numerous local communities, as well as larger towns and cities. During the project development phase workshops will be conducted in the main areas of planned project intervention in order to provide information on the project activities, and to collect stakeholder feedback in order to improve the project design. The project development team will hold regular informal discussions with key government stakeholder to ensure that project activities will be fully aligned with and complementary to government priorities, strategies and budgeting.

Stakeholder	Role
State Committee for Ecology and Environment Protection (Goscomecology)	Main implementation partner, ensuring organization of new PA; overseeing sustainable land and forest management, as well as managerial and financial sustainability of the national PA system.
Department of Biodiversity and Protected Areas of the State Committee for Ecology and Environment Protection	Takes responsibility for regular monitoring over the implementation of national legislation in the field of protection of flora and fauna and efficiency of PAs management by other institutions.
Ministry of Agriculture	Key partner in the development and implementation of the pasture management plans in target areas. With project support, agreements will be reached with the Ministry of Agriculture for agricultural lending of funds with co-financing activities to convert degraded land to productive meadows.
Ministry of Water Resources	Key partner in the development and implementation of improved wa

	<p>ter management practices through development of integrated water management plans for four demonstration districts. The Ministry will play a leading role in a multi-stakeholder water management task force that will be established within the project to assess current land-use and impacts, requirements for water use and water balance necessary to maintain the ecological balance for required lakes, wetlands and riparian zones.</p>
State Committee for Forestry	<p>The Committee will be represented on the Steering Committee of the project to ensure the full alignment of project activities with national forest and pasture legislation, policies and programmes. Key partner in development and implementation of 4 community-based forest management plans in key areas of riparian corridors and tugai forest. This body takes the main responsibility for reforestation, fodder production activities, and application of the community forestry model in creating forest plantations. One of key partners in development of pasture management plans in 4 priority districts and tactical grazing management as a core of the pasture management plans.</p>
State Committee for Land Resources, Geodesy, Cartography and National Cadastre	<p>The Committee will serve as a reference for, and provide guidance on matters relating to, land use and land use planning.</p>
Government of the Republic of Karakalpakstan	<p>A representative of the Government will be a member of the project steering committee and will facilitate good alignment between national policy directives, local needs and priorities and project activities and actions.</p>
Province and District administrations	<p>Will play an important role in supporting the implementation of the project in selected areas. They are likely to be direct beneficiaries of capacity development activities. They will provide support to the establishment of the new PAs and integration of biodiversity conservation into corresponding development strategies and plans.</p>
Local Self Governance Bodies	<p>These bodies are responsible for the elaboration and implementation of local communities' development strategies. They will be among the main project implementing partners at the local level in integrated land use planning, creating buffer zones and corridors, introducing community forestry model and community pasture management plans.</p>
Associations of Pasture Users Associations of Water Consumers	<p>They are the users of ecosystem services regulating access of local communities to natural resources and sustainable use of biodiversity and they will provide inputs to the development of buffer zones and conservation-friendly uses in sensitive areas, as well as play a role in the development and implementation of alternative sustainable livelihoods.</p>
Council of Farmers, Dehkan Farms and the owners of homestead lands of Uzbekistan; Centers for the Integrated Service of farms, dehkan farms as well as the owners of household land; NGO "KRASS" (Khorezm Rural Advisory Support Service)	<p>The project will be partnering with the Council of Farmers of Karakalpakstan and other priority regions. They are likely to be beneficiaries of capacity development activities. The Council and NGOs will provide specific communication and awareness support in the project implementation. NGOs may also be contracted to implement specific project activities.</p>

Communities in the PA buffer zones	Local communities in the targeted project areas will be actively engaged in the project implementation, especially activities on alternative livelihoods and improving sustainable land use practices. They are likely to be direct beneficiaries of project activities and support services that are linked to community beneficiation. Their participation will be provided in the planning of all project activities affecting local communities and may contribute to the implementation of activities likely to benefit individuals, villages and rural settlements.
Academy of Sciences of the Republic of Uzbekistan and its specialized Institutes	The Academy will provide scientific support and advisory services, through its research institutions, to the project outputs and activities. The Academy may be represented on the Steering Committee of the project. Based on their experience and expertise, Academy of Sciences will play a role in elaboration of the scientific bases for various project activities and innovative solutions, PA establishment and management strengthening. National scientific institutions participation envisaged in the project, include Seed Production Center under the State Forestry Committee, and the activities on creating fast-growing forest plantations on degraded or low-potential land in the Amu Darya floodplain area (LABR, Kyzylkum Reserve).
Agency for the Implementation of Projects in the Field of the Agro-Industrial Complex and Food Supply	The Agency is a specially authorized state body responsible for assisting in the development and implementation of large food supply projects, including investment projects, in order to actively develop and support entrepreneurship.
Joint-Stock Company Uzagrosugurta	Uzagrosugurta is an insurance company and promotes the development of the agro-industrial sector and the provision of high-quality insurance protection for the rural population of Uzbekistan.
Joint Stock Commercial Bank «Agrobank»	Agrobank as one of the largest commercial banks in the country making a significant contribution to the overall development of the economy and especially of agricultural production. Among others the bank provides comprehensive banking services to agribusiness, farms and individual entrepreneurs especially producing wheat and cotton.
Joint-Stock Commercial Microcredit bank	Microcreditbank provides microcredits and micro-lease services to private farms and individual peasant farms for introduction of small processing lines, purchase of livestock, poultry, seeds, for introduction of modern processes in farming, irrigation, and cultivation.
Joint-stock commercial People's Bank	The Bank has preferential credit lines/loans for individuals living in rural areas, including loans for women. The bank supports mostly livestock farming development.
National Bank for Foreign Economic Activity	The Bank has credit lines of the International Bank for Reconstruction and Development for processing of fruits and vegetables and other agribusinesses including development of livestock farming and horticulture.

During the full project preparation phase there will be multiple rounds of stakeholder consultations at different levels, involving the full range of stakeholder types. There are no indigenous communities in the project target area, but there are numerous local communities, as well as larger towns and cities. During the project development phase workshops will be conducted in the main areas of planned project intervention in order to provide information on the project activities, and to collect stakeholder feedback in order to improve the project design. The project development team will hold regular informal discussions with key government stakeholder to ensure that project activities will be fully aligned with and complementary to government priorities, strategies and budgeting.

### 3. Gender Equality and Women's Empowerment

**Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).**

The LADAB landscape has 3.8 m people, including 1.8 m in Karakalpakstan, which has a 32% poverty rate. The 14 KBAs targeted by the project are in 9 districts in 4 regions. A majority of the population depends on agriculture for their livelihood; some sources indicate that 75% of farm labor is performed by women.

A full and comprehensive gender analysis will be conducted during the project development phase. This will be then translated into a project gender action plan, to directly outline how project activities should take gender considerations into account. There are numerous ways in which gender dimensions are relevant to the project. The project addresses multiple types of agricultural land use, all of which have important gender dimensions, as they relate directly to the sustainability of local livelihoods. The project will work to improve the sustainability of livestock grazing in and around KBAs. Although women are not typically directly involved in livestock grazing, they can be involved in decision-making about grazing plans, and in the processing of livestock products. The project will also work on improving land and water management in key areas. Women do typically have a more direct role and higher level of involvement in the production of food crops. The project will ensure that project activities relating to improved land and water management, such as local trainings and local decision-making mechanisms have appropriate and adequate gender representation. The project will also be working on the improvement management of protected areas, and will also ensure the engagement of women in decision-making bodies related to protected areas, such as local management boards. The project will partner with the most appropriate operators of such micro crediting schemes and join efforts in setting up gender-prioritized alternative livelihoods. In addition, the project will also work to ensure appropriate gender equality and women's empowerment in project implementation mechanisms, such as on the Project Steering Committee, and amongst the project team of national experts and consultants involved in implementation. Finally, to ensure equal opportunity for employment, UNDP will encourage qualified women applicants for positions under the project as per UNDP rules and regulations.

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes**

**closing gender gaps in access to and control over natural resources; Yes**

**improving women's participation and decision-making; and/or Yes**

**generating socio-economic benefits or services for women. Yes**

**Will the project's results framework or logical framework include gender-sensitive indicators?**

Yes

#### 4. Private sector engagement

##### Will there be private sector engagement in the project?

Yes

##### Please briefly explain the rationale behind your answer.

Addressing land and water management in Uzbekistan inherently requires the involvement of the private sector, as a large share of land and water users are private sector operators. The project will work directly with large and small scale agricultural enterprises in the LADAB landscape, including small holders. This will include partnering with the Council of Farmers of Karakalpakstan. The project will establish partnerships with value-added processors of agricultural products to support market access for producers applying sustainable production practices. Also, the project will partner with private pastures users and forestry entities.

These activities will contribute to the government efforts on effective use of land and water resources in agriculture. A Concept for effective use of land and water resources in agriculture has been adopted by the presidential decree in June, 2019 including a Roadmap for development of specific sets of actions/regulative basis during the next 1-3 years for implementation of the Concept. For improving the efficiency of agricultural land use, the Concept envisages establishing an incentives system for agricultural producers for the introduction of technologies to improve the reclamation state, fertility and water availability for abandoned lands as well as forest land. A model for restoration of unused lands will be introduced on the basis of a public-private partnership in a particular region of Uzbekistan. It is expected that several regulations will be developed including state guarantees to business entities that have repaired/rehabilitated water wells, irrigation pumps, irrigation and drainage networks on the basis of an investment agreement or on a public-private partnership for introducing rainfed, pasture and other agricultural lands back into use. Along with this, the Concept envisages development of proposals for the implementation of market mechanisms for water consumption, as well as principles of public-private partnership in the operation of water facilities, and others.

For the sustainable forest management micro-grant program, the project will involve local banks - Agrobank, Microcreditbank, People's Bank, and others – which actively operate in the Aral Sea region. In particular, Microcreditbank has good experience in microcrediting rural women, including in the Aral Sea region. The Microcreditbank provides microcredits on a joint liability basis in accordance with international best practices, where it allocates microloans for low-income rural families for their household plots, including for female-headed rural families. For these purposes 30.0 mln USD has been allocated for additional capitalization of Microcreditbank in 2017 by the Fund for Reconstruction and Development of Uzbekistan by the presidential decree. Also, Uzbekistan launched a Program "Every Family – Entrepreneur" on June 2018 by presidential decree. The program implementation started in Andijan region and it will be expanded in other regions by relevant decisions of the Cabinet of Ministers. It is expected that the Program will cover every region, including remote regions and areas with severe nature and climatic conditions. The program envisages full support of entrepreneurial initiatives for the population wishing to engage in business, allocation of concessional loans and the provision of systematic practical assistance at each stage of organization and implementation of entrepreneurial activities. Preferential loans to banks will be allocated in the amount of up to 150 times minimum wages - for the development of family business, up to 1000-fold size - for registered small business entities and over 1000-fold for lending to investment projects of business entities. Another important document was adopted in March, 2019 "On additional measures for the widespread involvement of the population in entrepreneurship and the development of family entrepreneurship in the regions". In accordance with this resolution, an additional 5 trillion soums was assigned from trust funds. In general, financial resources worth 6.2 trillion soums (about 700 million USD) have been allocated to support entrepreneurial

initiatives in 2019 from commercial banks throughout the country. During March-April, some funds were allocated for sewing and handicrafts production, poultry and fish farming, beekeeping, and construction of light greenhouses. However, the implementation rate of the program remains insufficient for various reasons.

## 5. Risks

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risk	Level	Mitigation
The natural functioning and re generation of the Aral Basin lake, wetland, and riparian ecosystems has always been associated with periodic floods in the spring and early summer.	M	The project is offering an integrated long-term management strategy that would lead to reducing land degradation and conserving biodiversity through rational regulation of water resources of the Aral Sea basin and, as a result, releasing necessary volumes of water to maintain the lake, wetland, and riparian ecosystem complexes of the Aral basin. The project will develop the integrated water management plans that is ecologically sensitive and climate-smart.
Return to domination of cotton in agricultural production	L	The project stems from the fact that the shift away from cotton domination is a baseline strategy of the government. The project is addressing incremental elements that are important in ensuring the overall health of Aral Landscape is resilient and support the adapted economy as well as critical ecosystems.
The general level of awareness and understanding of land degradation issues in the region is not sufficient.	M	The project will carry out an intensive education and awareness-raising campaign targeting decision-makers on local and regional levels. The project will also carry out targeted research on the likely impact of climate change on water resources in specific project focus areas.
There is a risk that the project expectations regarding the Multi-stakeholder water management Task Force are over-ambitious.	M	The institutional commitment and political will of the relevant government stakeholders to address the collaborative management of irrigation water drawn from the Amu Darya River has been confirmed during the initial project scoping consultations, and has served as the main entry point and reason for the current project focus. The Ministry of Water Resources has specifically expressed its commitment to efficient water management in the LADAB landscape. The PPG phase of the project will develop a Comprehensive Stakeholder Engagement Plan that will address in detail the mechanism of early stakeholder engagement and consultations aimed at establishing a multi-stakeholder water management task force and development and implementation of rationalized, climate-smart and ecologically sensitive integrated water management plans on appropriate scales.
With no significant changes in the agricultural baseline, the project effort towards BD conservation in the lake, wetland and riparian complexes might have a relatively negligible impact.	M	The project will build on the planned reforms in the agricultural sector to support the achievement of Uzbekistan's LDN target. A set of organizational, technological and agrotechnical measures are to be adopted by the project, including the creation of joint management mechanisms for landscape rehabilitation and management in order to strengthen the community and local stakeholders' involvement. The project will consider lessons learnt from previous and ongoing UNDP-GEF programming as well as other development interventions especially in designing agriculture practices in a way that they will lead to a direct visible and measurable decrease of the pressure on natural resources. The project will focus on solving the trad

		e-off between socio-economic goals and environmental goals. Acknowledging that the project does not have the means for big investments needed for some large-scale measures, it will follow a more focused approach and mainstream already tested, successful measures and best practices into existing governmental and non-governmental programmes. Some measures are already reflected in a Concept on effective use of land and water resources in agriculture (adopted June, 2019).
Project activities and outcomes will be vulnerable to the potential impacts of climate change	L	Climate factors are essential for integrated water management and land use planning activities under Outcomes 1 and 2 of the project. This aspect will also be considered as part of the preparation of the Social and Environmental Standards protocol at the PPG phase.
Innovative restoration techniques require more than this project lifetime to be proven successful	M	The project design and target-setting will be sensitive to the specificity of the restoration demos that will be chosen to be feasible and impactful for this particular project intervention.
Resistance from communities to the opportunity to collaborate on forest and pasture management	M	Experience in setting up collaborative management arrangements is available under the former Tugai project of UNDP-GEF. The project will also partner with another UNDP-GEF project, SLM in non-irrigated lands, to jointly overcome this barrier. The project is going to provide extensive support to local communities and training to local stakeholders to develop their capacity to participate in collaborative protected area management as well as other project activities which target community engagement.

## 6. Coordination

**Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.**

The project will be nationally implemented (NIM) by the State Committee for Ecology and Environment Protection (“Goskomecology”) of Uzbekistan as the National Implementing Partner (Executing Entity) for the project. Goskomecology, acting as the Executing Entity for this project, will be responsible for overall coordination of project implementation, efficient use of project resources and achievement of all the planned project results. In the preparation of the PIF, Goskomecology worked closely with the GEF Operational Focal Point. Both the GEF OFP and Goskomecology have requested the UNDP Country Office in Tashkent to carry out selected project support services: recruitment of project personnel, procurement of consultancy services, processing of direct payments associated with procurement of goods and services, contract administration, travel arrangements, and ICT support.

Through a General Assembly resolution, member states requested the UN organizations to adopt International Public Sector Financial Reporting Standards (IPSAS) to enhance the quality of organizational-level financial reporting by ensuring improved transparency, accountability and governance. UNDP adopted IPSAS standards in 2012. In Uzbekistan, only UNDP and UN agencies work on the basis of the IPSAS. The national legislative frameworks and national accounts are not compliant with the IPSAS. Therefore, within the existing national system, national organizations/ministries/NGOs will have difficulty to meet donor requirements on implementation of development projects and programs. In 2013-2014 the joint project of UNDP and the Ministry of Finance “Budget system reform in Uzbekistan” rendered assistance in reforming of accounting and reporting in public sector through introduction of IPSAS. The project developed the Concept of improving the system of accounting and reporting on the basis of IPSAS. However, the initiative has not been continued by the national party, i.e. none of the line ministries in Uzbekistan are working in line with IPSAS.

The UN offices in both countries has been monitoring the country’s overall economic and financial situation on yearly basis since 2010. In Uzbekistan, due to non-conducive operational environment and the lack of national capacities, in 2011 the regional UN Development Group (UNDG) waiver a on Harmonized Approach to Cash Transfer (HACT) to UN agencies in Uzbekistan (a copy of the relevant communication can be presented on request). Furthermore, an Macro Assessment Report of the country’s public financial management system was conducted by UNICEF in late 2014, which showed that out of 18 reviewed areas, 15 areas were rated as HIGH and SIGNIFICANT risks. Based on the presented analysis of the operational environment of the country, the HACT implementation, that would allow full National Implementation (NIM) by line ministries, was once again deferred in 2016 until such time that respective parameters of Government fiscal accounting are confirmed to be conducive to HACT implementation. Therefore, none of the country offices in Uzbekistan, currently mandate to implement a full NIM modality.

In Uzbekistan, the civil society presence is still limited, with no NGOs or other third parties possessing appropriate capacities for providing 100% of all project services in compliance with international fiduciary standards. In Uzbekistan, UNDP remains the only agency that is eligible and institutionally capable for providing project implementation support services. This is the reason why the Government keeps approaching UNDP and requests UNDP support in management of the complex projects involving complicated procurement and technical expertise in areas such as HIV/AIDS and TB prevention, Anticorruption, customs services and seismic risk assessments, and GEF.

UNDP together with the NIM implementing partner, will ensure coordination and synergies of the proposed project activities mainly with the one ongoing parallel project “Developing climate resilience of farming communities in the drought prone parts of Uzbekistan.” That parallel project is funded by the Adaptation Fund and is expected to be still operational during the planning phase of the proposed project, if not beyond. The PPG process for the proposed project will analyze the results and impacts from the first-ever adaptation project in the country, will build on its results and avoid duplication of activities and inputs. As the adaptation project focuses on small-scale subsistence farming practices in Karakalpakstan, Component 2 of the proposed project is of direct relevance both in the geographical and sectoral scope. The proposed project will build on the adaptation project’s work with the small-scale (Dekhan) farmers to introduce climate resilient farming, along with land and water management practices. The adaptation project addresses the need to rehabilitate degraded pastures (vegetative cover); to promote improvements in pasture irrigation which would bolster the livestock sector against drought; to increase fodder availability which would reduce the use of autumn and winter pastures; to invest in the repair and maintenance of key pasture use infrastructure (e.g. wells) to allow for greater flock mobility; to develop set-asides and sowing of pastures with more productive species. All of these are of direct relevance to the proposed project Component 2. The proposed project will also follow up on the enabling environmental reforms developed by the adaptation project, leading to an effective integration of adaptation priorities in agriculture, within Karakalpakstan.

## 7. Consistency with National Priorities

### Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

**If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc**

- National Action Program to Combat Desertification and Drought under UNCCD
- National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD
- National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD

Uzbekistan ratified the UNCCD on October 31, 1995. Uzbekistan is among the countries that has committed to a national LDN target; the target-setting process overseen by the Uzbekistan National Hydrometeorological Service is still underway. The voluntary LDN target adopted by Uzbekistan is "By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world". Uzbekistan has made a commitment to the Bonn Challenge, pledging to restore 0.5 million hectares of degraded land by 2030. Uzbekistan has been party to the CBD since July 7, 1995.

Taking into account the regional climate pattern of Uzbekistan, the interrelation between desertification processes and loss of biodiversity is pronounced. Consequently, targets of the National action program to combat desertification and drought (NAPCDD, 2015) require a comprehensive approach which considers the biodiversity as one of components of ecosystems affected by desertification processes. To combat desertification and ensure the effective implementation of international obligations of the Republic of Uzbekistan, the presidential resolution "On measures to increase the efficiency of measures against desertification and drought" was adopted on February 22, 2019. Under this resolution the State Committee on Forestry has become a Focal Point for the UN Convention to combat desertification (UNCCD). As a follow-up action a Roadmap on combatting desertification and drought in the Republic of Uzbekistan was adopted by the Cabinet of Ministers on April 26, 2019. The Roadmap includes a measure on establishing a model of use of the degraded sites in the lower Amu Darya region.

Efforts to combat desertification and to provide biodiversity protection complement measures for adaptation to climate change and droughts. General efforts require multidisciplinary approaches and coordinated actions in many related fields. The first such action would be in environmental monitoring and information dissemination (e.g. scientific research programs and periodic monitoring, inventory of ecosystems and biological communities and indicators of influence of climate change on biodiversity).

On 11 June 2019 the Government of Uzbekistan approved the National Biodiversity Strategy and Action Plan (NBSAP) for 2019-2028. The NBSAP is derived from the Convention on Biological Diversity (CBD) and sets national priorities to meet the CBD targets globally on biodiversity conservation measures such as strengthening the monitoring activities of biodiversity, expanding the protected areas in all ecosystems of the country including the Aral Sea region, and establishment of a unified database of biodiversity conservation. The NBSAP also targets individual species conservation as well, which in the case of Uzbekistan includes species such as jeyran gazelles. And, most importantly NBSAP will set the groundwork for integration of biodiversity conservation in all sectors of the economy. This will contribute to implementation of national SDGs, especially the SDG 15 – Life on Land.

The National Biodiversity Strategy and Action Plan for 2019-2028 provides for the implementation of the afforestation activities of the dried bottom of the Aral Sea with an increase in the forest area to 1.2 million hectares. Currently, through the efforts of the State Committee on Forestry, there have already been about 500 thousand ha of forest area created. Local Forestry entities are widely involved in activities related to development of forestry nurseries for desert and fodder plants to be used for afforestation.

Measures for effective use of land and water resources in the agricultural industry have been adopted by presidential decree in June, 2019, through the Concept of effective use of land and water resources in the agricultural industry and a Roadmap for its implementation. The Roadmap envisages expansion of the measures on soil protection from erosion and degradation, dry winds, creation and restoration of forest belts, as well as plantations of desert fodder plants and pastures on forest lands in 2019-2023.

Fulfilling the Strategy of Structural Reforms for Uzbekistan for 2030 ("Vision-2030", which is a joint initiative with the World Bank, United Nations Development Programme and the Government of Uzbekistan) depends on addressing land degradation in the LADAB landscape. Securing the 14 KBAs within the LADAB landscape is a priority of the NBSAP and supports achievement of the Aichi targets. The project also contributes to Uzbekistan's INDC for climate change mitigation.

## 8. Knowledge Management

**Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.**

The PPG phase will develop a knowledge management plan for the project to make sure that it builds upon and learns from the very broad spectra of initiatives that have been under implementation in the region for the last 10+ years. The knowledge management plan will serve as a means for scaling results and impacts of the project, and ensure linkages with the ongoing initiatives in the field of relevance, to support collaboration, learning, and sharing and adoption of relevant lessons. The PPG experts will plan concrete FSP activities ensuring awareness raising, advocacy, experience sharing and replication.

The proposed project's work on expansion of the protected area estate will be based on the justifications prepared in 2011 for the Protected Areas Expansion Master Plan for short- and long-term perspectives which had been developed within the UNDP/GEF and the Government of Uzbekistan project entitled "Strengthening Sustainability of the National Protected Area System by Focusing on Strictly Protected Areas".

The project will build upon the extensive array of work on tugai forest protection accomplished within the UNDP/GEF project "Conservation of Tugai Forests and Strengthening of Protected Area System in the Amu Darya Delta of Karakalpakstan", 2005-2011. The proposed project will further strengthen the management capacities for the Lower Amu Darya State Biosphere Reserve that has been established with the direct support from the project, and use the experience and lessons learned from the re-vegetation of the dried-up Aral Sea Bed and restoration of existing forests along the Aral Sea shore that has been conducted in the framework of the project.

The proposed project will use the experience of the adaptation fund project "Developing climate resilience of farming communities in the drought prone parts of Uzbekistan" related to cooperative management arrangements for landscape-scale rehabilitation of degraded pastures, application of resilient farming practices. It will also use the results of the inventory of tested agronomic and water saving measures, and utilize the lessons learned from the compilation of climate-resilient agricultural and pastoral production systems on arid lands.

**Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)**

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

<b>Name</b>	<b>Position</b>	<b>Ministry</b>	<b>Date</b>
Mr. Jakhongir Talipov	GEF Operational Focal Point, Chief specialist of the State Committee for Ecology and Environmental Protection	State Committee for Ecology and Environmental Protection	9/30/2019

**ANNEX A: Project Map and Geographic Coordinates**

Please provide geo-referenced information and map where the project intervention takes place

Figure 1. Aral Sea Basin consisting of Amu Darya and Syr Darya Basins



Executive Committee, International Fund for saving the Aral Sea, 2010

Table 1. Administrative Districts of Uzbekistan within the LADAB landscape

	Region	District	Total area, ha	Agricultural land, ha	Irrigated agricultural land, ha
1	Karakalpakstan	Moynak	3,790,000	252,565	23,758
2	Karakalpakstan	Amudaryo	102,000	73,971	38,608
3	Karakalpakstan	Nukus	94,391	95,295	30,517
4	Karakalpakstan	Beruniy	390,000	139,233	32,225
5	Karakalpakstan	Chimbay	220,000	187,599	51,864
6	Karakalpakstan	Kegeyli	150,000	234,327	53,050
7	Bukhara Region	Alat	322,000	178,049	178,049
8	Bukhara Region	Karakul	984,000	358,143	358,143
9	Bukhara Region	Romitan	130,000	276,244	276,244
10	Khorezm Region	Gurlen	44,701	25,480	25,155
11	Khorezm Region	Xazorasp	206,230	26,237	26,050
<b>Total</b>			<b>6,433,322</b>	<b>1,847,143</b>	<b>1,093,663</b>

Figure 2. Targeted Lower Amu Darya and Aral basin landscape

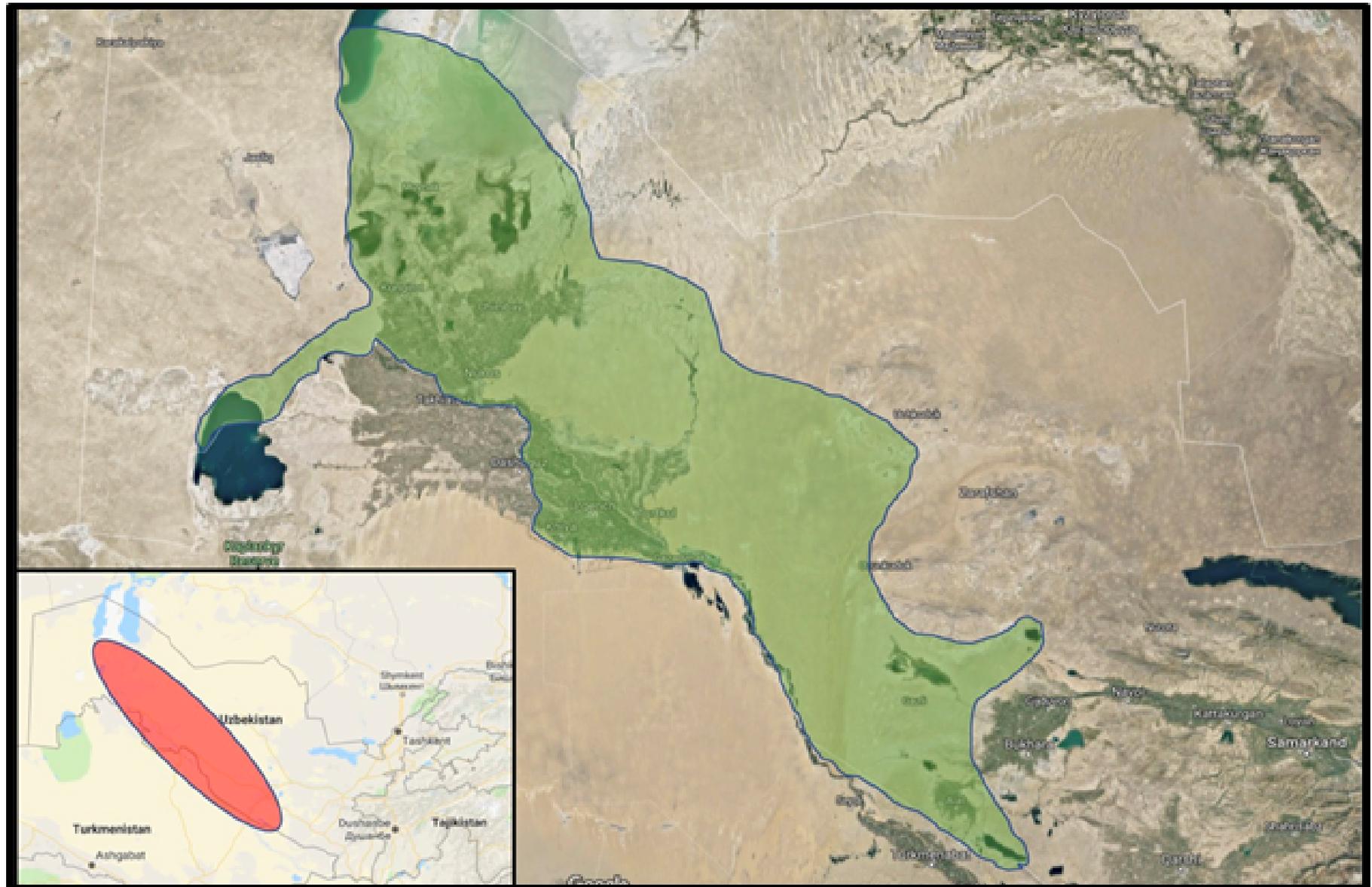
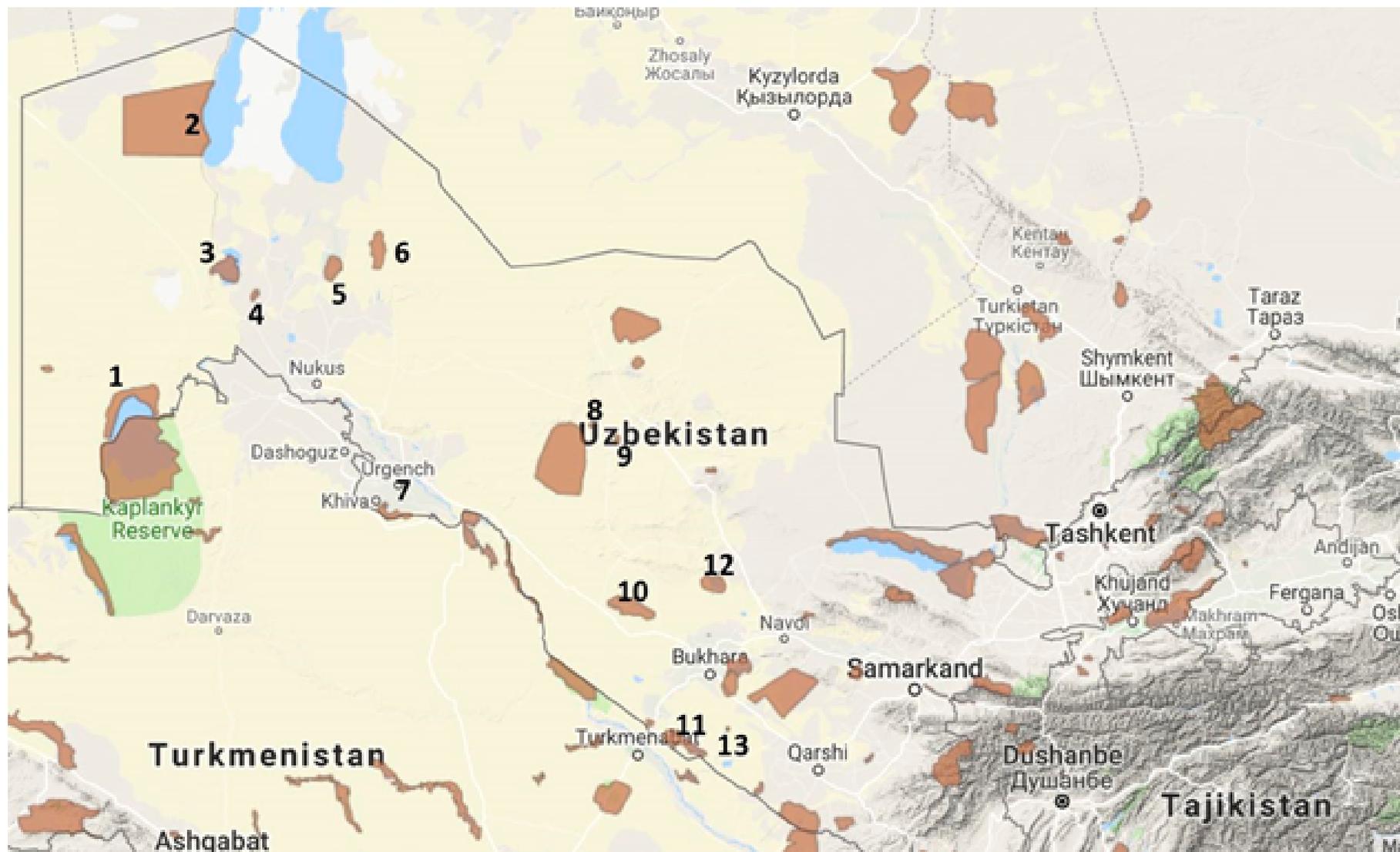


Table 2. Reference List of Lake, Wetland and Riparian Key Biodiversity Areas Targeted by the Project

Figure 3. Map of Key Biodiversity Areas Targeted by the Project (Source: World Database of Key Biodiversity Areas)



Number	KBA Name	Area (ha)	Latitude	Longitude
1	Sarykamys Lake and surrounding Ustyurt Plateau	95,974.00	42.2043	57.3475
2	Aral Sea coast and surrounding Ustyurt Plateau	511,028.00	44.7837	57.7770
3	Sudoche Lake	46,467.00	43.4828	58.5203
4	Mashankul and Khojakul Lake complex	5,070.00	43.2595	58.8622
5	Zholdyrbas Lake	29,723.00	43.4975	59.8175
6	Akpetky Lakes and surrounding Aralkum Desert	39,146.00	43.6537	60.3735
7	Khorezm Fish Farm and adjacent lakes	22,060.00	41.2720	60.5532
8	Aksay Lake and surrounding desert	2,033.00	42.0808	62.9995
9	Rogatoe Lake	3,861.00	41.9495	63.3150
10	Karakyr Lakes	64,242.00	40.3963	63.4863
11	Dengizkul Lake	49,658.00	39.1253	64.1113
12	Ayakaghytma Lake and surrounding desert	32,854.00	40.6143	64.5353
13	Zekry Lake	1,555.00	39.2505	64.6722

Table 3. Existing PAs and Riparian Corridors Targeted by the Project

Category (IUCN)	Number in the country	Total Area in the country	Within scope of proposed project
State Strict Reserves/zapovedniks (I)	8	208,919	Kyzylkum National Reserve (10,311 ha)
State Biosphere Reserve (I)	1	68,717.80	Lower Amu Darya State Biosphere Reserve (68,718 ha)
National Nature Parks (II)	2	598,700	None
Refuges/zakazniks (IV or VI)	12	1,525,754	Dengizkul (50,000 ha), Saigachiy (1,000,000 ha), Sudoche (50,000 ha)
Natural Nursery	3	17	none
Natural Monuments	7	3,381	none
<b>Sub-total</b>		<b>2,405,488</b>	<b>1,179,029</b>
Water protection zones and groundwater formation zones	>25	268,309	Water protection zones (43268,1 ha) and groundwater formation zones (8698,8 ha)
Forestry Management Enterprises (leskhozes)	73	4,855,100	Muynaksky leskhoz (1,150,887 ha), Karauzyaksky leskhoz (59,262 ha) and Takhtakupyrsky leskhoz (539,888 ha)
Forestry-hunting Enterprises	6	3,078,600	Kungradsky state forestry hunting enterprise (2,848,733ha) and Kazakhdariynsky state forestry hunting enterprise (1,192,749 ha)
<b>Sub-total</b>		<b>8,202,009</b>	<b>5,843,486</b>
<b>Total</b>		<b>10,607,497</b>	<b>7,022,515</b>

Table 4. Proposed Lake, Wetland, and Riparian PAs for Project Support

Proposed PAs	National Status	IUCN categories	IBA / KBA	Proposed area (ha)
South Ustyurt	Strictly protected nature reserve	Ia	UZ004 – Northern Assake-Audan; UZ050 – Sarykamys Lake and the adjacent plateau Ustyurt;	1,400,000
Central Kyzylkum	National park with two clusters	II	UZ005 – Kurkuduk settlement desert area (adjacent), UZ006 – Bukantau Ridge, UZ007 – Aksay Lake and surrounding desert area, UZ008 – Rogatoye Lake, UZ009 – Buzaubay Massiff (fragmentary)	1,100,000
Lakes system Sudoche	Refuge	IV	UZ002 – Sudoche Lake	84,700
Mejdurechye Akdarya-Kazakh darya"	Refuge	IV	Located between two IBAs: UZ03 – Zhyltyrbas Lake UZ 52 – Lake Complex Mashankul and Khojakul	22,200
Akpetki	Refuge	IV	UZ049 – Akpetkinskaya System of Lakes and adjusting Aralkum Desert	587,700
<b>Total</b>				<b>3,194,600</b>