# GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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## General Project Information

| Project Title | |
|---|---|
| Support to Chu-Talas Basin Strategic Action Programme Implementation | |
| **Region** | **GEF Project ID** |
| Europe and Central Asia | 12280 |
| **Country(ies)** | **Type of Project** |
| Regional<br>Kyrgyz Republic<br>Kazakhstan | FSP |
| **GEF Agency(ies):** | **GEF Agency ID** |
| UNDP | 6301 |
| **Executing Partner** | **Executing Partner Type** |
| Regional/national execution arrangements to be determined in PPG | Others |
| **GEF Focal Area (s)** | **Submission Date** |
| International Waters | 2/13/2026 |

**Project Sector (CCM Only)**

**Taxonomy**

Influencing models, Transform policy and regulatory environments, Private Sector, Stakeholders, Gender Mainstreaming, Gender Equality, Capacity, Knowledge and Research, Capacity Development, Knowledge Exchange, International Waters, Focal Areas, Strategic Action Plan Implementation, Learning, Information Dissemination, Type of Engagement, Convene multi-stakeholder alliances, Non-Governmental Organization, Civil Society, Pollution, Access to benefits and services, Gender results areas, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, SMEs, Individuals/Entrepreneurs, Beneficiaries, Local Communities, Academia, Consultation, Partnership, Participation, Communications, Awareness Raising, Knowledge Generation, Participation and leadership, Women groups, Sex-disaggregated indicators, Land Degradation, Sustainable Land Management, Restoration and Rehabilitation of Degraded Lands, Ecosystem Approach, Integrated and Cross-sectoral approach, Sustainable Livelihoods, Sustainable Agriculture, Sustainable Pasture Management, Improved Soil and Water Management Techniques, Freshwater, River Basin, Nutrient pollution from all sectors except wastewater, Climate resilience, Climate Change Adaptation, Climate Change, Climate information, Community-based adaptation, Livelihoods

| Type of Trust Fund | Project Duration (Months) |
|---|---|
| GET | 48 |
| **GEF Project Grant: (a)** | **GEF Project Non-Grant: (b)** |
| 5,785,500.00 | 0.00 |
| **Agency Fee(s) Grant: (c)** | **Agency Fee(s) Non-Grant (d)** |
| 549,622.00 | 0.00 |

| Total GEF Financing: (a+b+c+d) | Total Co-financing |
|---|---|
| 6,335,122.00 | 41,400,000.00 |
| PPG Amount: (e) | PPG Agency Fee(s): (f) |
| 150,000.00 | 14,250.00 |
| PPG total amount: (e+f) | Total GEF Resources: (a+b+c+d+e+f) |
| 164,250.00 | 6,499,372.00 |
| Project Tags | |
| CBIT: No NGI: No SGP: No Innovation: No Competitive Window: No | |

## Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B "project description".(max. 250 words, approximately 1/2 page)

1. The project will strengthen transboundary water security and climate resilience in Chu Talas shared river basins, which are strategically important to both Kazakhstan and the Kyrgyz Republic, as they underpin irrigated agriculture, rural livelihoods, and water security in a densely used transboundary basin that supports more than 3 million people. The project will do so by addressing three persistent barriers: (i) weak transboundary institutional mandate, coordination, monitoring, and operational capacity for basin-wide management; (ii) inadequate demonstration, uptake, and replication of practical measures to reduce irrigation losses and strengthen ecosystem resilience in priority hotspots; and (iii) fragmented and insufficiently bankable follow-on investments for scaling irrigation efficiency and wastewater/pollution reduction measures. The project responds to major transboundary threats identified in the basin, including chronic water scarcity driven by very high irrigation demand and high conveyance losses, deterioration of water quality from untreated or poorly treated municipal, industrial, and drainage discharges, degradation of riparian, floodplain, wetland, and upper-catchment ecosystems due to over-abstraction and poor land and water management, and increasing climate risks from hotter temperatures, greater runoff variability, droughts, floods, and glacier decline. These challenges were jointly assessed under earlier GEF support (2015-2018), which supported the two countries, through a participatory binational process under the Chu-Talas Water Commission (CTWC), to develop a Transboundary Diagnostic Analysis (TDA), approved by the CTWC in 2016, and a Strategic Action Programme (SAP), accepted by the CTWC 2018. Based on the TDA, the SAP set out the shared priority actions for the basin, including strengthening CTWC-led transboundary governance and its institutional basis, improving basin monitoring and data sharing, advancing climate adaptation, reducing irrigation losses and improving water-use efficiency, addressing water quality and pollution, restoring degraded ecosystems, and promoting coordinated follow-on action and investment. Following the two countries' joint approval of the SAP in 2023, this project is designed as the implementation support response to that jointly endorsed basin framework. To address these challenges and to support coordinated implementation of the SAP in the basin the project objective***—to strengthen transboundary water security and climate resilience in the Chu and Talas River Basins through coordinated implementation of the jointly endorsed Strategic Action Programme—***will be pursued through three mutually reinforcing strategies (Components 1-3 supported by Components 4 & 5): C 1 will strengthen Chu-Talas Water Commission (CTWC)-led governance, targeted diagnostics, harmonized basin monitoring, and updated legal/procedural arrangements; C 2 will implement a small number of practical hotspot demonstrations to reduce irrigation water losses and restore and protect riparian ecosystems to scale across the basins; and C 3, through a stakeholder dialogue process will prepare and mobilize bankable follow-on investment packages for irrigation modernization, canal efficiency, wastewater treatment, and pollution reduction beyond the GEF grant. C 4 will support knowledge management, communications, stakeholder learning, and IW:LEARN engagement; and C 5 will support participatory, gender-responsive monitoring, evaluation, and adaptive management. Expected results include: an operational CTWC-led SAP coordination and reporting mechanism; one targeted basin diagnostic update endorsed and used for implementation decisions; harmonized monitoring and joint basin reporting arrangements for water quantity, water quality, and ecosystem indicators; updated bilateral instruments and procedures aligned with the new Water Codes; two shared water ecosystems under improved cooperative management; 2,500 ha of land and ecosystems under restoration; 80,000 ha of landscapes under improved practices; an estimated 200,000 tCO2e in greenhouse gas emissions mitigated; preparation and mobilization of bankable follow-on investment packages for irrigation

modernization, canal efficiency, wastewater treatment, and pollution reduction; and direct benefits for 50,000 people, including women empowerment, supported by participatory, gender-responsive monitoring, evaluation, and knowledge management.

## Indicative Project Overview

### Project Objective

To strengthen transboundary water security and climate resilience in the Chu and Talas River Basins through coordinated implementation of the jointly endorsed Strategic Action Programme

### Project Components

#### Component 1: Strengthening transboundary governance and monitoring for SAP implementation

| Component Type | Trust Fund |
|---|---|
| Technical Assistance | GET |
| GEF Project Financing ($) | Co-financing ($) |
| 1,250,000.00 | 10,500,389.00 |

Outcome:

Outcome 1.
CTWC and the relevant national institutions have strong legal, institutional, and technical capacity to coordinate SAP implementation and use harmonized basin monitoring for joint decision-making.

Output:

1.1.A CTWC-led SAP coordination and reporting mechanism is operationalized, including agreed roles with gender responsive participation, annual work planning, and a simple results framework linking joint and national actions.

1.2.A targeted basin diagnostic update is completed, focusing only on priority transboundary issues for implementation, such as water losses, pollution hotspots, climate risks, environmental flows, and institutional gaps in a gender-responsive format.

1.3. Harmonized basin monitoring and joint basin reporting arrangements are established for water quantity, water quality, and key ecosystem indicators and gender-disaggregated data

1.4. Legal/procedural proposals (bilateral instruments and protocols) are prepared and proposed for approval and uptake to strengthen the CTWC mandate and align bilateral cooperation with the new Water Codes in Kyrgyzstan and Kazakhstan.

#### Component 2. Demonstrating priority measures to reduce irrigation losses and support ecosystem resilience

| Component Type | Trust Fund |
|---|---|
| Investment | GET |
| GEF Project Financing ($) | Co-financing ($) |
| 2,700,000.00 | 18,400,700.00 |

Outcome:

2. Priority demonstration measures show practical, replicable ways to reduce irrigation water losses and restore riparian ecosystems in the basin.

Output:

2.1. Priority hotspot sites are selected and designed for demonstration of irrigation conveyance and/or on-farm water-loss reduction, and women empowerment, based on transboundary relevance, feasibility, and replication potential, with 50% of demonstrations women-led.

2.2. Pilot measures are implemented to reduce water losses and improve water-use efficiency, and women empowerment with clear monitoring of water savings and implications for availability and environmental flows.

2.3. Targeted ecosystem-supporting measures considering women empowerment aspects are implemented in a few selected riparian or upper-catchment locations where they directly contribute to sediment reduction, bank stabilization, or flow regulation

## Component 3. Preparing follow-on investments for irrigation efficiency and wastewater pollution reduction

| Component Type | Trust Fund |
|---|---|
| Technical Assistance | GET |
| GEF Project Financing ($) | Co-financing ($) |
| 810,000.00 | 5,520,223.00 |

Outcome:

3. Governments and financing partners have bankable investment packages for scaling priority irrigation-efficiency and wastewater and pollution reduction measures beyond the GEF grant.

Output:

3.1. Priority irrigation modernization and canal-efficiency investments are screened, prepared through technical and gender inclusive economic analysis in selected basin hotspots

3.2. Priority wastewater and pollution reduction investments are screened, prepared through technical and gender inclusive economic analysis for selected municipal or other major pollution hotspots

3.3. Financing engagement packages, utilizing outputs 3.1 and 3.2, are prepared and used to mobilize follow-on public, IFI, and other financing for priority basin investments, demonstrating their environmental, water-security, gender, and climate-resilience benefits and channel finance to agreed basin priorities

## Component 4. Knowledge Management (KM) and communications

| Component Type | Trust Fund |
|---|---|
| Technical Assistance | GET |
| GEF Project Financing ($) | Co-financing ($) |
| 500,000.00 | 3,108,688.00 |

Outcome:

4. Effective and inclusive knowledge management and communications and lessons learning.

Output:

4.1. Knowledge products, communication materials, and learning packages are developed, updated, and disseminated for basin institutions, local stakeholders, practitioners, and financing partners, based on project results on governance, monitoring, demonstrations, ecosystem-supporting measures, gender, and investment preparation.

4.2 Two-way basin learning and stakeholder feedback mechanism is operationalized through exchanges, field learning events, technical dialogues, and communication channels that both disseminate project lessons and feed stakeholder experience and feedback back into project implementation.

4.3 IW:LEARN level and wider transboundary knowledge exchange contributions are delivered, including participation in IW:LEARN activities

## M&E

| Component Type | Trust Fund |
|---|---|

| | |
|---|---|
| Technical Assistance | GET |
| GEF Project Financing ($) | Co-financing ($) |
| 250,000.00 | 1,900,000.00 |

Outcome:

5. Effective and adaptive project management based on gender-inclusive M&E and lessons learning.

Output:

5.1. A gender-responsive project Monitoring and Evaluation System designed and operational

5.2. Annual binational review and grievance mechanism developed & implemented. PIRs completed and independent project evaluations conducted

## Component Balances

| Project Components | GEF Project Financing ($) | Co-financing ($) |
|---|---|---|
| Component 1: Strengthening transboundary governance and monitoring for SAP implementation | 1,250,000.00 | 10,500,389.00 |
| Component 2. Demonstrating priority measures to reduce irrigation losses and support ecosystem resilience | 2,700,000.00 | 18,400,700.00 |
| Component 3. Preparing follow-on investments for irrigation efficiency and wastewater pollution reduction | 810,000.00 | 5,520,223.00 |
| Component 4. Knowledge Management (KM) and communications | 500,000.00 | 3,108,688.00 |
| M&E | 250,000.00 | 1,900,000.00 |
| **Subtotal** | **5,510,000.00** | **39,430,000.00** |
| Project Management Cost | 275,500.00 | 1,970,000.00 |
| **Total Project Cost ($)** | **5,785,500.00** | **41,400,000.00** |

Please provide justification

## PROJECT OUTLINE

### A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

1. The Chu and Talas transboundary river basins are shared by the Kyrgyz Republic and Kazakhstan and are located in the northern Tien Shan and the eastern part of the Turan lowland. The Chu Basin covers about 62,500 km², of which 42.5% lies in the Kyrgyz Republic and 57.5% in Kazakhstan (UNECE, 2011; World Bank, 2024), while the Talas Basin covers about 52,700 km², of which 21.7% lies in the Kyrgyz Republic and 78.3% in Kazakhstan. (UNECE, 2011; FAO, 2020; World Bank, 2024). The Chu River is about 1,067 km long and the Talas River about 661 km long (UNECE, 2011; FAO, 2020; World Bank, 2024). Altitudinal gradients from high mountain headwaters to lowland plains create a wide range of ecosystems and landscapes, including alpine and mountain-steppe systems in the upper catchments and steppe, desert-steppe, and desert landscapes in downstream areas (FAO, 2020; UNEP, 2016). This geographic diversity gives the basin high ecological significance while also increasing the complexity of water governance, land use, and climate adaptation across the two countries[1][1]. (World Bank, 2024; UNECE, 2011).

2. The basins are of high socio-economic importance for both countries. They include major urban and economic centers such as Bishkek and Taraz and support a large and growing population in both upstream and downstream areas. The broader basin area is home to about 3 million people, with strong demographic concentration in Chu/Bishkek, Zhambyl, and Talas territories and continued population growth over time (World Bank, 2024; FAO, 2020) Agriculture is the dominant water-using sector and one of the main economic pillars in the basin, with irrigated farming underpinning rural livelihoods, food production, and local economies (FAO, 2020; World Bank, 2024). In the Kyrgyz Republic alone, irrigated land in the basin is estimated at about 330,000 ha in the Chu Basin and 115,000 ha in the Talas Basin, while irrigated land in Kazakhstan's Zhambyl oblast within the Chu and Talas basins totals about 173,000 ha (UNECE, 2011; FAO, 2020; World Bank, 2024). The basins also support industry, mining, municipal water supply, hydropower-related infrastructure, and ecosystem services that are essential for human well-being, biodiversity, tourism and regional economic stability (UNEP, 2016; World Bank, 2024).

3. At the same time, the Chu-Talas basin faces a set of interlinked and intensifying transboundary challenges. The Transboundary Diagnostic Analysis (2016) identifies three core problems: water scarcity, deterioration of water quality, and ecosystem degradation, with climate change acting as a cross-cutting risk multiplier. Water resources are already under heavy stress from very high irrigation demand: more than 95% of abstracted surface water is used for irrigation (FAO, 2020; UNECE, 2011; World Bank, 2024). Water losses during conveyance and use exceed 35%, and in some locations the problem is aggravated by deteriorated canals, outdated irrigation practices, inadequate drainage, and weak incentives for water saving. The result is a basin system in which water is often used close to maximum levels for production, while only marginal volumes remain for environmental flows, especially in the lower reach[2][2].(UNEP, 2016; UNECE, 2011; World Bank, 2024).

4. Water quality and ecosystem health are also under significant pressure from untreated or poorly treated municipal wastewater, industrial discharges, agricultural runoff, and weak monitoring systems. These pressures are particularly acute in the Chu Basin downstream of Bishkek, Tokmok, and Kara-Balta, and in parts of the Talas Basin downstream of Taraz (UNECE, 2011; UNEP, 2016). Long-term over-abstraction and pollution have contributed to degradation of floodplains, wetlands, riparian forests, and lower-reach ecosystems, with implications for biodiversity, land productivity, public health, and rural livelihoods. Climate change is expected to intensify these risks: under unfavorable scenarios total runoff could decline by about 25% in the Chu Basin and up to 40% in the Talas Basin over the coming decades (World Bank, 2024; UNECE, 2011). Without coordinated action, these trends could deepen water insecurity, worsen land degradation and desertification, increase health and economic losses, and heighten tensions over transboundary water allocation.

5. Given the transboundary character of the basin's water, land, and ecosystem processes, sustained joint action by Kazakhstan and the Kyrgyz Republic is required to implement the jointly endorsed SAP and maintain the environmental balance and long-term resilience of the Chu-Talas basin. Strengthened bilateral cooperation through CTWC coordinated planning, harmonized monitoring, data exchange, and joint basin reporting arrangements to improve water use efficiency, reduce pollution, and conserve key ecosystems will be critical to preventing further degradation of basin resources. Such cooperation is essential to avoid major

environmental deterioration, generate transboundary water security benefits, safeguard livelihoods and public health, and ensure sustainable socio-economic development across the basin.

**Brief analysis of key threats for Chu-Talas Basin**

6. *Water scarcity:* Water scarcity is one of the most serious transboundary threats in the Chu-Talas Basin because the basin's water resources are already used at very high levels, primarily for irrigation, while demand is expected to grow further. Between 2000 and 2013, annual water abstraction remained consistently high at more than 3.3 billion $m^3$ in Chu Province, about 0.8 billion $m^3$ in Talas Province, and about 2.2 billion $m^3$ in Zhambyl Province, with more than 92% of abstracted water used by economic sectors for irrigation and more than 95% of abstracted surface water used for irrigation (UNECE, 2011; FAO, 2020; World Bank, 2024). More recent basin data from Kyrgyzstan confirm that this pressure remains extremely high: in the Chu Basin, annual water abstraction is about 2.8 billion $m^3$, around 96% of annual water use is for irrigation, and 30–32% of abstracted water is lost, mainly through irrigation systems; in the Talas Basin, annual water abstraction is about 1.0 billion $m^3$, of which about 700 million $m^3$ is used, and about 99% of annual abstraction is for irrigation (Government of the Kyrgyz Republic, 2021–2024; FAO, 2020). Irrigation dependence is also reflected in land use: around 330,000 ha are irrigated in the Kyrgyz part of the Chu Basin, 115,000 ha in the Kyrgyz part of the Talas Basin, and about 173,000 ha in Kazakhstan's Zhambyl oblast within the Chu and Talas basins. In the Chu Basin, 55.1 thousand ha, or about 16% of irrigated land, were reported to be in unsatisfactory condition because of high groundwater levels and salinization, underscoring the severity of water management stress[3][3] (FAO, 2020; Government of the Kyrgyz Republic, 2021–2024).

7. *Deterioration of water quality:* Deterioration of water quality remains a major threat, particularly in the Chu Basin and in downstream reaches affected by urban wastewater, industrial discharges, drainage flows, and diffuse pollution from agriculture and settlements (UNEP, 2016; World Bank, 2024). The TDA (2016) remains the most complete transboundary diagnostic source and shows that several monitored water bodies were already classified as moderately polluted, while the Kara-Balta River reached Class 4 (polluted) and Lake Biylikol reached Class 5 (severely polluted), with sulfates in the Kara-Balta River reaching 5.8 times Maximum Permissible Concentration (MPC) and Biochemical Oxygen Demand (BOD) in Lake Biylikol reaching 37.1.(UNEP, 2016). More recent basin-level evidence from the Chu Basin confirms that water quality pressures remain significant: water supply relies mainly on groundwater, but 112 of 273 water intake sources in Chu oblast reportedly did not meet sanitary requirements; of 66 wastewater treatment facilities, 28 were not functioning, 23 were functioning satisfactorily, and 8 unsatisfactorily; and a number of district centers and urban-type settlements still lacked centralized sewerage and treatment facilities (Government of the Kyrgyz Republic, 2021–2024). The same basin plan notes that domestic wastewater is frequently discharged into drainage systems, terrain, and water bodies, contributing to both surface- and groundwater pollution. For the Talas Basin, the recent basin plan confirms that wastewater treatment is still absent or only partially carried out in parts of the basin (Government of the Kyrgyz Republic, 2021–2024). Together, these data indicate that the water quality threat remains acute and structurally under-addressed.[4][4]

8. *Ecosystem degradation* Ecosystem degradation remains widespread across the Chu-Talas Basin and is driven by over-abstraction of water, land degradation, overgrazing, poor drainage, soil salinization, wastewater pollution, and expansion of settlements and economic activity (UNEP, 2016; FAO, 2020; World Bank, 2024). The TDA (2016) remains the best basin-wide transboundary source and shows that degradation is occurring in upper catchments, middle reaches, and especially lower reaches, where lack of environmental flows has caused severe decline of wetlands, floodplains, riparian vegetation, and other ecosystems (UNEP, 2016). Recent basin planning evidence confirms that these pressures remain substantial. In the Chu Basin, 55.1 thousand ha of irrigated land, or 16% of the total irrigated area, were reported to be in unsatisfactory condition because of high groundwater and salinization (Government of the Kyrgyz Republic, 2021–2024). The same basin plan records continued population growth to 2,116.1 thousand people by the end of 2021, an increase of 166.2 thousand people (8.6%) since 2017, alongside ongoing industrial expansion, both of which intensify pressure on land, water, and ecosystems. In the Talas Basin, the recent basin plan identifies pasture degradation, soil salinization due to poor drainage and flooding, continued growth of water-intensive agriculture, and insufficient wastewater treatment as current basin problems.(Government of the Kyrgyz Republic, 2021–2024; FAO, 2020).These

recent data support the conclusion that ecosystem degradation remains an active, landscape-scale threat rather than a legacy issue[5][5].

9. *Climate change:* Climate change remains a cross-cutting threat that will intensify water scarcity, water quality deterioration, and ecosystem degradation across the Chu-Talas Basin. The TDA (2016) already indicate potentially large reductions in runoff over coming decades, and more recent Kyrgyz basin planning documents provide updated quantified projections (UNEP, 2016; Government of the Kyrgyz Republic, 2022–2023). For both the Chu and Talas basins, projected climate change for 2021–2050 indicates an increase in average annual air temperature of about 1.5–1.9°C relative to the 1981–2010 baseline, with the largest summer warming expected at about 1.7–2.2°C. The Chu basin plan further notes that observed warming in the Chu Valley over 1930–2009 already reached 1.8°C at Chuskaya, 2.0°C at Bishkek, and 2.3°C at Tokmak, and concludes that glaciers in the basin may gradually degrade and could be completely depleted by 2100 under projected climate change (Government of the Kyrgyz Republic, 2022–2023; World Bank, 2024). The Talas basin plan similarly states that glaciers in the Talas basin may be completely depleted by 2100, while the area of semi-deserts in Talas oblast could increase by 1.4 to 1.6 times under unfavorable scenarios (Government of the Kyrgyz Republic, 2022–2023). The Talas basin plan also expects increased frequency of mudflows, floods, and mountain lake outburst-related emergencies, indicating that climate change will affect not only water availability but also disaster risk and basin resilience more broadly[6][6].


Figure 1: Geography of the Chu and TALAS basins

**Future scenarios for Chu-Talas Basin**

10. Based on the analysis of situation in the transboundary Chu-Talas Basin the following four simple future scenarios were considered for this GEF project (**GEF design guidance** -STAP, 2023)[7]:

11. Scenario *1. Managed pressure /gradual adjustment (estimated probability: 35%):* From 2027 to 2037, the most plausible future is one of continued economic and population growth, but with only partial water-sector modernization. Growth in Kazakhstan and Kyrgyzstan remains positive, agriculture stays central to the basin economy, and demand for irrigation water keeps rising as urban populations, food demand, and higher-value production expand. At the same time, the two countries continue implementing parts of their 2022-2030 action plans, especially automation, pilot water-saving technologies, limited rehabilitation of irrigation systems, and selected water-quality improvements, but not at a scale sufficient to offset basin-wide pressure. Climate change does not produce a single catastrophic break, but rather a sequence of hotter summers, more frequent dry years, and higher seasonal volatility. The result is a basin that remains functional but increasingly stressed: summer allocation tensions grow, downstream ecosystems continue to deteriorate, and local water-quality problems persist, yet institutional cooperation is strong enough to prevent major interstate disruption.

12. *Scenario 2. Growth without efficiency / worsening water competition (estimated probability: 30%):* In this future, economic growth and population growth remain strong, but environmental investment and reform lag behind rising demand. Irrigated agriculture expands or intensifies faster than water productivity improves, while municipal and industrial demand also rises in and around Bishkek, Chu, Taraz, and other growth centers. Because the basin documents already show high conveyance losses, weak water accounting in parts of the system, and heavy dependence on irrigation, even moderate warming translates into sharper shortages during the vegetation period. Water quality worsens in middle and lower reaches because lower river flows reduce dilution, while untreated or poorly treated municipal and drainage flows continue entering the system. Ecosystem degradation accelerates in the lower reaches, where environmental flows remain insufficient. Cooperation continues formally through the Chu-Talas Water Commission, but the operational atmosphere becomes more defensive and annual negotiations more difficult.

13. *Scenario 3. Climate shock decade / reactive basin management (estimated probability: 20%):* Between 2027 and 2037, the basin could experience a more severe climate trajectory characterized by clusters of drought years alternating with floods, mudflows, and unusually unstable seasonal runoff. Economic growth slows intermittently because agriculture, infrastructure, and local budgets are repeatedly hit by shocks, but population still grows, meaning pressure on water and public services continues despite weaker fiscal capacity. In this scenario, both countries become more reactive than strategic: resources are diverted to emergency repairs, flood protection, reservoir operations, and disaster response, while long-term ecosystem restoration, wastewater investments, and basin planning are delayed. Water allocation disputes become sharper in dry years, not necessarily because cooperation fails, but because the hydrological base becomes less predictable. It is less likely than Scenario 1, but still substantial, because the basin documents and World Bank climate sources both indicate rising climate volatility, glacier-related runoff changes, and increasing disaster risks across Central Asia.

14. *Scenario 4. Cooperative resilience transition / basin modernization gains traction (estimated probability: 15%):* This is the optimistic but still plausible scenario. Economic growth remains positive through 2027-2037, population continues to rise, but both countries respond by scaling up joint monitoring, automation, environmental flow planning, wastewater treatment investment, and irrigation efficiency measures rather than allowing demand growth to dominate. The Chu-Talas Water Commission gradually expands from a narrow allocation platform into a stronger coordination mechanism for climate adaptation, joint data exchange, environmental monitoring, and practical basin planning. Water-saving technologies move beyond pilots, some collector-drainage and municipal treatment problems are reduced, and ecosystem restoration in selected floodplain and wetland areas begins to show results. Climate change still reduces the margin of safety, but improved management slows the deterioration of water quantity, water quality, and ecosystems enough to keep the basin in relative balance. This is assigned the lowest probability not because it is unrealistic, but because it requires sustained finance, political commitment, and institutional follow-through well beyond what is typically achieved under current regional constraints.

15. To address the basin's core threats and remain effective across all four plausible 2027-2037 scenarios, the Chu-Talas basin needs a robust, no-regrets, transboundary integrated water resources management approach that combines demand management, climate adaptation, ecosystem restoration, and stronger bilateral governance. In practice, this means prioritizing measures that perform

well whether growth is moderate or rapid and whether climate impacts are gradual or severe: reducing irrigation losses through rehabilitation, automation, and water-saving technologies; introducing basin-wide water accounting and seasonal planning; protecting and restoring floodplains, wetlands, and upper-catchment landscapes to strengthen natural water regulation; improving wastewater and drainage management to prevent further water-quality decline; and strengthening the Chu-Talas Water Commission's role in joint monitoring, data exchange, climate-risk assessment, and coordinated decision-making.

**Baseline programs in transboundary Chu-Talas Basin to address environmental and climate threats**

16. The core intergovernmental mechanism in Chu-Talas Basin is the *Kazakhstan–Kyrgyz Republic Agreement on the Use of Water Management Facilities of Intergovernmental Status on the Chu and Talas Rivers* (signed in 2000; in force since 2002), implemented through the *Chu-Talas Water Management Commission (CTWC)* established in 2006. The CTWC remains the main bilateral mechanism for annual water allocation, operation and maintenance planning for interstate infrastructure, and increasingly for broader discussion of water quality, dam safety, and climate adaptation. A major recent milestone was reached through the development of the *Strategic Action Programme (SAP) for 2022–2030* for the basin. The SAP was developed based on the TDA with six strategic objectives such as water quality and quantity, ecosystems conservation, climate change, bilateral cooperation and monitoring in the framework of the *UNDP/GEF/UNECE project "Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River Basins".* The nominated experts from water, environment, hydromet, emergency, agriculture, energy, foreign and other relevant ministries and agencies as well as local and water management authorities, water users associations, academia, experts and civil society organizations from both countries were elaborating SAP within *the Working Group on Adaptation to Climate Change and Long-term Action Programmes* under the CTWC in 2017-2021. In particular, local and water management authorities as well as water users associations represented small farmers and were in touch with them regarding SAP development.

17. History of the Chu-Talas Commission is described below:

> The Chu-Talas Commission (officially the Commission of the Republic of Kazakhstan and the Kyrgyz Republic on the Use of Water Management Facilities of Intergovernmental Status on the Rivers Chu and Talas) is a bilateral, transboundary water management body in Central Asia, inaugurated in July 2006 to manage shared water resources between Kazakhstan and Kyrgyzstan in the two rivers Chu and Talas.
>
> Following the collapse of the Soviet Union, management of jointly used water infrastructure (dams, reservoirs, canals) on the transboundary Chu and Talas rivers in the two new sovereign countries became problematic. While the rivers originate in Kyrgyzstan, the water also supplies agricultural areas in southern Kazakhstan, necessitating joint infrastructure management. In January 2000, Kazakhstan and Kyrgyzstan signed an Agreement on the Use of Water Facilities of Intergovernmental Status, agreeing to share operating and maintenance costs proportional to the water received. As a result of the Agreement, Kazakhstan pays for a portion of the maintenance of infrastructure located within Kyrgyzstan. Article 5 of the Agreement mandated the creation of a permanent commission.
>
> The Commission operates through a secretariat and expert working groups, meeting at least twice yearly to allocate water for growing seasons and plan maintenance for facilities like the Kirov and Orto-Tokoy reservoirs.
>
> It is a strength of the Commission that the shared funding of the jointly used water infrastructure is usually resolved positively, and that it serves as an important platform to discuss water scarcity during dry years in particular. It has been possible to widen the range of discussions on issues such as water quality, dam safety and adaptation to climate change in working groups. However, decision-making in these areas remains limited and needs to be strengthened for the effective implementation of the SAP, as achieving its objectives requires integrated, cross-sectoral and evidence-based decisions that go beyond infrastructure operation and water allocation to include coordinated management of water quality, ecosystems, and climate risks at the basin scale.

18. The SAP is divided into Joint Action Programme and two national action plans. The reason for such a division was to collect all joint/transboundary measures under the Joint Action Programme (corresponding to the mandate of the Commission and its joint bodies) covering such areas as water quantity, water quality, ecosystem conservation, climate change and disasters, monitoring and cooperation whereas measures to be implemented only in one of the countries became part of the relevant national plans (in such areas as infrastructure, water quantity, water quality and ecosystem conservation).

19. The SAP aims to assist the countries in developing long-term strategic actions at both levels to achieve six jointly formulated goals that address the need to enhance the socio-economic and ecosystem resilience of the Chu and Talas river basins. SAP includes

the vision by 2040 as the following: *Establish an effective transboundary cooperation that would result in the conservation and sustainable use of water, land, and other natural resources, as well as the introduction of measures to adapt to climate change, ensure public health, economic well-being, and ecosystem resilience in the Chu and Talas River basins.* More information on the SAP is provided below in the dedicated Figure 2.

20. The SAP was approved on December 22, 2023 by the two countries through a joint statement signed by the Co-Chairs of the Chu-Talas Water Commission (see Figure 2 below). The joint statement clearly indicates that SAP includes the Joint Action Programme and two national action plans for the Chu-Talas basin and confirms the commitment of both countries and the Chu-Talas Commission itself to implement these documents. The joint statement emphasizes that the realization of the afore-mentioned documents will create conditions for effective and mutually beneficial use of water resources and water management facilities of intergovernmental status; socially, economically, and environmentally sustainable development within the Chu and Talas River basins; as well as mobilising international expertise and additional resources. The joint statement also explains the process of SAP development and approval.

21. TThe CTWC held its 35$^{th}$ and 36$^{th}$ meetings in Astana and Bishkek in April and September 2025, respectively, where it reviewed rehabilitated infrastructure, adopted updated water-allocation protocols, and acknowledged the importance of monitoring SAP implementation, demonstrating that the SAP remains active and that the CTWC continues to play a central role in basin governance.


Figure 2. Strategic Action Programme for Chu-Talas River Basin

22. On the **Kazakhstan** side, the baseline framework has strengthened significantly since 2020 through sector reform, infrastructure planning, and large public investment. At the national level, the Government approved the *Concept of the Water Resources Management Program for 2020–2030* in January 2020, and then the *Concept for Development of the Water Resources Management*

*System for 2024–2030* in February 2024 (Government of Kazakhstan, 2020; Government of Kazakhstan, 2024). The 2024 concept includes construction of 20 new reservoirs, reconstruction of 15 reservoirs, modernization of more than 14,000 km of irrigation canals, and digitalization of more than 3,500 km of canals; it aims by 2030 to raise irrigated area to 2.5 million ha and increase available water resources by 2.4 km³, in part by reducing conveyance losses from 50% to 25% (Government of Kazakhstan, 2024). In parallel, Kazakhstan established the *Ministry of Water Resources and Irrigation* as the lead national authority for water policy and basin management. On water services, Kazakhstan reported that by the end of 2023 access to water supply had reached 98.9% in cities and 96.6% in rural areas, and that 218 billion tenge was allocated in 2024 for water supply and sewerage development projects nationwide, with the goal of reaching 99.5% urban and 97.8% rural coverage by the end of 2025 (Government of Kazakhstan, 2024; Government of Kazakhstan, 2023). While these are national figures rather than Chu-Talas only, they form the public-investment baseline that includes Zhambyl oblast and the Kazakhstan's part of the basin[8][8].

23. On the **Kyrgyz Republic** side, the main baseline combines sectoral investment programs with basin planning and institutional strengthening under the *National Water Resources Management Project (NWRMP)* and its additional financing. The World Bank-supported NWRMP was designed to strengthen national water management capacity, irrigation service delivery, and implementation of the Water Code, and the water sector in Kyrgyzstan entered a new phase in 2022 with a US$100 million financing package for the water sector (World Bank, 2013; Government of the Kyrgyz Republic, 2022–2023). Through the official basin planning process under NWRMP, the Chu Basin Plan reports that 55.1 thousand ha of irrigated land in the basin were in unsatisfactory condition because of high groundwater and salinization, and states that by 2026 five irrigation objects are planned in the Chu basin to bring 3,200 ha of new irrigated land into operation and improve water availability on 3,073 ha of existing irrigated land (Government of the Kyrgyz Republic, 2022–2023). The same planning framework also foresees rehabilitation or construction of drinking water systems in Bishkek, Karabalta, Kant, and Tokmok and wastewater disposal systems in 27 settlements plus social institutions in 50 villages across the country. In addition, the basin-planning process has included creation of 30 public water management councils, training of Water Resources Service staff, and expanded use of digital tools and geospatial analysis for basin management (Government of the Kyrgyz Republic, 2022–2023; World Bank, 2013)[9][9].

24. A second major baseline layer is the adoption of *national action plans for the Chu and Talas basins for 2022–2030* as part of SAP in both countries. Each national action plan includes measures to be implemented only in one of the countries in such areas as infrastructure, water quantity, water quality and ecosystem conservation. In Kazakhstan, as referred in the joint statement on SAP approval, the plan was approved in June 2021 by a joint order of the Ministry of Ecology, Geology, and Natural Resources (No. 223-P dated 16 September 2020), the Ministry of Agriculture, (No. 300 dated 30 September 2020), the Ministry of Emergency Situations (No. 5 dated 2 October 2020), the Ministry of Industry and Infrastructure Development (No. 1 dated 13 April 2021), and the Akimat of Zhambyl Oblast (No. 143-P dated 8 June 2021). This plan assigns implementation responsibilities to the ministries responsible for agriculture, ecology, emergencies, and infrastructure, together with the Akimat of Zhambyl region (Government of Kazakhstan, 2021). It includes quantified actions such as at least 40 water-management facilities equipped with automated systems, at least 10,000 ha covered by improved irrigation and water-saving technologies, at least 2 feasibility studies for wastewater treatment plant rehabilitation or construction, at least 20 significant sites identified for ecosystem restoration, and at least 500 ha of ecosystems and pastures restored through pilot projects (Government of Kazakhstan, 2021).[10][10] In Kyrgyzstan, as referred in the joint statement on SAP approval, the plan was approved in October 2022 by a joint order of the Ministry of Agriculture (No. 358-пи dated 24 October 2022), the Ministry of Natural Resources, Ecology, and Technical Supervision (No. 230-п dated 24 October 2022), the Ministry of Emergency Situations (No. 1289 dated 24 October 2022), the Plenipotentiary Representative of the President of the Kyrgyz Republic in Chu Oblast (No. 02-6a-581 dated 24 October 2022), and the Plenipotentiary Representative of the President of the Kyrgyz Republic in Talas Oblast (No. 1713146 dated 24 October 2022). The plan includes targets such as a 15% increase by 2030 in the share of irrigated land using water saving technologies, at least 30 cases of concessional lending for water-saving technologies, at least 40 facilities equipped with water distribution, accounting, and monitoring systems, more than 50 km of improved water-protection strips in and around Bishkek, and at least 2,000 ha restored through pilot afforestation, floodplain, and pasture rehabilitation projects (Government of the Kyrgyz Republic, 2022). These plans are important because they translate the transboundary SAP into specific country measures, budgets, and responsible institutions. It was necessary to approve these national action plans by both countries before SAP endorsement by the Co-Chairs of the Chu-Talas Commission to ensure that the national

documents which SAP consists of are approved by a joint order of the relevant government agencies of both countries in accordance with the national procedures.

25. International donor funded cooperation has also built a substantial basin-specific baseline since 2010. UNECE's *"Promoting Cooperation to Adapt to Climate Change in the Chu and Talas Transboundary Basin"* and "*Enhancing climate resilience and adaptive capacity in the transboundary Chu-Talas basin"* projects ran under the leadership of the secretariat of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) from 2010 to 2014 and from 2015 to 2018 accordingly and supported climate projections, adaptation dialogue, and pilot measures such as floodplain forest restoration, training on water-efficiency measures for irrigation, and support to the Kirov dam safety monitoring system (UNECE, 2014; UNECE, 2018). The later project was implemented in close cooperation with the *UNDP/GEF/UNECE project "Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River Basins" (2015–2018)*, a roughly US$1 million effort that delivered the basin Transboundary Diagnostic Analysis (TDA), helped establish the CTWC *Working Groups on Environment and on Climate Change Adaptation and Long-Term Action Programmes*, strengthened monitoring and data exchange, and led to the development of the basin SAP 2022-2030 (UNECE, 2014; UNECE, 2018). After 2018, UNECE and OSCE continued supporting joint monitoring and CTWC working groups, and UNDP support funded by the Stockholm International Water Institute helped finalize the SAP package in 2020 (UNECE, 2021; UN-Water, 2024). These donor initiatives have created policy, analytical, and institutional baseline on which the proposed GEF project is now building[11][11].

26. Finally, the basin also benefits from broader International Financial Institution (IFI) and donor investments in irrigation, water supply, and sanitation that are not exclusively transboundary but directly reduce environmental and climate pressures in the basin. Investments include approximately US$83 million for the Taraz wastewater treatment plant in Kazakhstan, irrigation rehabilitation serving 15,172 ha in the Chu and Talas basin area of Kazakhstan, and roughly US$100 million in agricultural-development investments in Zhambyl oblast as part of the Kazakhstan baseline (Government of Kazakhstan, 2024; World Bank, 2024). On the Kyrgyz side, the investments include about US$41 million under the *Chu Province water supply and sanitation program for 2020–2026* and about US$44 million from the *State Irrigation Development Program (2020–2027)* covering the Chu and Talas basins. At the national level, a new World Bank-supported *Universal Access to Water Supply and Sanitation Program* approved in 2025 adds another US$121 million from the International Development Association (IDA), co-financed by US$50 million from the Asian Infrastructure Investment Bank (AIIB)**,** US$20 million from the OPEC Fund, US$9 million from the Swiss Agency for Development and Cooperation (SDC), and US$3.75 million from AIIB grant financing; its first phase is expected to benefit more than 450,000 people in 126 villages and small towns, including in Chu region (World Bank, 2025), and is part of a broader US$400 million multi-phase national program[12][12]Together, these investments form a substantial implementation baseline for irrigation efficiency, wastewater management, drinking water access, and climate resilience in the basin.

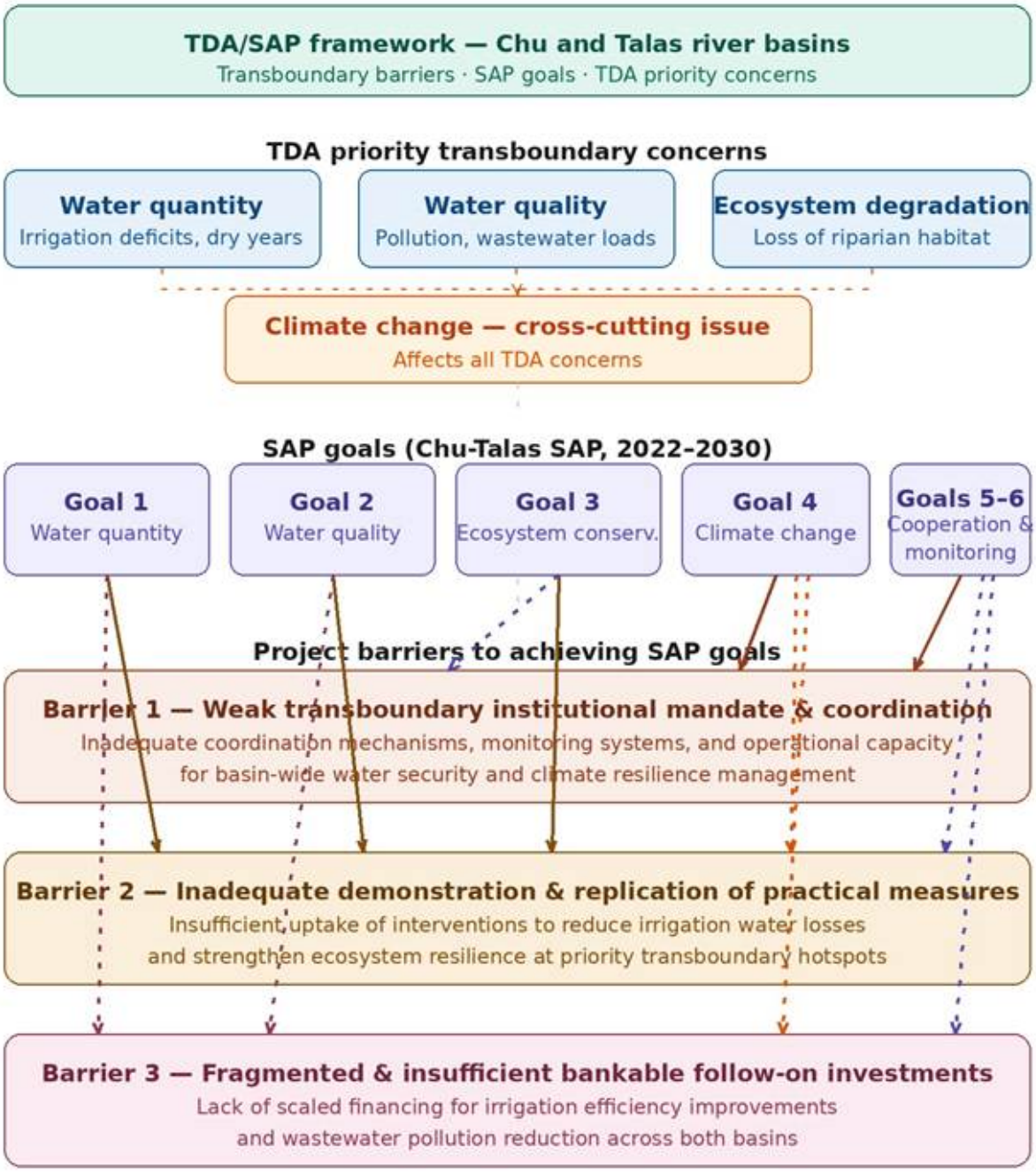


Figure 3: DA–SAP framework for the Chu and Talas River Basins: links between transboundary concerns, SAP goals, and key barriers to implementation

**Barriers for effective transboundary water security and climate resilience management in the Chu and Talas River Basins**

The three barriers presented below are derived from the SAP development process and the underlying TDA-based analytical and consultative work carried out by the two countries through the CTWC and its working groups. They synthesize the main institutional, technical, and financing constraints identified during SAP preparation and explain why, despite SAP endorsement, additional support is still required to enable coordinated implementation in the Chu and Talas River Basins.

27. **Barrier 1.** *Weak transboundary institutional mandate, coordination and monitoring mechanisms, and operational capacities for basin-wide water security and climate resilience management*

Despite the existence of the Chu-Talas Water Management Commission (CTWC) since 2006, the transboundary institutional framework remains too narrow and operationally limited to manage the full set of basin-wide water security and climate resilience challenges (UNECE, 2021; UNECE, 2025). The underlying bilateral arrangement continues to focus primarily on annual water allocation, operation, and cost-sharing for a limited number of interstate hydraulic facilities, while broader functions required for modern transboundary basin management, such as coordinated climate adaptation, environmental flow management, water quality control, ecosystem resilience planning, and joint investment prioritization, are still not fully embedded in the CTWC mandate and procedures *(UNECE, 2014; UNECE, 2021) This gap persists even though the two countries established the Working Group on Climate Change Adaptation and Long-Term Action Programmes*, approved the Strategic Action Programme (SAP) for 2022–2030 on December 22, 2023, and the Commission remained active through at least its 35th and 36th meetings in Astana and Bishkek on April 24–25 and 26 September, 2025, where the parties again focused on seasonal water allocation and infrastructure maintenance as well as acknowledged the importance of the monitoring of SAP implementation (UNECE, 2021; UN-Water, 2024) In practice, this means that the core transboundary mechanism remains stronger in operational water sharing than in integrated, climate-resilient basin governance [13]13.

28. This institutional limitation is reinforced by an incomplete transition to updated basin governance arrangements in both countries. The 2000 agreement and CTWC statutes provide only limited authority beyond regular sessions and interstate facility management, while broader environmental cooperation arrangements have weakened over time (UNECE, 2021). At the same time, both countries are reforming their national water governance systems: Kazakhstan's new Water Code entered into force in 2025, introducing concepts such as water security and ecological flow (The Astana Times, 2025), while Kyrgyzstan's new Water Code was adopted in 2025 and is expected to enter into force in 2026 also incorporates ecological flow requirements and broader provisions for ensuring sustainable and secure water supply and environmental protection. These reforms create an important opportunity, but also a transition gap: bilateral procedures, technical roles, and coordination mechanisms have not yet been fully harmonized with the new legal frameworks. Broader regional dynamics, including ongoing efforts to align water–energy exchanges and cooperation frameworks in Central Asia, further underscore the need for strengthened and formalized transboundary coordination mechanisms (Rivers.Help, 2025). The result is that the basin still lacks a sufficiently empowered and technically equipped joint mechanism for coordinated monitoring, shared analytics, climate-risk-informed planning, and implementation oversight across water quantity, water quality, and ecosystem management[14]14.

29. **Barrier 2.** *Inadequate demonstration, uptake, and replication of practical measures to reduce irrigation water losses and strengthen ecosystem resilience at priority transboundary hotspots*

Despite ongoing national investments, the Chu-Talas Basin still lacks a sufficient portfolio of field-tested, transboundary-relevant demonstration models showing how irrigation loss reduction and ecosystem-supporting measures can jointly improve water security and climate resilience. Recent basin data from Kyrgyzstan show that the pressure remains very high: in the Chu Basin, about 96% of annual water use is for irrigation and 30–32% of abstracted water is lost, mainly from irrigation systems; in the Talas Basin, about 99% of annual water abstraction is used for irrigation (Government of the Kyrgyz Republic, 2021–2024). At the same time, in the Chu Basin 55.1 thousand ha of irrigated land (about 16% of the total irrigated area) are reported to be in unsatisfactory condition because of high groundwater levels and salinization, illustrating the continuing effects of inefficient irrigation, poor drainage, and weak land and water management. These figures confirm that, although the problem is well recognized, practical uptake of improved irrigation practices and integrated water–ecosystem measures remain too limited relative to the scale of losses and land degradation in the basin[15]15.

30. Kazakhstan has also accelerated water-saving measures in recent years, but the available evidence suggests that replication at basin scale is still far from sufficient to address the transboundary hotspot problem. In Zhambyl Region, which contains the Kazakhstan part of the Chu-Talas Basin, water saving technologies had been introduced on 66.5 thousand ha by late 2025, including 19.3 thousand ha under sprinkler irrigation, 44.6 thousand ha under drip irrigation, and 2.6 thousand ha under laser land leveling. At the national level, Kazakhstan reported 397.3 thousand ha under modern irrigation technologies in 2024, yet also noted that

about 300 thousand ha of irrigated land annually remain undersupplied with water because of excessive losses in irrigation systems, and the country still aims to reduce unproductive conveyance losses from 50% to 25% by 2030 (Prime Minister of the Republic of Kazakhstan, 2025). These data indicate that while technology adoption is advancing, practical demonstration and scaled replication remain uneven and insufficient in relation to the continuing magnitude of irrigation inefficiency, downstream water stress, and degraded ecosystem functions. In the Chu-Talas context, this means that priority hotspot measures capable of producing visible, measurable, and replicable water-saving and ecosystem-resilience results are still not being implemented at the scale needed to shift basin practice[16][16].

31. What remains missing in the basin is a sufficient portfolio of demonstrated, monitored, and replicable modern irrigation-efficiency measures and ecosystem restoration approaches that can measurably reduce water losses, strengthen ecosystem functions, and build confidence for wider uptake at priority transboundary hotspots.

*32.* **Barrier 3.** *Fragmented and insufficient bankable follow-on investments for scaling irrigation efficiency and wastewater pollution reduction*

Despite substantial baseline financing in the water sector, the Chu-Talas Basin still lacks a sufficiently developed pipeline of bankable, transboundary-relevant follow-on investments for irrigation efficiency and wastewater pollution reduction. Existing public and donor financing is concentrated mainly in national and subnational infrastructure programs, including large allocations for irrigation rehabilitation, water supply and sanitation, and wastewater treatment (World Bank, 2024; UNECE, 2021). However, these investments do not yet constitute a coherent pipeline of jointly prioritized, technically prepared, and financially packaged interventions that directly target the basin's most critical transboundary hotspots for water loss reduction, wastewater treatment, reuse, and pollution control.

33. What is still missing is the technical, economic, and financial preparation needed to convert priority basin needs into investment-ready packages that can attract and sequence larger-scale follow-on financing. Many of the basin's priority measures still lack robust prefeasibility work, cost-benefit analysis, prioritization against transboundary criteria, and financing engagement packages that demonstrate clear water security, climate resilience, and environmental returns (UN-Water, 2024). This gap is particularly important for wastewater and pollution reduction, where aging or non-functional treatment systems, diffuse pollution from irrigation and settlements, and limited reuse solutions continue to affect water quality, but where investment concepts are not yet sufficiently developed for rapid financing and implementation. As a result, even though important water-sector financing already exists, it remains fragmented, predominantly national in orientation, and insufficiently structured to scale integrated irrigation efficiency and pollution reduction measures across the transboundary basin (World Bank, 2024; UNECE, 2023). The project is therefore needed to bridge the gap between ongoing sector investments and a credible, bankable pipeline of follow-on actions that can be financed and replicated at scale[17][17].

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## B. PROJECT DESCRIPTION

### Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

**B.1. Project Description**

**Project Theory of Change**

1. The project Theory of Change is well suited to cope with all four possible future scenarios because it combines institutional strengthening, practical demonstrations, and investment preparation rather than relying on a single assumption about basin conditions. Under *Scenario 1 (managed pressure/gradual adjustment),* the project can help the basin move from partial and uneven action to more coordinated SAP implementation through the CTWC-led coordination mechanism, targeted diagnostic updates, harmonized monitoring, and a few practical hotspot demonstrations that improve water efficiency and ecosystem resilience. Under *Scenario 2 (growth without efficiency/worsening competition)*, the project directly addresses the highest risk weaknesses—poor coordination, high irrigation losses, weak hotspot management, and insufficient follow-on investment preparation—thereby helping both countries reduce pressure before tensions intensify further. Under *Scenario 3 (climate shock decade/reactive management)*, Component 1 improves the basin's capacity for evidence-based and coordinated decision-making under hydrological uncertainty, while Component 2 generates tested measures that can protect water availability and ecosystem functions under stress, and Components 4 and 5 enable adaptive management as conditions change. Under *Scenario 4 (cooperative resilience transition/basin modernization gains traction)*, the project serves as a catalyst that accelerates this more optimistic pathway by strengthening the CTWC, proving workable measures on the ground, and preparing bankable packages that can leverage larger government and IFI financing. In short, the project is robust across all four scenarios because it is designed not only to respond to current barriers, but also to create the institutional, technical, and financial conditions needed for the basin to remain functional and resilient under both moderate and severe future pressures.

2. **Key assumptions:** both governments remain committed to SAP implementation and bilateral cooperation through CTWC; that relevant institutions continue to participate in data sharing, joint review, and coordinated planning; that selected hotspot measures are technically feasible and institutionally supported; and that follow-on financing partners remain willing to engage on priority investment packages prepared under the project.

3. The Theory of Change is based on the premise that if the Governments of Kyrgyzstan and Kazakhstan apply and strengthen a shared scientific, technical, and socio-institutional understanding of transboundary water, ecosystem, and climate risks in the Chu–Talas basin through a targeted implementation-oriented diagnostic update and coordinated implementation of the jointly endorsed Strategic Action Programme (SAP) , supported by a strengthened, inclusive and functional institutional framework (building on and strengthening the existing Chu–Talas Water Commission); and if early, demonstrative stress-reduction measures are showcased for basin-wide replication, and a prioritized, bankable investment portfolio is developed and mobilized to display tangible benefits of cooperation; then durable transboundary water governance will be reinforced, enabling coordinated, climate-resilient and sustainable management of shared water and associated ecosystems in the Chu–Talas basin, and ensuring the delivery of sustained Global Environmental Benefits. Reinforcing transboundary water governance will be also supported by the regional and national level execution of the project (Agencies TBD at PPG). Based on the situation analysis in the Project Rationale section above, the following GEF project is being proposed to address the three Barriers for effective transboundary water security and climate resilience management in the Chu and Talas River Basins (the project **Theory of Change** is depicted in Figure 4 and described below):

4. The *Project Objective* is to strengthen transboundary water security and climate resilience in the Chu and Talas River Basins through coordinated implementation of the jointly endorsed Strategic Action Programme.

5. The Project Objective will be achieved through five mutually reinforcing project strategies (Components) designed to address the key barriers to effective transboundary water security and climate resilience management in the Chu and Talas River Basins and to deliver the intended outcomes in a systematic and catalytic manner. The proposed approach builds on the priorities identified in the TDA, SAP, and national action plans of Kazakhstan and Kyrgyz Republic, as well as on lessons from earlier GEF, UNECE, UNDP, and other partner-supported cooperation in the basin, to ensure that the project responds to the most critical institutional, technical, and investment gaps that still remain.

6. Six lessons are particularly important for the project design. First, durable cooperation in the Chu–Talas Basin is best strengthened by incrementally building the existing CTWC rather than creating a new institution. Second, broad strategic

frameworks such as the TDA and SAP are only effective when translated into prioritized, implementation-oriented action. Third, compatible monitoring, data exchange, and joint reporting are not technical add-ons, but essential foundations for trust, informed decision-making, and long-term basin cooperation. Fourth, in politically sensitive basins, a small number of visible and well-monitored pilot measures is more effective than a diffuse and fragmented portfolio of demonstrations. Fifth, structured stakeholder participation improves the legitimacy, ownership, and long-term uptake of basin measures. Sixth, where large public and IFI programmes already exist, a GEF project adds greatest value when it acts as a catalyst and bridge by de-risking cooperation, demonstrating workable solutions, and preparing credible pipelines for follow-on investment. These lessons draw in particular on earlier Chu–Talas cooperation under UNECE, UNDP, and GEF support, as well as on comparable practice from other transboundary basin commissions, and are reflected directly in the five mutually reinforcing components described below.

7. The five components are designed to work in synergy:

*Component 1:* Strengthening transboundary governance and monitoring for SAP implementation

*Component 2:* Demonstrating priority measures to reduce irrigation losses and support ecosystem resilience

*Component 3:* Preparing follow-on investments for irrigation efficiency and wastewater pollution reduction

*Component 4:* Knowledge Management (KM) and Communications

C*omponent 5:* Monitoring and Evaluation (M&E)

8. Thus, **Component 1** is designed to remove **Barrier 1:** *Weak transboundary institutional mandate, coordination and monitoring mechanisms, and operational capacities for basin-wide water security and climate resilience management* and achieve **Outcome 1**: *CTWC and the relevant national institutions have strong legal, institutional, and technical capacity to coordinate SAP implementation and use harmonized basin monitoring for joint decision-making*. Outcome 1 is expected to be achieved through delivery of four project **Outputs** (direct project products and services):

**Output 1.1.** A CTWC-led SAP coordination and reporting mechanism is operationalized, including agreed roles with gender responsive participation, annual work planning, and a simple results framework linking joint and national actions

**Output 1.2.** A targeted basin diagnostic update is completed, focusing only on priority transboundary issues for implementation, such as water losses, pollution hotspots, climate risks, environmental flows, and institutional gaps in a gender-responsive format

**Output 1.3.** Harmonized basin monitoring and joint basin reporting arrangements are established for water quantity, water quality, and key ecosystem indicators and gender-disaggregated data

**Output 1.4.** Legal/procedural proposals (bilateral instruments and protocols) are prepared and proposed for approval and uptake to strengthen the CTWC mandate and align bilateral cooperation with the new Water Codes in Kyrgyzstan and Kazakhstan.

9. Outcome 1 will be achieved by putting in place the core governance, analytical, technical, and procedural elements needed for effective SAP implementation: a CTWC-led coordination and reporting mechanism with agreed roles and annual work planning; analysis of national legislation to identify barriers and develop recommendations for improving the regulatory framework governing the collective management of irrigation and drainage networks by land users themselves; an implementation-focused diagnostic update on priority basin issues; improved compatibility and practical use of monitoring and basin reporting; and a stronger bilateral legal and procedural basis for a broader and more effective CTWC mandate aligned with the new Water Codes in both countries. Together, these measures will enable the CTWC and relevant national institutions to move from largely fragmented and issue-specific cooperation toward more coordinated, evidence-based, and implementation-oriented basin management. This Outcome assumes that both governments remain committed to the SAP and to strengthening bilateral cooperation through the CTWC, that relevant institutions in both countries are willing to participate in agreed coordination, and that the ongoing water governance reforms in Kazakhstan and the Kyrgyz Republic create an enabling environment for updating bilateral procedures and expanding practical cooperation. This Outcome is based on the **GEF Lever 1 – Governance and Policy** and **GEF Lever 3 – Multi-Stakeholder Dialog.**

10. **Component 2** will target the **Barrier 2:** *Inadequate demonstration, uptake, and replication of practical measures to reduce irrigation water losses and strengthen ecosystem resilience at priority transboundary hotspots* and lead to the **Outcome 2**: *Priority demonstration measures show practical, replicable ways to reduce irrigation water losses and restore riparian ecosystems in the basin*through delivery of the following Outputs:

**Output 2.1.** *Priority hotspot sites are selected and designed for demonstration of irrigation conveyance and/or on-farm water-loss reduction, and women empowerment, based on transboundary relevance, feasibility, and replication potential, with 50% of demonstrations women-led*;

**Output 2.2.** *Pilot measures are implemented to reduce water losses and improve water-use efficiency, and women empowerment with clear monitoring of water savings and implications for availability and environmental flows*;

**Output 2.3.** *Targeted ecosystem-supporting measures considering women empowerment aspects are implemented in a few selected riparian or upper-catchment locations where they directly contribute to sediment reduction, bank stabilization, or flow regulation*

11. Outcome 2 is based on the logic that carefully selected and well-designed hotspot demonstrations can provide practical proof that reducing irrigation conveyance and on-farm water losses, together with targeted ecosystem-supporting measures, can generate measurable benefits for water security, downstream availability, and ecosystem resilience in the basin. By combining site selection based on transboundary relevance and replication potential with implementation and monitoring of pilot measures, the project will generate evidence, lessons, and confidence needed for wider uptake through national programs and future investments. This outcome assumes that the selected sites are technically suitable and institutionally supported, that water users and local stakeholders are willing to adopt and maintain the demonstrated measures, and that the pilots are able to show sufficiently clear and credible results on water savings and ecosystem-related benefits to justify replication and scale-up. Outcome 2 is based on **GEF Lever 3 – Multi-Stakeholder Dialog** and **GEF Lever 4 – Innovation and Learning.**

12. **Component 3** addresses **Barrier 3:** *Fragmented and insufficient bankable follow-on investments for scaling irrigation efficiency and wastewater pollution reduction* and is expected to achieve the **Outcome 3:** *Governments and financing partners have bankable investment packages for scaling priority irrigation-efficiency and wastewater and pollution reduction measures beyond the GEF grant.* Outcome 3 will be achieved through delivery of the following Outputs:

**Output 3.1.** Priority irrigation modernization and canal-efficiency investments are screened, prepared through through technical and gender inclusive economic analysis in selected basin hotspots

**Output 3.2.** Priority wastewater and pollution reduction investments are screened, prepared through technical and gender inclusive economic analysis for selected municipal or other major pollution hotspots

**Output 3.3.** Financing engagement packages, utilizing outputs 3.1 and 3.2, are prepared and used to mobilize follow-on public, IFI, and other financing for priority basin investments, demonstrating their environmental, water security, and climate resilience benefits and channel finance to agreed basin priorities.

13. Outcome 3 is based on the logic that the GEF grant cannot finance the scale of irrigation modernization, canal rehabilitation, wastewater treatment, and pollution reduction needed in the basin, but it can play a catalytic role by converting priority needs into technically screened, economically justified, and finance-ready investment packages. By preparing prefeasibility-level irrigation and wastewater investment packages and translating them into targeted financing engagement materials, the project will help governments and financing partners move from general investment intentions toward concrete follow-on financing and support of priority projects for the most important basin hotspots. This outcome assumes that governments and financing partners remain interested in scaling priority water-sector investments in the basin, that the prepared packages are of sufficient technical and economic quality to enter financing discussions and investment pipelines, and that the environmental, water-security, and climate-resilience benefits of the proposed investments are strong enough to support follow-on public, IFI, and other co-financing. Outcome 3 is based on **GEF Lever 2 – Financial Leverage** and **GEF Lever 3 – Multi-Stakeholder Dialog.**

***Component 4*** supports implementation of Component 1-3 and expected to achieve the technical **Outcome 4**: *Effective and inclusive knowledge management, communications and lessons learning* through implementation of:

**Output 4.1.** Knowledge products, communication materials, and learning packages are developed, updated, and disseminated for basin institutions, local stakeholders, practitioners, and financing partners, based on project results on governance, monitoring, demonstrations, ecosystem-supporting measures, gender, and investment preparation;

**Output 4.2.** Two-way basin learning and stakeholder feedback mechanism is operationalized through exchanges, field learning events, technical dialogues, and communication channels that both disseminate project lessons and feed stakeholder experience and feedback back into project implementation.

**Output 4.3.** IW:LEARN level and wider transboundary knowledge exchange contributions are delivered, including participation in IW:LEARN activities.

14. Outcome 4 is based on the logic that effective delivery of a multi-country, multi-component project in a complex transboundary basin requires a practical system for collecting and disseminating knowledge, incorporating stakeholder feedback, and capturing lessons throughout implementation. By establishing and implementing a participatory and gender-inclusive knowledge management system, the project will generate the information needed for timely decision-making and systematic learning across all outputs and components. Outcome 4 is based on **GEF Lever 3 – Multi-Stakeholder Dialogue** and **GEF Lever 4 – Innovation and Learning.**

15. ***Component 5*** supports implementation of Component 1-4 and expected to monitor and assess the technical components for progress and delivery through **Outcome 5:** *Effective and adaptive project management based on gender-inclusive M&E and lessons learning* through implementation of:

**Output 5.1** A gender-responsive project Monitoring and Evaluation System designed and operational

**Output 5.2** Annual binational review and grievance mechanism developed & implemented. PIRs completed and independent project evaluations conducted

16. Outcome 5 focuses on delivering management information to track the performance of the project and identify problems early enabling any necessary corrective adaptive management actions are taken to ensure the project delivers the expected results. This outcome assumes that participating institutions and stakeholders are willing to contribute to regular monitoring, review, and learning processes, that relevant data can be collected and used in a timely manner, and that project management has the capacity and flexibility to apply lessons learned, including from the Midterm Review and Terminal Evaluation, to improve implementation and strengthen results during the life of the project.

17. The achievement of the Project Objective—to strengthen transboundary water security and climate resilience in the Chu and Talas River Basins through coordinated implementation of the jointly endorsed Strategic Action Programme—will be driven by the successful delivery of the five project Outcomes described above. Together, these outcomes will strengthen transboundary cooperation and CTWC capacities, generate practical and replicable solutions for reducing irrigation water losses and supporting ecosystem resilience, mobilize follow-on investments for priority basin measures, and ensure adaptive project management through participatory and gender-inclusive monitoring, evaluation, and learning, thereby contributing to more coordinated, resilient, and sustainable basin management.

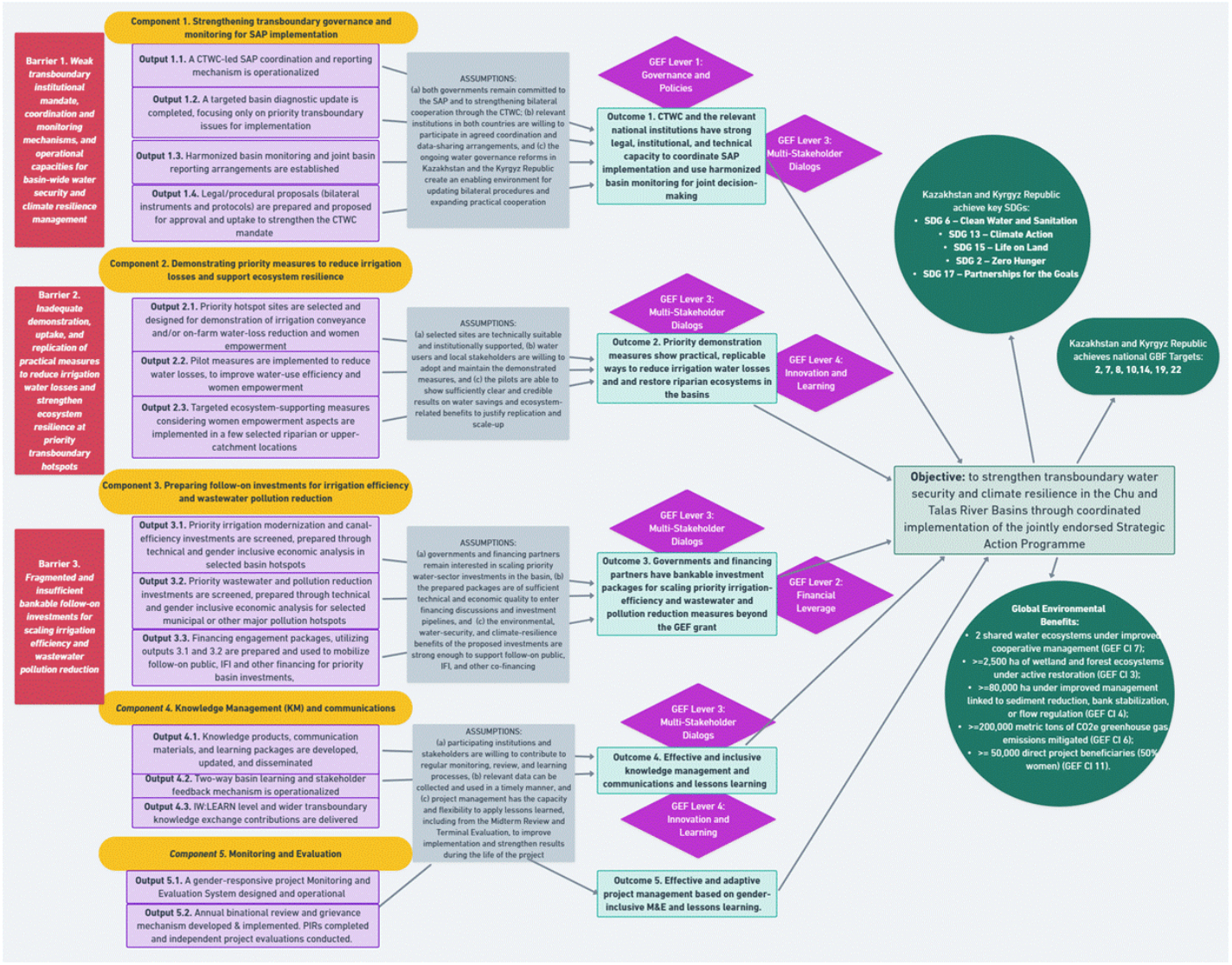


Figure 4: Theory of change

**Incremental Cost Reasoning**

18. *Business-as-Usual scenario* in the Chu and Talas River Basins: Kazakhstan and the Kyrgyz Republic will continue to implement national water-sector reforms, national action plans, and substantial public and IFI-financed investments in irrigation, water supply, sanitation, and wastewater infrastructure, while the CTWC will continue to perform its existing functions related mainly to water allocation, operation, and maintenance of interstate facilities. This baseline is significant, but it remains largely nationally programmed, sector-driven, and only partially coordinated at basin scale. Without GEF support, the basin is expected to continue facing high irrigation losses, weakly harmonized monitoring and reporting, insufficient attention to environmental flows and ecosystem functions, incomplete adaptation of bilateral arrangements to the new Water Codes, and a lack of sufficiently demonstrated and investment-ready transboundary measures for reducing water losses and pollution in the most critical hotspots. In such a scenario, important national benefits may continue to accrue from ongoing investments, but the broader transboundary water-security, ecosystem, and climate-resilience challenges identified in the TDA and SAP would remain only partially addressed.

19. *Incremental cost reasoning (GEF additionality):* The GEF increment consists of the additional actions needed to generate global environmental benefits and transboundary water-security benefits that the baseline alone will not deliver. Specifically, the project will add: (a) a CTWC-led coordination and reporting mechanism and updated bilateral procedures that strengthen the practical basis for SAP implementation across both countries; (b) a targeted basin diagnostic update and harmonized basin monitoring and reporting arrangements for water quantity, water quality, and key ecosystem indicators; (c) a small number of strategically selected hotspot demonstrations that show how irrigation loss reduction and ecosystem-supporting measures can produce measurable basin benefits; and (d) finance-ready follow-on investment packages for scaling irrigation-efficiency and wastewater/pollution-reduction measures beyond the GEF grant. These are new and additional actions because they are focused on overcoming transboundary

barriers, generating replicable evidence, and preparing integrated basin-scale responses that are not financed or organized through the current baseline. In line with the GEF guidance, the project therefore does not duplicate national infrastructure programs; rather, it provides the additional governance, technical, demonstration, and catalytic financing functions needed to move from fragmented baseline activity to coordinated SAP implementation and scaled basin impact.

20. The incremental value of the GEF grant is particularly strong in three areas. First, under Component 1, the GEF increment creates the enabling conditions for coordinated transboundary implementation that the baseline does not yet provide, including CTWC-centered working arrangements, compatible monitoring/reporting arrangements, and legal/procedural proposals aligned with the new Water Codes. Second, under Component 2, the GEF finances a limited number of practical demonstrations in priority hotspots to prove measurable reductions in irrigation losses and improvements in ecosystem-related water security—results that are essential for replication but are not being generated systematically under the baseline. Third, under Component 3, the GEF plays a catalytic role by converting priority needs into bankable irrigation and wastewater/pollution investment packages and financing engagement materials, thereby helping governments and partners move from broad investment intentions to concrete follow-on action in the basin. This incremental package is proportionate to the project's scale: the GEF grant of USD 5,785,500 is not intended to finance major basin infrastructure directly, but to unlock and improve the effectiveness of the much larger investments estimated at least USD 40 million by ensuring that existing and future investments better address shared water losses, pollution hotspots, ecosystem pressures, and climate risks. By covering these incremental costs, the GEF enables a project design that achieves both national development outcomes and global environmental benefits (described below), whereas without GEF the latter would be largely unachieved.

21. *Global Environmental Benefits (GEBs):* The project directly targets global environmental benefits through strengthened transboundary water cooperation, improved freshwater ecosystem management, reduction of water losses and pollution pressures, and enhanced climate resilience in the Chu and Talas River Basins.

22. The project components and GEBs indicators include:

*i) Working Group on Climate Change Adaptation and Long-Term Action Programmes strengthened at CTWC Secretariat with clear institutional roles and responsibilities formally endorsed, an annual joint work-planning and reporting cycle applied each year;*

*ii) 1 targeted basin diagnostic update is completed, endorsed by the CTWC, and used as a decision-support tool for SAP implementation;*

*iii) an agreed set of harmonized parameters, reporting formats, and data exchange procedures at CTWC for basin-level review of water quantity, water quality, and selected ecosystem indicators;*

*iv) updated bilateral instruments, protocols, and procedures formally approved by the relevant authorities to strengthen the CTWC's implementation;*

*v) 2 shared water ecosystems under improved cooperative management (GEF CI 7)*

*vi) - >= 15–20% average reduction in water losses at 3-4 pilot sites;*

*vii) ->=3 million $m^3$/year annual water savings demonstrated from pilot measures;*

*viii) ->=2,500 ha of wetland and forest ecosystems under active restoration (GEF CI 3);*

*ix) ->=80,000 ha under improved management linked to sediment reduction, bank stabilization, or flow regulation (GEF CI 4);*

*x) >=200,000 tCO2e greenhouse gas emissions mitigated (GEF CI 6);*

*xi) ->= 50,000 direct project beneficiaries (50% women) (GEF CI 11)*

*xii) ->=at least 6 bankable investment packages (US$100 mln total) are prepared and endorsed for follow-on financing;*

*xiii) ->=at least US$50 million in follow-on financing mobilized (formally advanced, committed, or under active consideration)*

*xiv) ->= 3 priority wastewater and pollution reduction investment projects formally initiated through government, IFI, or partner financing processes*

*xv) Number of publications, workshops and conference (active) participation e.g. project level presentations.*

*xvi) - >=Satisfactory project rating by annual independent Quality Assurance, MTR, and TE*

**Expected Co-Benefits of the project**

23. In line with the STAP guidance[1][18], the project is expected to generate both *prerequisite co-benefits* that are necessary to achieve durable global environmental benefits and wider *incidental co-benefits* that demonstrate the broader value of the investment. The most important *prerequisite co-benefits* for the Chu-Talas Basin project are institutional and socioeconomic: strengthened cooperation between Kazakhstan and the Kyrgyz Republic through the CTWC; improved trust and transparency through compatible monitoring and joint reporting; stronger stakeholder participation in basin decision-making; better technical capacity of national and local institutions; and practical livelihood and water-security benefits for farmers, water users, and communities in pilot areas through reduced irrigation losses, more reliable water availability, and lower exposure to water-related risks. These co-benefits are not incidental add-ons; they are part of the project's causal logic and are essential for ensuring that improved shared freshwater management, reduced water losses, and strengthened ecosystem resilience can be sustained over time. They are also closely linked to the GEF levers used by the project, especially governance and policy, multi-stakeholder dialogue, innovation and learning, and financial leverage.

24. The project is also expected to generate wider *incidental co-benefits* that, while not the primary target of the investment, will add important development value and strengthen the long-term case for follow-on financing. These include improved livelihood stability and reduced economic losses for irrigators through more efficient water use; reduced public health risks associated with pollution and inadequate wastewater management; stronger climate resilience of water-dependent communities, infrastructure, and ecosystems; improved local environmental conditions in selected riparian, floodplain, and upper-catchment areas; and better conditions for future public and IFI investment through stronger planning, clearer evidence of benefits, and more credible pipelines of bankable interventions. Following STAP recommendations, the project will treat co-benefits differently according to their function: prerequisite co-benefits will be incorporated directly into project design, monitoring, evaluation, and learning, while incidental co-benefits will be documented where feasible using existing indicators and evidence so as to demonstrate the wider return on GEF support without distracting from delivery of the project's core global environmental and transboundary water-security benefits.

**Project Outputs (direct project products and services)**

Brief description of the project Outputs is provided below. For each output, the relevant SAP Goals, Tasks, and actions are indicated below to show explicitly how the project supports implementation of the Joint Action Programme and the associated national action plans.:

**Component 1:** Strengthening transboundary governance and monitoring for SAP implementation

**Outcome 1.** CTWC and the relevant national institutions have strong legal, institutional, and technical capacity to coordinate SAP implementation and use harmonized basin monitoring for joint decision-making

25. **Output 1.1.** A CTWC-led SAP coordination and reporting mechanism is operationalized, including agreed roles with gender responsive participation, annual work planning, and a simple results framework linking joint and national actions.

This output will operationalize the Chu-Talas Water Commission (CTWC) as the central platform for coordinated implementation of the Strategic Action Programme (SAP) and for aligning the Joint Action Programme with the two national action plans for 2022–2030. Building on the SAP priority to renew and expand the *Working Group on Climate Change Adaptation and Long-Term Action Programmes* under the CTWC Secretariat, establish *a subgroup for monitoring implementation progress*, and ensure inclusive

participation and consideration of gender equality as well as regular joint and national coordination meetings, the project will support the CTWC to define clear institutional roles, responsibilities, and reporting lines for the Secretariat, working groups, and relevant national institutions in both countries. The output will help the CTWC introduce an annual cycle of joint work planning, implementation review, and basin-level reporting, supported by a simple results framework with process, stress-reduction, and environmental indicators that links joint transboundary actions with corresponding national measures and enables mutual accountability. In line with the SAP and national action plans, this mechanism will provide the practical basis for regular coordination of priority actions on water quantity, water quality, ecosystem resilience, climate adaptation, cooperation, and monitoring, while also strengthening the Commission's role beyond seasonal water allocation toward more integrated and results-oriented transboundary basin management. The Commission will also benefit from the capacity building activities of the Water Convention (e.g. thematic workshops, guidances and knowledge products) through UNECE. Gender will be mainstreamed under this output by ensuring that the CTWC-led coordination and reporting mechanism includes gender-balanced representation and sex-disaggregated participation and results tracking, and that annual work planning, consultation, and review processes systematically assess and reflect the different priorities, roles, and benefits for women and men in transboundary basin governance and SAP implementation. This output corresponds to *Goal 5 on Cooperation. Capacity Building for Transboundary Cooperation to Ensure Effective Management* of the Chu and Talas River Basins of the Joint Action Programme of SAP. In particular, the output 1.1 refers to the *Task 5.1 Ensure the implementation of the joint action programme and mutual coordination with the implementation of the national action plans for the Chu and Talas river basins* covering such actions as 5.1.1 (renewal and expansion of the *Working Group on Climate Change Adaptation and Long-Term Action Programmes* and establishing *a subgroup for monitoring implementation progress*, 5.1.2 (regular activities of the CTWC) and 5.1.3 (a plan to coordinate Joint Action Programme and national action plans).

26. **Output 1.2.** A targeted basin diagnostic update is completed, focusing only on priority transboundary issues for implementation, such as water losses, pollution hotspots, climate risks, environmental flows, and institutional gaps in a gender-responsive format.

This output will deliver a focused, implementation-oriented update of the basin diagnostic that builds on the existing Transboundary Diagnostic Analysis (TDA) and the SAP, but narrows the assessment to the most decision-critical issues for near-term SAP implementation. In line with TDA findings and SAP priorities, the update will concentrate on five areas: (a) irrigation water losses in key conveyance and on-farm systems, especially where inefficient infrastructure and practices reduce downstream availability; (b) major water quality and pollution hotspots, including municipal wastewater, drainage flows, and selected industrial and agricultural sources; (c) climate risks affecting runoff variability, drought, extreme events, and long-term basin resilience; (d) the status, needs, and feasible application of environmental flows to reduce degradation in lower reaches and support water-dependent ecosystems; and (e) institutional, gender and legal gaps that still constrain coordinated transboundary management under the CTWC and the two national systems. Unlike the original TDA, which provided a broad baseline assessment of basin conditions, this targeted update will be designed as a practical decision-support tool for prioritizing measures, selecting demonstration hotspots, informing legal and procedural improvements, and preparing bankable follow-on actions under the SAP, with results structured for direct use by the CTWC, its working groups, and relevant national institutions in Kazakhstan and the Kyrgyz Republic. Gender will be mainstreamed under this output by ensuring that the targeted diagnostic update applies gender-responsive data collection and analysis, including sex-disaggregated information and stakeholder consultations where relevant, so that identified priorities, risks, institutional gaps, and recommended implementation measures reflect the distinct roles, constraints, and benefits for women and men in water governance and use, ecosystem management, and transboundary decision-making. This output corresponds to *Goal 5 on Cooperation. Capacity Building for Transboundary Cooperation to Ensure Effective Management of the Chu and Talas River Basins* of the Joint Action Programme of SAP. In particular, the output 1.2 refers to the *Task 5.3 To ensure the enhancement of the institutional and technical capacity of the CTWC and its working bodies* and namely to the *action 5.3.1 Updating the TDA taking into account the needs of strengthening the institutional and technical capacity of the working bodies of the CTWC and bilateral cooperation based on the best world practices of transboundary cooperation in river basins.*

27. **Output 1.3.** Harmonized basin monitoring and joint basin reporting arrangements are established for water quantity, water quality, and key ecosystem indicators and gender-disaggregated data

This output will strengthen compatible basin-wide monitoring and reporting arrangements between Kazakhstan and the Kyrgyz Republic by building on the SAP priorities for modernization of the hydrological network, harmonization of water quality methods, improvement of data management, and regular joint reporting through the CTWC and its working groups. The project will support the two countries to agree on a practical set of selected common parameters, priority observation points, reporting formats, and procedures for exchanging and jointly reviewing information on river flow, water abstraction and distribution, water quality, and selected ecosystem indicators relevant to environmental flows and basin condition. To address priority gaps identified in the TDA and SAP, the output will also provide targeted equipment and technical support

for both countries, such as, for example, upgrading selected gauging and water-accounting points, selected water quality sampling and laboratory equipment, data processing tools, and basic ICT solutions needed for compatible data handling and basin reporting. The resulting system will not replace national monitoring systems, but will make them more interoperable and decision-relevant for the basin by enabling regular preparation of shared basin bulletins and agreed by countries summaries for the CTWC on water quantity, water quality, and ecosystem conditions, thereby improving the technical basis for seasonal planning, hotspot prioritization, and longer-term climate-resilient water management. The Commission will also benefit from twinning exercise with another and more advanced Commission in another basin on certain aspects of monitoring with the support of the IW:LEARN program as well as from technical guidance and relevant thematic capacity building under the Water Convention through UNECE. Gender will be mainstreamed under this output by ensuring that harmonized monitoring and reporting arrangements include sex-disaggregated participation in relevant technical processes and use gender-responsive analysis and communication of basin information, so that monitoring priorities, data interpretation, and reporting products better reflect the different water, health, livelihood, and ecosystem-related risks and information needs of women and men. This output corresponds to *Goal 6: Monitoring. Ensuring comprehensive monitoring of the quantity and quality of surface waters, hydrometeorological indicators, distribution of water resources between states, and the state of ecosystems* of the Joint Action Programme of SAP. In particular, the output 1.3 refers to the *Tasks 6.1 Ensure the modernization of the hydrological monitoring network of the Chu and Talas river basins* and *Task 6.3 To harmonize the methods and practices of monitoring the quality of surface waters, laboratory measurements for them, including equipping the laboratories*. Decisions on concrete actions will be taken during PPG.

28. **Output 1.4.** Legal/procedural proposals (bilateral instruments and protocols) are prepared and proposed for approval and uptake to strengthen the CTWC mandate and align bilateral cooperation with the new Water Codes in Kyrgyzstan and Kazakhstan

This output will support the preparation for endorsement of practical bilateral legal and procedural proposals needed to update cooperation under the Chu-Talas Water Commission (CTWC) in line with SAP priorities, TDA recommendations, and the ongoing water governance reforms in both countries. Building on the SAP priority to develop and agree a protocol on amendments and additions to the 2000 Agreement, including expansion of the list of interstate water management facilities and clarification of the status and financing of the Joint Secretariat, the project will help the two countries review the current bilateral framework and prepare a focused package of amendments, protocols, and operating procedures that broaden the CTWC's functional scope beyond annual water allocation and infrastructure maintenance. In line with the TDA and SAP, these proposals will address issues such as roles of the CTWC and its working bodies, procedures for coordinated basin planning and reporting, data exchange and review arrangements, consideration of environmental flows, and the alignment of bilateral cooperation tools with the principles and institutional architecture introduced by the new Water Codes in Kazakhstan and Kyrgyzstan. The output will thus provide an agreed procedural and legal basis for a more effective, implementation-oriented CTWC mandate, while remaining practical and politically feasible within the existing intergovernmental cooperation framework. Gender will be mainstreamed under this output by ensuring that the review and drafting of bilateral legal and procedural proposals are informed by gender-responsive consultation and analysis, so that the strengthened CTWC mandate, operating procedures, and cooperation instruments reflect gender equality, inclusive participation, representation, and benefits for women and men in transboundary water governance and implementation. This output corresponds to *Goal 5 on Cooperation. Capacity Building for Transboundary Cooperation to Ensure Effective Management of the Chu and Talas River Basins* of the Joint Action Programme of SAP. In particular, the output 1.4 refers to the *Task 5.2 To enhance the CTWC through amendments and additions to the Agreement between the Government of the Republic of Kazakhstan and the Government of the Kyrgyz Republic on the Use of Interstate Facilities in the Chu and Talas River Basins of 2000* namely to the *action 5.2.1 covering bilateral meetings, expansion of the list of interstate water management facilities and introduction of an article on the Joint Secretaria*t.

**Component 2.** Demonstrating priority measures to reduce irrigation losses and support ecosystem resilience

**Outcome 2.** Priority demonstration measures show practical, replicable ways to reduce irrigation water losses and restore riparian ecosystems in the basins.

29. **Output 2.1.** Priority hotspot sites are selected and designed for demonstration of irrigation conveyance and/or on-farm water-loss reduction, and women empowerment, based on transboundary relevance, feasibility, and replication potential, with 50% of demonstrations women-led

This output will identify a small number of priority hotspot sites and technically design practical demonstrations that show how reducing irrigation water losses contributes directly to improved basin water security, downstream availability, and ecosystem resilience. Guided by the TDA and SAP, site selection will focus on the middle and lower reaches of the basin, especially locations

where inefficient conveyance systems, high on-farm losses, and pressure on downstream flows create clear transboundary significance and strong replication potential. In line with SAP and TDA recommendations, this will include screening of sites up- and downstream of the Tasotkel reservoir and along selected pilot canals and command areas in both countries, where rehabilitation of water distribution structures, improved measurement and control, and modern on-farm practices such as sprinkler, drip, or other water saving methods can generate measurable reductions in losses. The output will support joint application of transparent selection criteria covering transboundary relevance, technical and financial feasibility, expected water saving benefits, climate resilience, monitoring practicality, and potential for replication through national programs and future investments, and will prepare site-specific technical designs, baselines, and implementation packages for the selected demonstrations. Gender will be mainstreamed under this output by ensuring that hotspot selection, baseline assessment, and technical design include women empowerment aspects, consider women's and men's different roles in irrigated agriculture, access to water, decision-making, labor burdens, and expected benefits, and that consultations with water users and local stakeholders include equitable participation of women and men in identifying feasible and replicable demonstration options. The pilots are then carried forward under Output 2.2, where they are implemented and monitored to generate practical lessons and replication value for SAP implementation. Indicative stakeholders for this Output include smallholder farmers, farmer associations, local water authorities, and district agricultural departments, who will jointly support site screening, technical design of pilot demonstrations. Inclusion of smallholder farmers is essential for testing and adopting improved on-farm water-saving practices. This output corresponds to *Goal 1 on Amount of water. Ensuring the efficient use of water resources for sustainable socio-economic development and ecosystems* of the Joint Action Programme of SAP. In particular, the output 2.1 refers to the *Task 1.1 Modernization of water distribution systems and water infrastructure for interstate use* covering such actions as 1.1.1 (reconstruction and rehabilitation of interstate water facilities), 1.1.2 (development of water use development schemes) and 1.1.3 (automation of water distribution and metering systems).

30. **Output 2.2.** Pilot measures are implemented to reduce water losses, improve water-use efficiency, and women empowerment with clear monitoring of water savings and implications for availability and environmental flows.

This output will implement a limited number of high-priority pilot measures that demonstrate practical and measurable reductions in irrigation water losses in line with TDA and SAP priorities on rehabilitation of irrigation systems, reduction of conveyance losses, improved water accounting, and introduction of efficient irrigation methods. At selected hotspot sites in both countries, the project will support targeted improvements such as rehabilitation of critical canal sections and control structures, better water measurement and regulation, and application of more efficient on-farm irrigation practices, where these can produce visible gains in water use efficiency and reduce pressure on basin water resources. In accordance with the TDA emphasis on excessive losses during transport and field application, and the SAP focus on pilot canals, automated accounting, and modern irrigation technologies, each pilot will include a simple but credible monitoring package to measure baseline and post-intervention water losses, estimate water savings, and assess implications for downstream water availability and, where relevant, for maintaining or improving environmental flows. By generating quantified evidence from real basin conditions, the output will provide a practical basis for replication through national irrigation programs and for scaling through the follow-on investment packages prepared under Component 3. Gender will be mainstreamed under this output by ensuring that pilot implementation and monitoring include women empowerment aspects, consider women's and men's different roles, access, labor requirements, and benefits in irrigated production and water management, and that women and men participate equitably in pilot consultations, training, operation, and the evaluation of water-saving and livelihood results. The following stakeholders will be engaged for this output during rehabilitation works and adopting improved water-saving practices: smallholder farmers, farmer associations, local water authorities, and district agricultural departments. This output corresponds to *Goal 1 on Amount of water. Ensuring the efficient use of water resources for sustainable socio-economic development and ecosystems* of the Joint Action Programme of SAP. In particular, the output 2.2 refers to the *Task 1.1 Modernization of water distribution systems and water infrastructure for interstate use* covering such actions as 1.1.1 (reconstruction and rehabilitation of interstate water facilities), 1.1.2 (development of water use development schemes) and 1.1.3 (automation of water distribution and metering systems).

31. **Output 2.3.** Targeted ecosystem-supporting measures considering women empowerment aspects are implemented in a few selected riparian or upper-catchment locations where they directly contribute to sediment reduction, bank stabilization, or flow regulation

This output will implement a limited number of practical ecosystem-supporting measures in selected riparian corridors and upper-catchment locations where restoration can generate direct water security benefits in line with TDA and SAP priorities. Guided by the basin documents, interventions will focus on sites where degraded slopes, riverbanks, riparian vegetation, floodplain areas, and pasture or forest ecosystems are contributing to erosion, sediment loads, channel instability, reduced moisture retention, or weakened flow regulation. In accordance with the TDA recommendations for upper-reach slope afforestation, improved catchment management, and restoration of riparian and lower-reach ecosystems, and with the SAP and national action plans on floodplain restoration, afforestation, and pasture rehabilitation, the project will support measures such as revegetation and bioengineering of

unstable banks, restoration of riparian buffer strips, small-scale slope stabilization, targeted planting of native vegetation, and selected catchment rehabilitation actions that improve infiltration and reduce sediment runoff. Each intervention will be selected for its direct functional contribution to sediment reduction, bank stabilization, or flow regulation, and will be monitored through simple indicators so that the resulting lessons can inform replication through national programs and future basin investments. Gender will be mainstreamed under this output by ensuring that selection, implementation, and monitoring of ecosystem-supporting measures include women empowerment aspects, reflect women's and men's different roles, knowledge, labor contributions, and use of riparian and upper-catchment resources, and that women and men participate equitably in consultations, restoration activities, maintenance arrangements, and assessment of resulting water, ecosystem, and livelihood benefits. Stakeholders engaged in this Output will include local land users and communities, farmer groups, local environmental and water authorities, and relevant district-level agriculture and forestry departments, who will contribute to the planning, implementation, and maintenance of ecosystem-supporting restoration measures. This output corresponds to *Goal 3 on Ecosystem conservation. Maintaining and improving the state of ecosystems at a level that ensures a balance of natural balance and socio-economic development* of the Joint Action Programme of SAP. In particular, the output 2.3 refers to the *Task 3.1 To ensure the rehabilitation and further sustainable use of agricultural land (agroecosystems) in pilot plots in a strip up to 5 kilometers wide from the riverbed and Task 3.2 Ensure the restoration of natural floodplain ecosystems in the middle reaches of the Chu and Talas rivers by 2030* covering such actions as 3.1.1 (Identify areas for the implementation of measures to restore agroecosystems), 3.1.3 (develop and approve management plans for pilot areas for the restoration of agroecosystems), 3.1.4 (restoration of agroecosystems), 3.2.1 (assess and inventory floodplain ecosystems in the middle reaches), 3.2.2 (identify sites for the implementation of measures to restore natural floodplain ecosystems) and 3.2.4 (develop and approve management plans for pilot areas to restore natural floodplain ecosystem).

**Component 3.** Preparing follow-on investments for irrigation efficiency and wastewater pollution reduction

**Outcome 3.** Governments and financing partners have bankable investment packages for scaling priority irrigation-efficiency and wastewater and pollution reduction measures beyond the GEF grant

32. **Output 3.1.** Priority irrigation modernization and canal-efficiency investments are screened, prepared through technical and gender inclusive economic analysis in selected basin hotspots

This output will prepare a focused pipeline of priority irrigation modernization and canal-efficiency investments in selected basin hotspots where high conveyance losses, poor water control, and inefficient distribution systems have the greatest implications for shared water security, downstream availability, and climate resilience. Building directly on TDA and SAP priorities, the work will concentrate on screening and preparing investments in the middle and lower reaches of the basin, including priority canal sections and command areas where rehabilitation of irrigation networks, improved regulation and measurement structures, automation of water accounting, and modernization of distribution systems can generate significant reductions in water losses and improve reliability of supply. In line with the SAP and national action plans, the output will support technical screening, preliminary engineering definition, technical and economic analysis of selected investment packages, including assessment of expected water savings, implementation costs, operational viability, climate resilience benefits, and implications for downstream water availability and environmental flows. The resulting packages will provide governments and financing partners with a practical basis for prioritizing and mobilizing larger-scale follow-on investments in irrigation efficiency and canal rehabilitation beyond the GEF grant. Gender will be mainstreamed under this output by ensuring that investment screening, prefeasibility, and economic analysis assess women's and men's different roles, access, labor burdens, and expected benefits in irrigated agriculture and water management, and that stakeholder consultations include equitable participation of women and men so proposed irrigation modernization packages are both technically sound and socially inclusive. A structured and gender-inclusive stakeholder consultation mechanism will be embedded in the identification, screening, and design of priority irrigation modernization investments under this Output. At the investment screening stage, basin- and community-level consultations will engage water authorities, financing and planning institutions, Water User Associations, and farmers to validate hotspot selection and priority investment options. During design stage community-level consultations will further inform analysis and design by assessing practical implications for water access, service reliability, and operation and maintenance arrangements. The outputs generated under Output 3.1 are taken forward under Output 3.3. This output corresponds to *Goal 1 on Amount of water. Ensuring the efficient use of water resources for sustainable socio-economic development and ecosystems* of the Joint Action Programme of SAP. In particular, the output 3.1 refers to the *Task 1.1 Modernization of water distribution systems and water infrastructure for interstate use* covering such actions as 1.1.1 (reconstruction and rehabilitation of interstate water facilities), 1.1.2 (development of water use development schemes), 1.1.3 (automation of water distribution and metering dystems).

33. **Output 3.2.** Priority wastewater and pollution reduction investments are screened, prepared through technical and gender inclusive economic analysis for selected municipal or other major pollution hotspots

This output will prepare a prioritized set of technically and economically justified investment packages for wastewater treatment and pollution reduction in selected municipal and other major hotspots identified in the TDA and SAP as having the greatest influence on basin water quality, ecosystem health, and downstream water use. In line with these basin priorities, the work will focus on key urban and industrial pressure points such as major settlements and discharge areas in the Chu and Talas basins, including locations associated with poorly treated municipal wastewater, drainage flows, and significant industrial or agro-processing pollution, where improved treatment, interception, reuse, or pollution-control measures can generate measurable basin-wide benefits. Building on the TDA recommendations and the national action plans, the output will support hotspot screening, technical options assessment, preliminary engineering definition, and prefeasibility and economic analysis for selected investments, including rehabilitation or construction of wastewater treatment facilities, improvement of collector-drainage management, and feasible options for treated wastewater reuse or complementary pollution-reduction measures. The resulting packages will provide governments and financing partners with a practical basis for prioritizing and mobilizing follow-on investment in pollution reduction at the most important hotspots affecting shared water resources in the Chu-Talas Basin. Gender will be mainstreamed under this output by ensuring that hotspot screening and technical and economic analysis consider women's and men's different exposure to wastewater and water quality risks, access to sanitation and water services, health implications, and expected benefits from pollution reduction, and that consultations with affected local communities and institutions include equitable participation of women and men in shaping priority investment options. At the screening stage, basin- and city-level consultations will engage national and municipal authorities responsible for water supply, sanitation, environment, health, and urban planning, as well as basin management institutions, to validate priority pollution hotspots and confirm their transboundary and downstream relevance. During technical options assessment and prefeasibility analysis, targeted consultations will be held with municipal utilities, wastewater treatment plant operators, industrial or agro-processing facility representatives, and technical experts to assess feasible treatment, interception, reuse, or pollution-control options, including cost, operational capacity, and regulatory requirements. Community-level consultations will be conducted in affected urban and peri-urban areas to understand local exposure to pollution, service gaps, and social priorities, and to inform design assumptions related to wastewater collection, treatment performance, and reuse acceptability. The outputs generated under Output 3.2 are taken forward under Output 3.3. The outputs generated under Output 3.1 are taken forward under Output 3.3. This output corresponds to *Goal 2 on Water quality. Improving the quality of water resources and reducing their harmful impacts on human health and ecosystems* of the Joint Action Programme of SAP. In particular, the output 3.2 refers to the *Task 2.1 Improve the quality of collector and drainage waters, which affect water quality in the main transboundary watercourses of the Chu and Talas rivers* covering such actions as 2.1.1 (carry out an inventory and assessment of the mode of operation of collector and drainage facilities), 2.1.2 (Develop recommendations for strengthening the legal regulation of the use of collector and drainage drains).

34. **Output 3.3.** Financing engagement packages, utilizing outputs 3.1 and 3.2, are prepared and used to mobilize follow-on public, IFI, and other financing for priority basin investments, demonstrating their environmental, water security, gender and climate resilience benefits and channel finance to agreed basin priorities

This output will translate the priority irrigation efficiency and wastewater and pollution reduction investments prepared under Outputs 3.1 and 3.2 into financing engagement packages that can be presented to governments, IFIs, and other development and financing partners for follow-on support beyond the GEF grant. Consistent with the TDA and SAP emphasis on mobilizing resources for rehabilitation of irrigation systems, reduction of water losses, modernization of wastewater treatment, and strengthening basin resilience under climate change the project will support the development and initial implementation of a SAP-aligned financing strategy to guide prioritization, sequencing, and mobilization of investments at basin level. The project will develop concise, decision oriented packages that combine technical scope, prefeasibility findings, indicative costs, economic justification, and clear evidence of environmental, water-security, and climate-resilience benefits. These packages will show how the proposed investments reduce pressure on shared water resources, improve downstream availability, lower pollution loads, support environmental flows and ecosystem condition, and contribute to adaptation under increasing runoff variability and drought risk. Building on the SAP's explicit orientation toward donor, government, and other stakeholder financing, and the project's catalytic role in leveraging larger follow-on action, the output will support structured engagement with public investment programs, IFIs, and other partners so that the most mature priority investments can move beyond general financing discussions into investment pipelines, concrete financing decisions, and channeling of mobilized resources to agreed basin priorities for subsequent implementation at scale. By project completion, at least one financing engagement package will move forward to trigger follow-on implementation or co-financing. In addition, at least one investment package will focus on women empowerment, clearly articulating women's differentiated roles,

risks, and benefits related to the investment and demonstrating how gender-responsive design enhances environmental, water-security, and climate-resilience outcomes. Gender will be mainstreamed under this output by including women empowerment aspects ensuring that financing engagement packages identify and communicate women's and men's differentiated benefits, costs, risks, and access constraints related to proposed basin investments, and that engagement with governments, IFIs, and other partners promotes socially inclusive financing approaches that support equitable participation and benefit sharing in follow-on implementation. The achievement of the Component 3 targets—namely (i) preparation and endorsement of at least 6 bankable investment packages totaling approximately USD 100 million, (ii) mobilization of at least USD 50 million in follow-on financing, and (iii) formal initiation of at least 3 priority wastewater and pollution-reduction investment projects—is underpinned by establishment of a robust upstream pipeline for screening and preparing portfolio of investment-ready projects. This will be followed by conversion of pipeline into decision-ready financing engagement packages tailored to the requirements of public investment programs, IFIs, and development partners through structured engagement. This output corresponds to *Goal 1 on Amount of water. Ensuring the efficient use of water resources for sustainable socio-economic development and ecosystems* and *Goal 2 on Water quality. Improving the quality of water resources and reducing their harmful impacts on human health and ecosystems* of the Joint Action Programme of SAP. In particular, the output 3.1 refers to the *Task 1.1 Modernization of water distribution systems and water infrastructure for interstate use, Task 2.1 Improve the quality of collector and drainage waters, which affect water quality in the main transboundary watercourses of the Chu and Talas rivers* covering such actions as 1.1.1 (reconstruction and rehabilitation of interstate water facilities), 1.1.2 (development of water use development schemes), 1.1.3 (automation of water distribution and metering systems) and 2.1.2 (develop recommendations for strengthening the legal regulation of the use of collector).

**Component 4.** Knowledge Management (KM) and communications

35. **Outcome 4.** Effective and inclusive knowledge management and communications and lessons learning.

Generating, curating, and using knowledge is central to effective SAP implementation in the Chu-Talas Basin. Under Component 4, and with direct linkages to Components 1–3, the project will establish a basin-wide knowledge management, learning, and knowledge-sharing system anchored in the CTWC, with technical support from UNECE and contributions from relevant national institutions in Kazakhstan and the Kyrgyz Republic. The system will explicitly integrate traditional and local knowledge alongside scientific and technical knowledge, ensuring that locally grounded practices on water management, irrigation, ecosystem use, and climate adaptation are systematically captured, validated, and applied. The project will benefit from the knowledge, capacity building and technical guidances of the Water Convention. The project will capture and disseminate lessons from CTWC-led coordination and reporting, targeted basin diagnostics, harmonized basin monitoring and joint reporting, legal and procedural updates linked to the new Water Codes, irrigation water-loss reduction demonstrations, riparian and upper-catchment ecosystem-supporting measures, and preparation of bankable follow-on investments for irrigation efficiency and wastewater pollution reduction. This will include lessons derived from traditional and community-based practices, including those of smallholder farmers, water users, and local stakeholders, and their integration into technical and policy solutions. These lessons will be fed back into implementation through short learning cycles, including regular reflection sessions, technical exchanges, after-action reviews, and practical synthesis of lessons into policy- and user-oriented products that can support adaptive management, replication, and scaling in the basin. Knowledge products will be prepared in forms accessible to basin institutions, technical specialists, local authorities, water users, and financing partners, and will, where appropriate, be available in relevant working languages used by the basin institutions. Knowledge products will also reflect traditional and local knowledge and ensure its accessibility and usability across stakeholder groups. The project will produce and maintain the following core knowledge products and services through the basin-wide KM system (depending on the needs and priorities of the riparian countries):

*SAP Implementation and Coordination Package:* CTWC coordination procedures, annual work-planning templates, reporting formats, results-framework guidance, and summaries of institutional roles linking joint and national actions.

*Targeted Basin Diagnostic and Priority Hotspots Package:* implementation-oriented basin diagnostic updates, hotspot profiles, and synthesis notes on water losses, pollution hotspots, climate risks, environmental flows, and institutional/legal gaps.

*Basin Monitoring and Reporting Toolkit:* agreed monitoring parameters, reporting templates, data-handling protocols, selected equipment guidance, quality-control notes, and formats for basin bulletins and joint summaries on water quantity, water quality, and key ecosystem indicators.

*Legal and Procedural Cooperation Package*: briefs and draft instruments on bilateral procedures, CTWC mandate strengthening, alignment with the new Water Codes, and practical options for coordinated basin management.

*Irrigation Efficiency Demonstration Package*: pilot site profiles, technical designs, water accounting methods, monitoring formats, and lessons on conveyance loss reduction, on-farm water-use efficiency, and implications for downstream availability and environmental flows.

*Ecosystem Restoration and Support Package:* guidance and lessons on riparian restoration, bank stabilization, slope rehabilitation, sediment reduction, vegetation-based measures, and upper-catchment actions contributing to flow regulation and resilience.

*Investment Preparation and Finance Mobilization Package:* hotspot screening tools, prefeasibility and economic analysis templates, financing engagement packages, and practical lessons on preparing and presenting bankable irrigation and wastewater/pollution investments.

*Case Studies and Lessons Learned Series*: concise documentation of governance reforms, monitoring improvements, demonstrations, restoration measures, and financing preparation, including effectiveness, costs, risks, replication potential, and gender-responsive participation.

*Awareness and Communication Materials:* plain-language briefs, visual summaries, presentations, and targeted outreach materials for decision-makers, practitioners, local authorities, water users, and development partners.

*Training Materials and Learning Modules:* facilitator guides, technical presentations, practical training notes, and modular learning resources for CTWC bodies, ministries, hydromet services, local authorities, WUAs, and community stakeholders.

*Basin Data and Knowledge Catalog:* curated datasets, maps, indicator summaries, hotspot information, and metadata linked to project-supported monitoring, diagnostics, demonstrations, and investment preparation.

The project will apply the following knowledge sharing and visibility mechanisms tailored to SAP implementation in the Chu-Talas Basin:

*Local workshops and practical trainings:* On-site sessions in selected hotspot areas in Chu, Talas, and Zhambyl to apply project tools in real settings, including basin monitoring and reporting formats, irrigation water-loss reduction measures, ecosystem-supporting restoration practices, and local participation in monitoring and maintenance.

*National and basin decision-maker roundtables:* Regular briefings with the CTWC, relevant ministries, basin and provincial authorities, municipalities, and technical agencies to review diagnostic findings, monitoring results, pilot progress, and follow-on investment priorities, and to align decisions with SAP and national action plans.

*Basin-wide technical exchanges and learning events:* Periodic knowledge-sharing sessions convened through the CTWC and UNECE for national institutions, hydromet services, research bodies, local authorities, and water users on transboundary cooperation, climate-risk-informed basin management, environmental flows, pollution hotspots, and priority investment preparation.

*Field learning exchanges and peer-to-peer visits:* Practical exchanges between pilot areas and relevant sites in both countries to observe irrigation-efficiency measures, riparian and upper-catchment restoration practices, monitoring arrangements, and local implementation approaches, with documentation of lessons, costs, and replication potential.

*Engagement with financing and technical partners:* Targeted dialogues with IFIs, public investment programs, technical agencies, and service providers to share prefeasibility results, good practices, and investment opportunities related to irrigation modernization and wastewater/pollution reduction.

*Basin knowledge platform under the CTWC:* A shared repository of knowledge products, technical notes, policy briefs, training materials, selected datasets, maps, and lessons learned on water cooperation, climate resilience, ecosystem restoration, and basin management.

*IW:LEARN participation and portfolio knowledge exchange:* The project will contribute to and draw from GEF IW:LEARN by sharing experience notes, lessons learned, communication products, and selected knowledge outputs through the

IW:LEARN platform and related portfolio learning activities, while using relevant IW:LEARN tools, training, and exchange opportunities to connect Chu-Talas experience with other transboundary basin projects and support wider replication of good practice.

*Communication and outreach package:* Plain language briefs, visual summaries, presentations, media materials, and digital content highlighting water savings, restored areas, cooperation milestones, and practical basin results for governments, local stakeholders, and partners.

*Across all knowledge packages*, traditional and local knowledge will be systematically documented, integrated, and reflected, including through case studies, lessons learned series, training materials, and basin knowledge platforms, ensuring that community-level experience informs basin-level governance, technical solutions, and investment planning.

Since component 4 involves knowledge generation and collection of lessons learned related to Outcomes 1–3, the actions for implementing the SAP described above for the outputs in components 1-3 align with this component.

36. **Output 4.1.** Knowledge products, communication materials, and learning packages are developed, updated, and disseminated for basin institutions, local stakeholders, practitioners, and financing partners, based on project results on governance, monitoring, demonstrations, ecosystem-supporting measures, gender, and investment preparation.

A basin-wide knowledge management and learning system is established and operationalized to systematically capture, synthesize, and disseminate data, experience, and lessons generated through SAP implementation. Anchored in the Chu-Talas Water Commission (CTWC) and relevant national institutions, the system will consolidate technical, policy, and practice-based knowledge emerging from governance strengthening, basin diagnostics, harmonized monitoring, demonstration measures, ecosystem restoration, and investment preparation.

The output will produce and disseminate user-oriented knowledge products—including basin briefs, technical notes, policy summaries, learning reports, indicator dashboards, and replication packages—tailored to governments, basin institutions, financing partners, practitioners, and local stakeholders. Dissemination will be ensured through CTWC platforms, workshops, targeted exchanges, and communication channels. The system will transform project-generated information into an accessible and practical knowledge base that supports evidence-based decision-making, adaptive basin management, and replication and scaling of successful approaches across and beyond the Chu-Talas Basin.

Gender will be mainstreamed by ensuring systematic capture and communication of sex-disaggregated data, gender-responsive lessons, and differentiated experiences of women and men in water governance, climate resilience, and ecosystem management, and by promoting equitable access to knowledge products and learning processes.

37. **Output 4.2.** Two-way basin learning and stakeholder feedback mechanism is operationalized through exchanges, field learning events, technical dialogues, and communication channels that both disseminate project lessons and feed stakeholder experience and feedback back into project implementation. A two-way, participatory, and gender-responsive learning and feedback mechanism is established to support adaptive project implementation. The mechanism will enable continuous exchange between project stakeholders and implementation teams through field learning events, technical dialogues, exchange visits, and structured communication channels. . The system will ensure active participation of the CTWC, national institutions, local stakeholders, and beneficiaries, including women and vulnerable groups, in monitoring progress and validating results.

Knowledge management will be embedded across all project components, ensuring that lessons, methodologies, and results from governance strengthening, diagnostics, monitoring, demonstrations, and investment preparation are systematically documented, synthesized, and fed back into implementation.

38. **Output 4.3.** IW:LEARN level and wider transboundary knowledge exchange contributions are delivered, including participation in IW:LEARN activities.

The project will ensure systematic contribution to regional and global knowledge exchange processes through active engagement with the GEF International Waters Learning Exchange and Resource Network (IW:LEARN), the UNECE Water Convention, and other relevant transboundary cooperation platforms. This will enable the Chu–Talas Basin experience to both inform and benefit from global best practices in transboundary water governance, climate resilience, and ecosystem-based basin management. The project will actively participate in IW:LEARN regional and global activities, including International Waters Conferences, regional workshops,

thematic learning exchanges, and training events. It will contribute case studies, technical inputs, and lessons learned from SAP implementation—particularly on transboundary governance strengthening, harmonized basin monitoring, irrigation water-loss reduction, ecosystem restoration, and preparation of bankable investment pipelines. In line with IW:LEARN requirements, the project will develop and disseminate standardized knowledge products, including experience notes, results briefs, and metadata for global knowledge platforms, ensuring replicability and scaling across other transboundary basins.

The project will benefit from the knowledge, capacity building, and technical guidance of the UNECE Water Convention, including its frameworks, tools, and methodologies on transboundary water cooperation, climate change adaptation, and monitoring and assessment. Engagement with the Water Convention will support strengthening of the Chu–Talas Water Commission (CTWC), enhance alignment with international norms and good practices, and provide access to a wider community of practice and peer learning opportunities.

The project will also facilitate South–South and peer-to-peer learning by engaging with other GEF International Waters projects in Central Asia and beyond, promoting exchange of practical solutions on shared challenges such as water scarcity, climate variability, pollution management, and institutional coordination. Where feasible, joint learning events, twinning arrangements, and targeted exchanges will be organized to deepen collaboration.

Through these combined efforts, the project will position the Chu–Talas Basin as a demonstrative case of cooperative, climate-resilient basin management, while ensuring that global knowledge, tools, and innovations are effectively adapted and applied to strengthen SAP implementation and long-term transboundary cooperation.

**Component 5**. Monitoring and Evaluation

**Outcome 5.** Effective and adaptive project management based on gender-inclusive M&E and lessons learning.

39. **Output 5.1.** A gender-responsive project Monitoring and Evaluation System designed and operational

A gender-responsive, binational Monitoring, Evaluation and Learning (MEL) system will be established and operationalized to track progress toward project outcomes, global environmental benefits, and institutional performance in line with GEF-8 International Waters and UNDP requirements. The system will integrate process, governance, environmental stress-reduction, gender, and Indigenous Peoples and Local Communities (IP & LC) indicators, based on the Project Results Framework and aligned with GEF Core Indicators. It will ensure systematic monitoring of project performance, co-benefits, stakeholder engagement, gender outcomes, and environmental and social safeguards, including implementation of the Gender Action Plan, Stakeholder Engagement Plan, and Environmental and Social Management Framework (ESMF).

Indicators, baselines, and targets will be refined during the PPG phase and, where relevant, will be disaggregated by sex and stakeholder groups. A balanced set of quantitative and qualitative indicators will be applied to capture both measurable results and the quality of implementation processes, including institutional performance and integration of traditional and local knowledge. The MEL system will support adaptive management by generating timely, high-quality information for decision-making by the Project Steering Committee (PSC), CTWC, and relevant national institutions, and will ensure that lessons learned are continuously fed back into project implementation and knowledge management processes.

40. **Output 5.2.** Annual binational review and grievance mechanism developed & implemented. PIRs completed and independent project evaluations conducted

Annual binational review processes, evaluation activities, and grievance mechanisms will be established and implemented to ensure accountability, transparency, and adaptive management throughout the project lifecycle.The project will produce monitoring and evaluation outputs in line with GEF and UNDP requirements, including annual Project Implementation Reports (PIRs), Mid-Term Review (MTR), and Terminal Evaluation (TE). A Grievance Redress Mechanism will be operationalized and monitored to ensure that stakeholder concerns are addressed in a timely and transparent manner. In addition, a risk mitigation program will be caried out during the project period through monitoring and evaluating the stakeholder consultation and validation process, ensuring that the afore-mentioned robust Grievance Redress Mechanism is functioning well and to be equipped to monitor the substantial Environment and Social risk on a rolling basis and adapt accordingly.

Annual binational review meetings, involving the CTWC, national institutions, and key stakeholders, will be conducted to assess progress, review results, and address implementation challenges. Evaluation findings will assess progress toward outcomes and impacts, effectiveness of governance and stress-reduction measures, gender equality and IP & LC inclusion, and compliance with environmental and social safeguards. Findings and recommendations will be systematically integrated into adaptive management, knowledge products, and future programming, supporting replication and scaling within and beyond the Chu–Talas Basin.

Since component 5 involves participatory and gender-inclusive M&E related to Outcomes 1–3, the actions for implementing the SAP described above for the outputs in components 1-3 align with this component.

**Key Stakeholders**

41. The Chu-Talas project will be implemented through regional and national level execution and through structured engagement of stakeholders at transboundary, national, subnational, municipal, technical, and community levels to ensure that SAP implementation is institutionally anchored, technically credible, and practically linked to basin priorities in Kazakhstan and the Kyrgyz Republic. Consultations and stakeholder analysis undertaken during project preparation confirm that the project depends on a combination of: (a) the *Chu-Talas Water Commission (CTWC)* as the central bilateral coordination platform; (b) *UNECE* as a principal partner/responsible party for transboundary cooperation support; (c) national ministries and agencies responsible for water, environment, emergency situations, finance, foreign affairs, agriculture, health, and infrastructure; (d) provincial, district, and municipal authorities and service providers in the basin; (e) hydrometeorological, scientific, and technical institutions providing data, analysis, and applied knowledge; (f) water users, farmers, Water User Associations (WUAs), agribusinesses, and rural communities as the main local implementers and beneficiaries for irrigation-efficiency and ecosystem-supporting measures; and (g) development partners, IFIs, and other financing actors needed for scaling follow-on investments. Building on the stakeholder analysis, the project will assign clear and complementary roles to these groups so that governance strengthening, demonstrations, investment preparation, and knowledge management are closely linked and mutually reinforcing. At the *transboundary level*, the CTWC, its Secretariat, and its technical working groups will be the principal basin-wide coordination and oversight stakeholders. The CTWC will lead or co-lead Outputs 1.1, 1.3, and 1.4 by hosting the SAP coordination and reporting mechanism, guiding harmonized monitoring and joint basin reporting arrangements, and serving as the platform through which legal and procedural proposals are prepared and advanced. It will also use the targeted diagnostic update under Output 1.2 for basin-level prioritization and support dissemination of lessons and data under Outputs 4.1 and 4.2. UNECE will play a central role in supporting delivery of the transboundary cooperation agenda, drawing on its long-standing engagement in the Chu-Talas Basin and its mandate under the Water Convention. UNECE will provide technical leadership and facilitation for CTWC-related processes; support preparation of legal and procedural proposals, coordination arrangements, and targeted diagnostic work under Outputs 1.1, 1.2, and 1.4; contribute to compatible monitoring and reporting arrangements under Output 1.3; and help ensure that lessons, data, and policy-relevant knowledge are captured and shared through Outputs 4.1 and 4.3. UNECE will also facilitate linkages with relevant Water Convention tools, guidance, and capacity-building opportunities, thereby strengthening the project's technical quality, neutrality, and continuity with earlier cooperation in the basin. At the *national government level*, the key institutions in the **Kyrgyz Republic** include the Water Resources Service under the Ministry of Water Resources, Agriculture and Processing Industry, the Ministry of Natural Resources, Ecology and Technical Supervision, the Ministry of Emergency Situations (including Kyrgyzhydromet and forestry services), the Ministry of Energy, the Ministry of Health, the Ministry of Finance, and the Ministry of Foreign Affairs; **in Kazakhstan**, the key institutions include the Ministry of Water Resources and Irrigation, Ministry of Agriculture, Ministry of Ecology and Natural Resources, Ministry of Industry and Construction, Ministry of Emergency Situations, Ministry of Healthcare, and Ministry of Foreign Affairs. These institutions will provide policy direction, regulatory alignment, technical data, and investment screening inputs across Outputs 1.1–1.4, support national ownership of demonstrations under Outputs 2.1–2.3, contribute to prefeasibility and technical-economic work under Outputs 3.1–3.2, and facilitate financial planning, co-financing, and bilateral and multilateral engagement under Output 3.3. At the *subnational and municipal level*, the project will work with provincial and district administrations in Chu, Talas, and Zhambyl, basin and district irrigation and water management bodies, municipal water utilities and sanitation providers, and local environment, land, pasture, and forestry authorities. These stakeholders are essential for translating national policies and CTWC decisions into territorial action. They will be particularly important for Output 2.1 through hotspot identification and site design, for Output 2.2 through implementation of pilot irrigation-loss reduction measures, and for Output 2.3 through implementation of riparian, floodplain, and upper-catchment ecosystem-supporting measures. Municipal and utility actors will also be central to Output 3.2, where municipal wastewater and pollution hotspots must be screened and prepared for investment. Because many of the basin's threats are concentrated around urban and peri-urban centers and irrigated agricultural zones, these local stakeholders will provide the operational link between project design and on-the-ground implementation, including monitoring, local permitting, maintenance arrangements, and integration of lessons into territorial development practice. At the *user and community level,* the project will engage Water User Associations (WUAs)/Municipal Water Departments, farmers, agribusinesses, pasture users, and rural households as the primary local actors in water demand management and ecosystem supporting measures. They are both key beneficiaries and co-implementers of improved irrigation conveyance, on-farm water saving

practices, and selected restoration or land and water management actions. Their participation is therefore critical to Outputs 2.1–2.3, as well as to the practical relevance of the diagnostic update under Output 1.2 and to replication of good practices through Outputs 4.1 and 4.2. The project will also engage scientific, technical, and knowledge institutions, including Kyrgyzhydromet, Kazhydromet, research institutes, and academic bodies, to support data analysis, climate and hydrological assessments, hotspot diagnostics, monitoring protocols, and evidence-based decision-making under Outputs 1.2, 1.3, 3.1, 3.2, 4.1 and 4.2. Finally, private sector actors and financial institutions, including agribusinesses, water infrastructure operators, technology suppliers, and financing institutions, will play an expanding role under Outputs 3.1–3.3 through co-financing, uptake of efficient technologies, and participation in the pipeline of bankable follow-on investments. Development partners and international organizations, including IFIs and other donors, will provide technical support, facilitate policy dialogue, strengthen innovation and learning, and help mobilize and channel resources to agreed basin priorities, especially through Output 3.3 and the knowledge-sharing functions of Outputs 4.1 and 4.2. At the PPG stage, the project will prepare a **Stakeholder Engagement Plan (SEP)** detailing stakeholder roles, engagement modalities, gender-responsive and socially inclusive participation measures, disclosure timelines, grievance and feedback arrangements, and coordination pathways between the CTWC, UNECE, national institutions, local authorities, technical agencies, water users, and communities in both countries. The SEP will include targeted measures to support meaningful participation of women, youth, vulnerable groups, and local water users in consultations, training, demonstration activities, and monitoring processes, while ensuring that engagement is adapted to the institutional and social context of the Chu-Talas Basin. Stakeholder empowerment will be anchored in: shared decision-making through the CTWC, its working groups, and national and local coordination mechanisms; practical capacity building for basin institutions, technical agencies, municipalities, WUAs, and community stakeholders on SAP implementation, monitoring, irrigation efficiency, ecosystem-supporting measures, and investment preparation; improved access to future financing opportunities through preparation of bankable priority investments and structured engagement with public and IFI financing partners; and transparent accountability through regular reporting, basin knowledge-sharing products, and an accessible grievance redress mechanism. Together, this stakeholder platform will support effective implementation of SAP priorities, stronger ownership of demonstration and investment activities, and a practical basis for replication and scale-up across the Chu-Talas Basin

**Project contribution to policy coherence**

42. This project is intentionally designed to strengthen policy coherence across sectors, institutions, and decision-making levels so that transboundary water security, climate resilience, and ecosystem results in the Chu and Talas River Basins are durable, scalable, and not undermined by fragmented mandates, uncoordinated investments, or conflicting policy signals. The project aims both to strengthen synergies among water, agriculture, environment, climate adaptation, and investment policies and to reduce negative spillovers (such as upstream-downstream externalities, unmanaged water losses, pollution transfer, and ecosystem degradation) that can weaken basin outcomes if addressed only through isolated national or sectoral actions. The project's overall design responds directly to this challenge by combining policy and governance strengthening, practical hotspot demonstrations, and preparation of coordinated follow-on investments under a single SAP implementation framework.

*43. Horizontal coherence (across sectors):* Component 1 will strengthen coherence among water allocation, irrigation management, water quality management, ecosystem protection, climate adaptation, and investment planning by using the SAP as a common basin-wide framework for coordination under the CTWC. Through the targeted basin diagnostic update, harmonized basin monitoring and reporting, and legal/procedural proposals aligned with the new Water Codes, the project will help ensure that sector decisions in irrigation, municipal water and sanitation, hydrometeorology, environment, and disaster risk management are increasingly informed by shared basin priorities and compatible information. Components 2 and 3 reinforce this by linking irrigation efficiency measures, ecosystem-supporting actions, and wastewater/pollution reduction into an integrated response rather than treating them as separate sector interventions. In this way, the project improves coherence not only in policy dialogue, but also in how different sectors identify priorities, demonstrate solutions, and channel finance to agreed basin needs.

44. *Vertical coherence (transboundary–national–subnational–local):* The project's governance architecture is designed to connect the transboundary level, represented by the CTWC and its working groups, with national ministries and agencies in Kazakhstan and the Kyrgyz Republic, provincial and district administrations in Chu, Talas, and Zhambyl, municipal utilities and basin management bodies, and local water users and communities in priority demonstration areas. This is particularly important in the Chu-Talas Basin, where many of the pressures identified in the TDA (water losses, pollution hotspots, lack of environmental flows, and degradation of riparian and upper-catchment ecosystems) are generated locally but produce basin-wide and cross-border consequences. By creating a CTWC-led coordination and reporting mechanism, aligning bilateral procedures with the evolving national Water Codes, and grounding pilot demonstrations and follow-on investment preparation in selected hotspot sites, the project helps ensure that national reforms and transboundary commitments are translated into practical territorial action rather than remaining disconnected policy intentions. *Contribution to country and global agendas:* The project contributes to stronger coherence between national priorities, bilateral cooperation, and global environmental objectives by operationalizing the Chu-Talas SAP and the two national action plans through a practical and catalytic implementation model. It supports the transition already

under way in both countries toward more basin-based and climate responsive water governance while helping align ongoing public and IFI-financed water sector investments with transboundary water-security, ecosystem, and resilience goals. In doing so, the project advances the policy coherence: durable GEBs depend on prerequisite institutional, social, and economic co-benefits, and these must be built into project design rather than treated as incidental. By improving coordination, reducing policy fragmentation, and channeling follow-on finance to agreed basin priorities, the project creates a more coherent basis for implementation of national water reforms, SAP priorities, and relevant biodiversity, climate, and SDG commitments across the Chu-Talas Basin.

**Innovativeness, Potential for Transformation and Scaling Up**

45. The Chu-Talas project introduces several innovative and potentially transformative approaches to transboundary water security and climate resilience in the basin. Rather than financing isolated activities, the project is designed to strengthen the institutional, technical, and financial systems that shape how the two countries cooperate, how basin priorities are identified, and how practical measures are scaled. This is the core of its transformative ambition: moving from a narrow, mainly operational model of bilateral cooperation toward a more implementation oriented SAP framework; converting fragmented data and monitoring efforts into compatible basin-level decision support; demonstrating a small number of practical hotspot solutions that link irrigation efficiency with ecosystem resilience; and turning priority basin needs into bankable follow-on investments that can attract much larger public and IFI financing. The main innovative models embedded in the project are as follows:

*CTWC-centered SAP implementation mechanism:* transforms the CTWC from a platform focused mainly on annual water allocation and infrastructure maintenance into a more effective coordination mechanism for SAP implementation, targeted basin reporting, practical priority-setting, and broader climate-resilient basin management;

*Targeted implementation-oriented basin diagnostic:* shifts from a broad descriptive TDA toward a focused decision-support update centered on water losses, pollution hotspots, climate risks, environmental flows, and institutional gaps, directly linking diagnosis to implementation and investment preparation;

*Compatible basin monitoring and reporting:* creates a practical model for harmonized basin monitoring, joint reporting, and compatible data use supported by targeted equipment and technical upgrades without requiring a politically sensitive new transboundary monitoring architecture;

*Hotspot demonstrations linking water efficiency and ecosystem resilience:* pilots a few visible, well-monitored measures in priority irrigation and riparian/upper-catchment locations to prove that water-loss reduction and ecosystem-supporting actions can jointly produce measurable basin benefits;

*Catalytic investment model:* translates priority irrigation-efficiency and wastewater/pollution-reduction needs into screened, prefeasibility-level, finance-ready packages that can move into government and IFI pipelines, helping channel larger follow-on finance to agreed basin priorities;

*Basin-wide KM and adaptive learning system:* captures and packages lessons, technical results, policy experience, and financing pathways from the project into practical knowledge products and learning cycles that support replication and sustained uptake across institutions in both countries.

46. The project is also designed as a *replicable and scalable model* for other shared freshwater basins in Central Asia and beyond. Its tools are inherently transferable: CTWC-based coordination procedures, targeted diagnostic methods, compatible monitoring/reporting formats, hotspot screening criteria, irrigation-efficiency and ecosystem-supporting demonstration packages, and financing engagement packages can all be adapted to other basins with relatively limited localization. The project's scaling logic is especially strong because it is built around existing national reforms, the Chu-Talas SAP and national action plans, and substantial baseline public and IFI financing; this means that replication does not depend only on extending GEF grant funding, but on embedding workable approaches into government systems, basin institutions, and investment pipelines. In the Chu-Talas Basin itself, the strongest scaling pathway will come through replication of successful hotspot models in national irrigation, wastewater, and restoration programs and through follow-on financing mobilized under Component 3. More broadly, the project can provide a practical template for other transboundary basins (including through the platform of the Water Convention) seeking to combine governance strengthening, climate-resilient water management, ecosystem restoration, and catalytic investment preparation in a politically feasible and cost-effective way.

**Gender Equality and Empowerment**

47. The project will mainstream gender equality and women's empowerment across all components by combining clear participation targets, practical inclusion measures, and gender-responsive monitoring and safeguards. Women in the Chu-Talas Basin are directly affected by water scarcity, poor water quality, degraded ecosystems, and climate-related shocks through their roles in household water management, agriculture, food security, health, and community well-being, yet they are often underrepresented in technical water governance and investment decision-making. The project will therefore ensure that women are not treated only as beneficiaries, but also as decision-makers, knowledge holders, and active participants in implementation. At minimum, the project will target *50% women's participation* in relevant trainings, consultations, knowledge-sharing activities, and community-level pilot engagement, while promoting meaningful representation of women in local stakeholder groups, WUAs, basin-related coordination processes, and project-supported learning and monitoring mechanisms. To reduce structural barriers to participation, project activities will use practical measures such as appropriate timing and location of meetings, travel support where needed, accessible information formats, and targeted outreach to women, youth, and vulnerable groups. Capacity building under the project will also include opportunities for women's participation in technical learning related to irrigation efficiency, water management, ecosystem-supporting measures, local monitoring, and knowledge sharing so that women benefit not only from improved services and reduced risks, but also from stronger voice, skills, and influence in basin governance and local decision-making.

48. During the **PPG phase**, the project will undertake a full Gender Analysis and prepare a Gender Action Plan (GAP) in line with UNDP requirements, with findings integrated across the project's components, outputs, indicators, and implementation arrangements. The GAP will define specific gender-responsive actions, participation targets, institutional responsibilities, and an indicative budget for implementation, including measures to strengthen women's participation in decision-making, technical training, community-level pilot activities, and monitoring and learning processes. The project's monitoring and evaluation system will track sex-disaggregated data where relevant and report on gender-related progress through regular project reporting, the Midterm Review (MTR), and the Terminal Evaluation (TE). The project will also apply gender-responsive grievance and feedback arrangements and ensure that consultation and participation processes are conducted in a safe, inclusive, and culturally appropriate manner. Equity and women's empowerment will be treated as integral conditions for durable water-security, ecosystem, and climate-resilience outcomes in the Chu-Talas Basin, rather than as parallel or stand-alone considerations.

49. **Private Sector Role.** The private sector will play an important, though targeted, role in delivery and scaling of the Chu-Talas project, particularly through adoption of efficient technologies, participation in demonstrations, co-financing of follow-on investments, and support to broader replication. In the irrigated agriculture sphere, farmers, agribusinesses, irrigation equipment suppliers, and service providers will be key actors in testing and demonstrating practical measures to reduce irrigation water losses and improve water-use efficiency at selected hotspots under Component 2. Their participation is essential because the basin's water stress is closely linked to irrigation demand and losses, and wider uptake of efficient conveyance, control, measurement, and on-farm technologies will depend on the confidence of private users and suppliers in the demonstrated results. Private operators, utilities, and contractors may also play roles in rehabilitation or improvement of selected systems, provision of technical services and equipment, and eventual replication of successful approaches through national programs and follow-on investments. In addition, private sector actors in agriculture, processing, and related supply chains will benefit from more reliable water availability, reduced water-management risks, and improved climate resilience, while also contributing to more sustainable water use in productive landscapes. The private sector's role becomes especially important under Component 3, where the project will prepare and promote bankable investment packages for irrigation modernization, canal efficiency, wastewater treatment, and pollution reduction. Financial institutions, investors, infrastructure operators, technology providers, and other market actors will be engaged through financing dialogues and investment-preparation processes to support scale-up beyond the GEF grant. Their contribution may include co-financing, provision of equipment and services, participation in project pipelines, and uptake of technical and financial models that improve water efficiency and pollution control. In this way, the project will help create a more investable environment in which private participation is linked to measurable environmental, water-security, and climate-resilience outcomes, rather than limited to stand-alone commercial activities. By connecting practical demonstrations with investment preparation and knowledge sharing, the project will encourage a repeatable model in which public programs, IFIs, and private actors jointly support more efficient, climate-resilient, and environmentally sustainable water management in the Chu-Talas Basin.

**Suggested project sites** (Fig. 1): Based on the TDA, SAP, and national action plans, the most suitable priority sites for the project Component 2 are: (a) irrigation-loss reduction hotspots in the middle and lower reaches of the basin, particularly up- and downstream of the Tasotkel reservoir and along selected pilot canals in both countries; (b) the transboundary middle reach of the Chu River and its riparian buffer corridor for ecosystem restoration/supporting measures; and (c) a limited number of lower-reach and (d) upper-catchment ecosystem sites, such as the lower reaches of the Chu River including the Akzhar area, or selected upper catchments in the Chu, Talas, and Asa systems, where restoration can directly improve sediment control, bank stabilization, and flow regulation. A brief review of suggested project sites is provided below:

*Middle and lower reaches of the Chu River, including areas up- and downstream of the Tasotkel reservoir:* This is the clearest priority geography for irrigation-loss demonstrations. The TDA 2016 recommendations explicitly call for pilot projects in Kyrgyz and Kazakh basin territories in the middle and lower reaches, up- and downstream of the Tasotkel water reservoir, with drip and sprinkler irrigation, as well as pilot canals to reduce water losses at intake through the Chuy and Talas basin water management bodies and Kazvodkhoz in Taraz. These locations are highly relevant because the TDA identifies severe irrigation inefficiency, high conveyance losses, and major downstream ecological consequences from over-abstraction and lack of environmental flows.

*The transboundary middle reach of the Chu River forming the Kazakhstan–Kyrgyzstan border (the riparian buffer corridor):* For ecosystem restoration/supporting measures, this is probably the highest-priority transboundary site. The Chu River forms the border for about 150 km in its midstream, and the SAP identified a special riverside buffer zone up to 5 km wide on both banks for sustainable agriculture, resilient communities, and reduction of impacts on riparian and water ecosystems. This corridor is directly relevant for bank stabilization, reduction of soil erosion and drainage impacts, riparian restoration/rehabilitation, and integrated water–ecosystem demonstrations. It also has strong transboundary visibility and replication value.

*Lower reaches of the Chu River, including the Akzhar area:* For lower-reach ecosystem resilience, the Kazakhstan national action plan specifically identifies the lower reaches of the Chu River, including the Akzhar area, as priority locations for conservation and restoration of floodplain ecosystems and significant wetlands, with pilot projects and long-term agreements with land users. The TDA also repeatedly note that the lower reaches of the Chu are among the most degraded parts of the basin because of chronic lack of environmental flows, floodplain degradation, and desertification. This makes the lower Chu a strong candidate for a limited number of ecosystem-supporting pilots linked to improved upstream water-saving.

*Upper catchments of the Chu, Talas, and Asa systems in Kazakhstan, and upper catchments of both basins more broadly:* For upper catchment ecosystem demonstrations, the TDA, SAP, and Kazakhstan NAP all prioritize the upper reaches of the Chu, Talas, and Asa River basins for slope afforestation, pasture rehabilitation, forest and floodplain restoration, and catchment management. The rationale is explicit: upper-catchment forests, meadows, and pastures are important for flow formation, sediment reduction, moisture retention, and climate resilience. These areas are appropriate for targeted ecosystem-supporting measures where direct links to flow regulation, sediment control, and bank stability can be shown.

*Final* selection of priority sites for the project will be done at PPG stage.

[1] **Stafford Smith, M., & Metternicht, G. (2022).** *Refining the tracking of co-benefits in future GEF investments: A STAP Information Brief.* Scientific and Technical Advisory Panel (STAP) to the Global Environment Facility (GEF), Washington, DC. Available at: https://stapgef.org

## Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

No

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

1. This regional project will be governed through a multi-level structure that combines transboundary oversight, national ownership, and day-to-day technical coordination. Regional and national level execution will be ensured through entire project implementation. At the basin level, the *Chu-Talas Water Commission (CTWC)* will serve as the primary transboundary coordination and oversight platform, supported by its Secretariat and relevant working groups for SAP implementation, monitoring, and review. *UNDP,* as the GEF Agency responsible for quality assurance, fiduciary oversight, and corporate compliance. At the national level, the relevant ministries and agencies in Kazakhstan and the Kyrgyz Republic will participate through designated focal institutions and coordination arrangements to guide policy alignment, technical inputs, and implementation of national actions, while subnational authorities, municipal bodies, and local stakeholders will be engaged in demonstration activities and investment preparation.

2. The project will be implemented in strong coordination and collaboration with other relevant programs and projects in the country and abroad to ensure (1) *Resource Optimization*, including funding, expertise, and manpower, to avoid duplication of efforts and obtain co-financing; (2) *Knowledge and Experience Sharing* to enhance the effectiveness of each project, leading to more innovative and well-rounded solutions; and *(3) Synergy in objectives to amplify their impact*, making it easier to achieve these shared objectives on a larger scale. Specifically, the project will directly collaborate with the following initiatives and consult with each of

projects and initiatives during PPG with detailed indication of potential coordination and cooperation will be presented in the CEO document:

| Programme / Project | Objective/Focus | Potential Areas for Coordination and Synergy |
|---|---|---|
| *World Bank "Central Asia Water and Energy Program: Strengthening Water–Energy Security in Central Asia"* | **Regional cooperation on water-energy security under climate change; analytics, institutional capacity, investment support, and policy dialogue.** | Joint analytical work on basin water security and climate resilience; support to basin management institutions; methodological inputs on irrigation modernization, water accounting, and investment prioritization; possible alignment with CAWEP regional knowledge products and dialogues |
| ***GIZ (Deutsche Gesellschaft für International Zusammenarbeit) "Transboundary Water Management in Central Asia under the Green Central Asia Initiative"*** | **Climate resilience, practical approaches to sustainable regional water management, legal and institutional guidance, and regional cooperation** | Methodological support for transboundary water cooperation, basin governance, SDG 6.5.2 reporting, and climate-risk-informed planning; exchange of experience on legal provisions, reporting, and regional water cooperation tools relevant to CTWC and national agencies for Component 1 |
| *Regional mechanisms for the low-carbon, climate-resilient transformation of the energy–water–land nexus in Central Asia project, funded by the International Climate Initiative (IKI) and implemented by a consortium led by OECD in cooperation with UNECE, EBRD, and SIC ICWC.* | Enhancing resource management through integrated solutions and demonstrating the economic benefits of applying a nexus approach for long-term regional stability and prosperity. Supports the development of policy mechanisms and analytical tools for integrated water, energy, and land-use management. | Intersectoral approach to cooperation within the CTWC, contribution to national policy dialogues, pilot demonstration in irrigation and ecosystem restoration incl. nature-based solutions for Component 2 |
| *"Central Asia Water Land Nexus Program"* | Improving the health of agricultural land and watersheds, reducing deforestation, and promoting rural economies through collaborative, science-based approaches to managing natural landscapes | Intersectoral and transboundary cooperation and sharing experience in SAP development and implementation since Central Asia Water Land Nexus Programme foresees development of two SAPs (for the Amu Darya and Syr Darya rivers) in the region in close cooperation with UNECE on Component 1 –4 . |
| *UNDP–UNESCO–GEF project "Strengthening the resilience of Central Asian countries by enabling regional cooperation to assess glacio-nival systems to develop integrated methods for sustainable development and adaptation to climate change"* | Glacier monitoring, climate adaptation, hydrological risks, early warning systems and improved water management under changing hydrological conditions | Enhance evidence-based water management, strengthen early warning systems for glacier-related hazards, and support climate-resilient planning in the Chu–Talas Basin in Component 1 |
| *Swiss Agency for Development and Cooperation "Water governance and accountability initiatives in Central Asia" (including Chu–Talas basin)*https://www.eda.admin.ch/sdc | **Strengthening water governance and accountability mechanisms Improving transparency, data, and stakeholder participation** | Strengthening water governance, transparency, and stakeholder participation, thereby enhancing the enabling environment for SAP implementation and sustainability of project Component 1 |
| *Asian Development Bank "Strategy 2030: Achieving Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific"* | **Infrastructure modernization, green growth, sustainable cities, and water services** | Coordination of technical assistance and investment planning for irrigation modernization, municipal water services, and wastewater |

| Programme / Project | Objective/Focus | Potential Areas for Coordination and Synergy |
|---|---|---|
| | | infrastructure; potential follow-on financing alignment under Component 2 and 3 |
| *Islamic Development Bank "Climate Resilient Water Resources Development Project (Phase-1)"* | Infrastructure modernization, climate resilience, agricultural productivity increase | Potential collaboration to improve agricultural productivity, ensure food and water security for vulnerable communities, and build resilience to natural hazards and climate change impacts (Component 3) |
| *European Bank for Reconstruction and Development "Central Asia Municipal Environmental Infrastructure Investments "* | **Water supply, wastewater treatment, and municipal environmental infrastructure.** | Potential financing partner for wastewater treatment and municipal pollution-reduction packages under Component 3 |

## Core Indicators

### Indicator 3 Area of land and ecosystems under restoration

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 2500 | 0 | 0 | 0 |

### Indicator 3.1 Area of degraded agricultural lands under restoration

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|---|
| Cropland | 500.00 | | | |

### Indicator 3.2 Area of forest and forest land under restoration

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 1,000.00 | | | |

### Indicator 3.3 Area of natural grass and woodland under restoration

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|---|

### Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 1,000.00 | | | |

### 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) |
|---|---|---|---|
| 80000 | 0 | 0 | 0 |

### 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 under third-party certification incorporating biodiversity considerations**

| 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) |
|---|---|---|---|
| 80,000.00 | | | |

**Indicator 4.4 Area of High Conservation Value or other forest loss avoided**

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|---|

**Indicator 4.5 Terrestrial OECMs supported**

| Name of the OECMs | WDPA-ID | Total Ha (Expected at PIF) | Total Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) |
|---|---|---|---|---|---|

**Documents (Document(s) that justifies the HCVF)**

| Title |
|---|
| |

**Indicator 6 Greenhouse Gas Emissions Mitigated**

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| **Expected metric tons of $CO_2e$ (direct)** | 0 | 0 | 0 | 0 |
| **Expected metric tons of $CO_2e$ (indirect)** | 200000 | 0 | 0 | 0 |

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

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| **Expected metric tons of $CO_2e$ (direct)** | | | | |
| **Expected metric tons of $CO_2e$ (indirect)** | 200,000 | | | |
| **Anticipated start year of accounting** | 2026 | | | |
| **Duration of accounting** | 20 | | | |

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

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| **Expected metric tons of $CO_2e$ (direct)** | | | | |
| **Expected metric tons of $CO_2e$ (indirect)** | | | | |
| **Anticipated start year of accounting** | | | | |

| | | | | |
|---|---|---|---|---|
| **Duration of accounting** | | | | |

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

| Total Target Benefit | Energy (MJ) (At PIF) | Energy (MJ) (At CEO Endorsement) | Energy (MJ) (Achieved at MTR) | Energy (MJ) (Achieved at TE) |
|---|---|---|---|---|
| **Target Energy Saved (MJ)** | | | | |

**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 7 Shared water ecosystems under new or improved cooperative management**

| | Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|---|
| Shared water Ecosystem | Chu Basin,Talas | | | |
| Count | 2 | 0 | 0 | 0 |

**Indicator 7.1 Level of Transboundary Diagonostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation (scale of 1 to 4; see Guidance)**

| Shared Water Ecosystem | Rating (Expected at PIF) | Rating (Expected at CEO Endorsement) | Rating (Achieved at MTR) | Rating (Achieved at TE) |
|---|---|---|---|---|
| Chu Basin | 3 | | | |
| Talas | 3 | | | |

**Indicator 7.2 Level of Regional Legal Agreements and Regional management institution(s) (RMI) to support its implementation (scale of 1 to 4; see Guidance)**

| Shared Water Ecosystem | Rating (Expected at PIF) | Rating (Expected at CEO Endorsement) | Rating (Achieved at MTR) | Rating (Achieved at TE) |
|---|---|---|---|---|
| Chu Basin | 3 | | | |
| Talas | 3 | | | |

**Indicator 7.3 Level of National/Local reforms and active participation of Inter-Ministeral Committees (IMC; scale 1 to 4; See Guidance)**

| Shared Water Ecosystem | Rating (Expected at PIF) | Rating (Expected at CEO Endorsement) | Rating (Achieved at MTR) | Rating (Achieved at TE) |
|---|---|---|---|---|
| Chu Basin | 3 | | | |
| Talas | 3 | | | |

**Indicator 7.4 Level of engagement in IWLEARN throgh participation and delivery of key products(scale 1 to 4; see Guidance)**

| Shared Water Ecosystem | Rating (Expected at PIF) | Rating (Expected at CEO Endorsement) | Rating (Achieved at MTR) | Rating (Achieved at TE) |
|---|---|---|---|---|
| Chu Basin | 1 | | | |
| Talas | 1 | | | |

**Indicator 11 People benefiting from GEF-financed investments**

| | Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|---|
| **Female** | 25,000 | | | |
| **Male** | 25,000 | | | |
| **Total** | **50,000** | **0** | 0 | **0** |

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

CI 3. Area of land and ecosystems under restoration: the project is expected to restore about 2,500 ha of degraded wetland and forest ecosystems in selected riparian, floodplain, and upper-catchment locations in the Chu-Talas Basin, including priority areas such as the transboundary middle reach of the Chu River, lower-reach wetland/floodplain areas, and selected upper-catchment sites where restoration directly contributes to sediment reduction, bank stabilization, moisture retention, and flow regulation according to NAPs. This target will be refined during the PPG stage based on final site selection and technical design.

CI 4. Area of landscapes under improved practices (excluding protected areas): the project is expected to bring about 80,000 ha under improved water- and ecosystem-related management practices through hotspot demonstrations and associated basin measures. This includes areas benefiting from irrigation conveyance and/or on-farm water-loss reduction, improved water accounting and regulation, riparian buffer rehabilitation, bank stabilization, and upper-catchment management practices that support sediment control and flow regulation. The figure is proposed to capture the broader functional footprint of improved practices around the pilot sites and will be refined during the PPG stage.

CI 6. GHG Emissions Mitigated: Based on the tentative target area geography, the restoration activities captured under CI 3, and the assumption that the target areas will include a mix of riparian forest, upper-catchment woodland, and wetland ecosystems, the project is expected to generate an estimated 200,000 tCO2e in mitigation benefits over 20 years. The methodology and assumptions will be refined during PPG.

CI 7. Shared water ecosystems under new or improved cooperative management: the project targets 2 shared water ecosystems under improved cooperative management, namely the Chu Basin and the Talas Basin. This reflects the project's central transboundary objective: to strengthen CTWC-led coordination, harmonized monitoring, joint basin reporting, and updated bilateral procedures so that both basins are managed through more effective and climate-resilient cooperation arrangements. Using a conservative scoring approach, the current baseline can be presented as Level 3 for Indicator 7.1, reflecting that the TDA and SAP are in place and endorsed, but SAP implementation is still not yet sufficiently operationalized at the basin scale; Level 3 for Indicator 7.2, reflecting that the bilateral legal framework and the CTWC regional management institution are in place, but their mandate, procedures, and functionality still require strengthening to fully support SAP implementation; and Level 3 for Indicator 7.3, reflecting that national reforms and inter-ministerial coordination mechanisms already exist in both countries, but implementation, harmonization, and practical coordination remain incomplete. For Indicator 7.4, the current baseline remains Level 1, since the project is new and IW:LEARN engagement and delivery of key products have not yet started. On that basis, the proposed targets would be to raise Indicators 7.1, 7.2, and 7.3 from Level 3 to Level 4 through stronger SAP implementation, strengthened legal and institutional functionality, and fuller implementation of national reforms supported by active inter-ministerial coordination, while Indicator 7.4 would increase from Level 1 to Level 3 through establishment of an IW:LEARN-aligned web presence, participation in IW:LEARN activities, and delivery of required knowledge products

CI 11. People directly benefiting from the GEF investment: the project is expected to directly benefit at least 50,000 people, of whom 50% are women, through improved irrigation water management, more reliable local water availability, reduced exposure to pollution and water-related risks, ecosystem-supporting measures in selected hotspots, and participation in project-supported planning, demonstrations, training, and monitoring. Direct beneficiaries are expected to include water users, farmers, rural households, and communities in and around the selected pilot and restoration areas; this number will be revisited and further specified during the PPG stage once final sites and delivery mechanisms are confirmed.

## Key Risks

| | Rating | Explanation of risk and mitigation measures |
|---|---|---|
| CONTEXT | | |
| Climate | Moderate | Severe drought and increasing runoff variability may intensify water shortages, heighten pressure on seasonal water allocation between the two countries, and accelerate degradation of riparian and water-dependent ecosystems.<br><br>Mitigation measures: The project will support measures that reduce irrigation water losses, improve water-use efficiency, and strengthen ecosystem-related water security, thereby helping extend water availability under dry conditions. The project will also improve basin diagnostics, monitoring, and coordinated decision-making so that both countries can respond more effectively to drought and hydrological variability. |
| Environmental and Social | Substantial | Project-supported pilot measures and localized works may create site-specific environmental and social risks, including temporary construction impacts, biodiversity sensitivity, localized hydrological effects, pollution risks, occupational health and safety issues, and risks of exclusion from stakeholder participation. Mitigation measures: Risks will be managed through UNDP safeguard procedures. During PPG, the project will prepare the ESMF/SESP, SEP, Gender Action Plan, and GBV/SEA screening, together with site screening and baseline sampling. Site-specific ESMPs and compensation measures will be prepared where required. A gender-sensitive grievance redress mechanism, contractor E&S requirements, quality assurance procedures, and independent oversight will be established before any works begin. |
| Political and Governance | Moderate | Institutional and leadership changes in both countries, combined with the political sensitivity of transboundary water allocation, could delay approvals, reduce momentum for SAP and NAPs implementation, and slow agreement on protocols, procedures, and joint actions. Mitigation measures: The project will anchor implementation in a strengthened CTWC-led coordination structure supported by stable technical institutions and subnational actors to implement NAPs and SAP. During PPG and inception, the project will formalize roles, procedures, and coordination arrangements through agreed workplans and cooperation instruments, sequence technically neutral and high-benefit actions first, and use regular reporting and review to maintain continuity despite institutional changes. |

| | | |
|---|---|---|
| INNOVATION | | |
| Institutional and Policy | Moderate | Institutions may be reluctant to share data or adopt compatible procedures for basin monitoring, reporting, and joint decision-making, particularly where data are seen as politically sensitive. Mitigation measures: The project will promote practical, confidence-building cooperation through agreed monitoring parameters, joint reporting formats, and CTWC-supported review processes. It will demonstrate that better information exchange supports more reliable allocation, preparedness, and long-term basin resilience, while aligning proposed procedures with the new Water Codes and existing bilateral cooperation mechanisms. |
| Technological | Low | Procurement, calibration, installation, and operation of monitoring and data-management equipment may take longer than expected, and differences between national systems may delay compatible use of data. Mitigation measures: The project will define technical specifications during PPG, schedule early calibration and compatibility testing, and prepare common QA/QC and operating procedures. Procurement packages will include supplier support, warranties, spare parts, and user training, while implementation schedules will include contingency time for installation, testing, and adjustment. |
| Financial and Business Model | Low | Governments, IFIs, or donors may not commit funds at the scale or timing required, limiting implementation of priority investments. Mitigation measures: The project will develop SAP-aligned financing strategy and financing engagement packages early to engage partners throughout implementation and align with national investment plans and IFI pipelines to secure commitments. |
| EXECUTION | | |
| Capacity | Moderate | Development of the CTWC's broader implementation role may be slower than expected because of limited institutional capacity, legacy perceptions of its mandate, and uneven technical capacity among participating institutions Mitigation measures: The project will build on the existing CTWC platform, previous UNECE/OSCE/SDC/UNDP support, and the established working groups on environment and adaptation. It will provide targeted technical support, practical coordination arrangements, and implementation-oriented tools so that CTWC and relevant institutions can gradually expand from narrow operational cooperation toward broader SAP implementation functions. |
| Fiduciary | Low | Procurement and financial management delays or weak compliance could affect timely delivery, especially in a multi-country project with several implementing partners and co-financing sources. Mitigation measures: The project will follow UNDP fiduciary standards, including transparent procurement and financial reporting systems. National execution entities will receive training on fiduciary compliance, and financial audits will be conducted regularly |

| | | |
|---|---|---|
| Stakeholder | Low | Weak inter-sectoral coordination within countries and between countries may reduce ownership of project activities or slow implementation of cross-sectoral basin measures. Mitigation measures: The project will use the CTWC mechanism, national focal institutions, and local implementation arrangements to strengthen coordination around agreed basin priorities. Participation of key ministries, technical agencies, local authorities, WUAs, and communities will be built into planning, demonstrations, monitoring, and knowledge-sharing processes. |
| Other | Moderate | Economic shocks, pandemics, supply chain disruptions, or regional instability could delay procurement, field activities, consultations, or investment engagement. Mitigation measures: The project will maintain implementation flexibility through contingency planning, phased scheduling, local procurement options where feasible, and periodic risk reviews to adjust workplans as needed. |
| Overall Risk Rating | Moderate | After applying the planned mitigation measures, the project's overall residual risk is assessed as Moderate. While the Chu–Talas context contains inherently sensitive elements (transboundary allocation, civil works, and significant financing needs), the combination of early, sequenced mitigation actions — to be delivered during PPG and the start-up phase — materially reduces the probability that these risks will prevent achievement of the project's outcomes. |

## C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The project's comprehensive approach is well-aligned with Objectives 3 of the GEF International Waters Focal Area and 2 of GBF Targets, SDGs, international, regional, and national priorities.

**Project alignment with the GEF-8 International Waters Objectives**

| Focal Area | Focal Area Objective | Contribution to the Objective |
|---|---|---|
| International Waters | Objective 3: To enhance water security in shared freshwater ecosystems | The Chu-Talas project directly contributes to GEF International Waters Focal Area Objective 3 by strengthening transboundary cooperation, harmonized monitoring, practical water-loss reduction, ecosystem-supporting measures, and follow-on investment preparation to improve water security and climate resilience in the shared freshwater ecosystems of the Chu and Talas River Basins. |

**Project contribution to GBF Targets**

| Target | Contribution to the target |
|---|---|
| **Target 2 — Restoration of Degraded Ecosystems** | The project contributes directly to Target 2 by restoring selected riparian, wetland, floodplain, and upper-catchment ecosystems in the Chu-Talas Basin to improve sediment control, bank stabilization, flow regulation, and overall ecosystem resilience.<br>Output 2.3. Targeted ecosystem-supporting measures considering women empowerment aspects are implemented in a few selected riparian or upper-catchment locations where they directly contribute to sediment reduction, bank stabilization or flow regulation |
| **Target 3 -** spatial conservation / ecologically important areas | The project will contribute by improving the integration of biodiversity priorities into transboundary basin planning, strengthening cooperative management arrangements in ecologically important inland water and riparian areas, and supporting better connectivity and management of priority ecosystems within the wider landscape<br><br>Output 1.1 (CTWC-led SAP coordination and reporting mechanism),<br>Output 1.3 (harmonized basin monitoring and joint basin reporting for ecosystem indicators),<br>Output 1.4 (legal/procedural proposals to strengthen the CTWC mandate),<br>Output 2.3 (ecosystem-supporting measures in riparian and upper-catchment areas). |
| **Target 7 — Pollution Reduction** | The project contributes directly to Target 7 by preparing and helping mobilize priority investments in wastewater treatment and pollution reduction at key municipal and other pollution hotspots affecting shared basin water quality:<br>Output 1.2 (targeted diagnostic update covering pollution hotspots),<br>Output 1.3 (harmonized monitoring for water quality),<br>Output 3.2 (priority wastewater and pollution reduction investments), |
| **Target 8 — Climate Change and Ecosystem Resilience** | The project contributes directly to Target 8 by strengthening climate-resilient transboundary water management, improving basin monitoring and planning under climate risk, and implementing ecosystem-supporting measures that help reduce vulnerability to drought, runoff variability, erosion, and degradation.<br>Output 1.2 (diagnostic update covering climate risks),<br>Output 2.2 (pilot measures reducing water losses and improving environmental flows),<br>Output 2.3 (ecosystem-supporting measures for flow regulation, sediment reduction, bank stabilization),<br>Output 3.1 & 3.3 (investment packages demonstrating climate-resilience benefits). |
| **Target 10 — Sustainable Management of Productive Areas** | The project contributes directly to Target 10 by demonstrating irrigation-efficiency and water-loss reduction measures in productive agricultural landscapes, helping make irrigated farming more sustainable and less damaging to shared water resources and ecosystems.<br>Output 2.1 (selection and design of irrigation-loss reduction hotspots),<br>Output 2.2 (pilot measures on irrigation efficiency and water-use efficiency),<br>Output 3.1 (priority irrigation modernization and canal-efficiency investments) |
| **Target 14 — Mainstreaming Biodiversity into Decision-Making** | The project contributes directly to Target 14 by integrating ecosystem, environmental flow, climate, and water-quality considerations into CTWC coordination, basin monitoring, legal/procedural arrangements, and priority investment planning in both countries.<br>Output 1.1 (SAP coordination and reporting mechanism),<br>Output 1.2 (diagnostic update used as decision-support tool),<br>Output 1.3 (joint monitoring/reporting including ecosystem indicators),<br>Output 1.4 (legal/procedural proposals for stronger basin governance) |
| **Target 19 — Mobilizing Financial Resources** | The project contributes directly to Target 19 by preparing bankable investment packages and financing engagement materials that help mobilize and channel follow-on public, IFI, and other financing to agreed basin priorities.<br>Output 3.1 (screening and gender inclusive economic analysis of irrigation investments),<br>Output 3.2 (screening and technical and gender inclusive economic analysis prefeasibility of wastewater/pollution investments),<br>Output 3.3 (financing engagement packages to mobilize follow-on public, IFI, and other financing) |
| **Target 22 — Participation and Inclusive Decision-Making** | The project contributes directly to Target 22 by applying participatory and gender-inclusive approaches in SAP coordination, stakeholder engagement, demonstrations, monitoring, knowledge sharing, and project governance across the basin.<br>Output 1.1 (gender-balanced representation and sex-disaggregated participation/results tracking),<br>Output 1.2 (gender-responsive data collection and consultations),<br>Output 2.1–2.3 (equitable participation of women and men in consultations, implementation and monitoring considering women empowerment), |

| | |
|---|---|
| | Output 3.1–3.3 (socially inclusive investment preparation and financing engagement),<br>Output 4.1, 4.2 (participatory and gender-inclusive KM)<br>Output 5.1 (participatory and gender-inclusive M&E system) |

**Project contribution to SDGs**

| SDG | Direct contribution |
|---|---|
| **SDG 2 — Zero Hunger** | The project contributes directly to SDG 2 by improving irrigation efficiency and water-use reliability in agricultural areas, thereby supporting more resilient food production systems and reducing the vulnerability of irrigated farming to water scarcity and climate stress. |
| **SDG 6 — Clean Water and Sanitation** | The project contributes directly to SDG 6 by improving transboundary water governance, reducing irrigation water losses, strengthening basin monitoring, and preparing investments in wastewater treatment and pollution reduction to improve water security, water quality, and protection of water-related ecosystems. |
| **SDG 13 — Climate Action** | The project contributes directly to SDG 13 by strengthening climate-resilient basin management, improving the capacity of the CTWC and national institutions to respond to drought and hydrological variability, and supporting measures that reduce climate risks to water resources, ecosystems, and livelihoods. |
| **SDG 15 — Life on Land** | The project contributes directly to SDG 15 by restoring and improving management of riparian, wetland, floodplain, and upper-catchment ecosystems that are critical for biodiversity, land stability, ecosystem functions, and resilience in the Chu-Talas Basin. |
| **SDG 17 — Partnerships for the Goals** | The project contributes directly to SDG 17 by strengthening bilateral cooperation between Kazakhstan and the Kyrgyz Republic through the CTWC, supporting multi-stakeholder dialogue, and mobilizing follow-on financing and technical partnerships with governments, IFIs, and other development partners. |

**Project contribution to the international, regional and national environmental and development priorities**

| Priorities | Contribution |
|---|---|
| **UNECE Water Convention** | The project contributes to the objectives of the UNECE Water Convention by strengthening institutional cooperation between Kazakhstan and the Kyrgyz Republic, improving compatible monitoring and reporting, and supporting practical arrangements for coordinated management of shared water resources. Kazakhstan is a Party to the Water Convention and has recently became a Party to the Protocol on Water and Health. Kyrgyzstan is not a Party but is actively involved in various activities under the Water Convention and the Protocol on Water and Health (such as, for example, capacity building, knowledge exchange, reporting on SDG indicator 6.5.2 on transboundary water cooperation and projects on-the-ground). The project will contribute to Party and non-Party cooperation and will showcase an important example of transboundary cooperation in the region serving as a replicable practice for other basins in Central Asia and beyond. |
| **Strategic Action Programme (SAP) for the Chu and Talas River Basins for 2022–2030** | The project directly contributes to the SAP by operationalizing its priority joint and national actions through strengthened CTWC-led coordination, improved basin monitoring and reporting, practical demonstrations to reduce irrigation water losses and support ecosystem resilience, and preparation of follow-on investments for irrigation efficiency and wastewater pollution reduction. |
| **National Action Plan for the Chu and Talas River Basins for 2022–2030, Republic of Kazakhstan** | The project directly contributes to the National Action Plan for the Chu and Talas River Basins for 2022–2030, Republic of Kazakhstan and the National Action Plan for the Chu and Talas River Basins of the Kyrgyz Republic for 2022–2030 by supporting their shared priorities on reducing irrigation water losses, strengthening water accounting and basin monitoring, improving water quality and wastewater management, restoring riparian and upper-catchment ecosystems, and reinforcing the institutional and technical basis for coordinated implementation of basin measures through the CTWC under the SAP framework. |
| **National Action Plan for the Chu and Talas River Basins of the Kyrgyz Republic for 2022–2030** | |
| **Kazakhstan** | |
| **Concept for the Development of the Water Resources Management System of the Republic of Kazakhstan for 2024–2030** | The project directly contributes to the implementation of the indicated national policies in Kazakhstan through strengthened transboundary cooperation and CTWC-led coordination in the Chu and Talas basins, improved basin monitoring and reporting, practical demonstrations to reduce irrigation water losses and support ecosystem resilience, and preparation of follow-on investments for irrigation efficiency and wastewater pollution reduction. |
| **Comprehensive Plan for the Development of the Water Sector of the Republic of Kazakhstan for 2024–2028** | |

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|---|---|
| | |
| **Concept for the Development of the Agro-Industrial Complex of the Republic of Kazakhstan for 2021–2030** | |
| **Kyrgyzstan** | |
| **National Development Programme of the Kyrgyz Republic until 2026** | The project directly contributes to the implementation of national policies in Kyrgyzstan by improving economic, social and environmental development in the Chu and Talas basins considering gender equality namely through strengthened CTWC-led coordination, improved basin monitoring and reporting, practical demonstrations to reduce irrigation water losses and support ecosystem resilience, and preparation of follow-on investments for irrigation efficiency and wastewater pollution reduction. |
| **Nationally Determined Contribution (NDC 3.0)** | |
| **State Irrigation Development Programme (2020–2026)** | |
| **National Strategy for Achieving Gender Equality** | |

## D. POLICY REQUIREMENTS

### Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

### Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

#### Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

#### Provide a brief summary and list of names and dates of consultations

Key stakeholders were consulted throughout PIF development in line with GEF requirements, through a structured and continuous engagement process across both the Kyrgyz Republic and Kazakhstan (2021–early 2026). Consultations involved national ministries and sector agencies (water, environment, emergency services, foreign affairs), hydrometeorological services, municipal authorities, academia, civil society, development partners, and directly affected communities. In the Kyrgyz Republic, this included iterative consultations during PIF development and finalization, interministerial Technical Working Group discussions (26 December 2025), and formal endorsement processes, including submission of a letter from the Water Resources Service to the GEF Operational Focal Point (13 August 2025). Capacity-building and multi-stakeholder engagement activities—such as NEXUS trainings (June 2024) and scenario-planning workshops (December 2024)—directly informed the PIF by identifying Chu-Talas basin vulnerabilities, priority interventions, and the need for integrated, climate-resilient water management approaches.
At the transboundary level, engagement was anchored in the meetings of the Commission of Kazakhstan and Kyrgyzstan on the use of interstate water management facilities on the Chu and Talas rivers (CTWC). At its 32nd meeting in Almaty (22 December 2023), the co-chairs endorsed the Strategic Action Programme (SAP) for 2022–2030 through a joint statement, confirming the

Commission's mandate to coordinate implementation. Subsequent meetings—including the 33rd meeting (26 April 2024, Bishkek), which supported PIF preparation and requested GEF endorsement processes, and the 36th meeting (September 2025), which emphasized monitoring of SAP implementation—provided continuous guidance and validation of the project concept. In Kazakhstan, consultations were further strengthened through high-level and technical discussions with the Ministry of Water Resources and Irrigation, Ministry of Ecology and Natural Resources, hydrometeorological services, and other national stakeholders throughout 2024–2026, including consultations on the margins of international processes (e.g., UNFCCC meetings and Water Convention events). Extensive consultations with local communities and private sector stakeholders were undertaken during the development of the SAP, ensuring that locally grounded priorities, water-use practices, and investment needs were reflected in the programme and subsequently integrated into the PIF design. Building on this foundation, further targeted and inclusive stakeholder consultations—including with vulnerable groups, local communities, and private sector actors—will be conducted during the PPG phase to refine project design, strengthen ownership, and ensure effective implementation arrangements[1][19].

**In table below shown a brief summary and list of names and dates of consultations:**

| **Kyrgyzstan** | | |
|---|---|---|
| **Participant** | **Consultation / Activity** | **Date** |
| Water resources services under Ministry of Water Resources, Agriculture and Processing Industry and relevant ministries/bodies (indicated below) | Consultations during development and adjustment of PIF | 2021-2025 |
| Water resources services under Ministry of Water Resources, Agriculture and Processing Industry and relevant ministries/bodies (indicated below) | Consultations during finalization of PIF as result the letter from Director WRS to OPF of GEF in Kyrgyz Republic had been sent (dated 13 August 2025) | 2025 |
| Water resources services under Ministry of Water Resources, Agriculture and Processing Industry | Interministerial Technical Working Group for discussion PIF circulated by OPF of GEF in Kyrgyz Republic | 26.12.2025 |
| Ministry of Water Resources, Agriculture and Processing Industry | Interministerial Technical Working Group for discussion PIF circulated by OPF of GEF in Kyrgyz Republic | 26.12.2025 |
| Ministry of Foreign Affairs | Interministerial Technical Working Group for discussion PIF circulated by OPF of GEF in Kyrgyz Republic | 26.12.2025 |
| Ministry of Emergency Situation | Interministerial Technical Working Group for discussion PIF circulated by OPF of GEF in Kyrgyz Republic | 26.12.2025 |
| Hydrometeorological Services under Ministry of Emergency Situation | Interministerial Technical Working Group for discussion PIF circulated by OPF of GEF in Kyrgyz Republic | 26.12.2025 |
| Forestry Services under Ministry of Emergency Situation | Interministerial Technical Working Group for discussion PIF circulated by OPF of GEF in Kyrgyz Republic | 26.12.2025 |
| Ministry of Natural Resources, Ecology and Technical Supervision | Interministerial Technical Working Group for discussion PIF circulated by OPF of GEF in Kyrgyz Republic | 26.12.2025 |

| | | |
|---|---|---|
| Ministry of Natural Resources, Ecology and Technical Supervision, Water Resource Service, Ministry of Foreign Affairs and other relevant institutions within the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers | 36th meeting of the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers. The Commission in the meeting minutes acknowledged the importance of the monitoring of SAP implementation. | 26.09.2025 |
| 35 female and male representatives of district water management authorities of the Chu–Talas River Basin, academic institutions, relevant national ministries and civil society organizations participated in the training. The target groups were identified jointly with the project team and national partners and included representatives from district water management departments of the Chu–Talas Basin, the Ministry of Energy of the Kyrgyz Republic, the Ministry of Natural Resources, Ecology and Technical Supervision, the Ministry of Emergency Situations, academia and non-governmental organizations. | Pilot capacity-building and multi-stakeholder participation process implemented through training with emphasis on practical scenario planning exercises, where participants worked with climate change models and hydrological projections for the Chu–Talas River Basin. Through hands-on group work, participants developed and analyzed alternative water availability and climate risk scenarios, gaining initial knowledge and practical understanding of climate forecasting, risk assessment, and scenario-based planning for climate-resilient basin management and cross-sectoral coordination. The outcomes of these exercises helped to identify key vulnerabilities, priority intervention areas, and the need for integrated, basin-wide approaches to climate-resilient water management for the development of the PIF. | 11-12.12.2024 |
| 30 female and male representatives of national ministries and agencies, academic institutions, civil society organizations, youth representatives, media and development partners participated in the training. The target groups were jointly identified with national partners and included representatives from the Ministry of Natural Resources, Ecology and Technical Supervision; Ministry of Emergency Situations; Ministry of Energy; Ministry of Health; Ministry of Water Resources, Agriculture and Processing Industry; Water Resources Service; Drinking Water Supply and Sanitation Development Institution; academia; civil society organizations; youth community; UNDP; media representatives and trainers. | Pilot capacity-building and multi-stakeholder participation process implemented through training sessions applying the Water–Energy–Food Security–Health (NEXUS) approach in Kyrgyzstan, aimed at strengthening the capacities of national partners and decision-makers and other stakeholders to address climate change and cross-sectoral interlinkages.<br><br>The sessions covered global best practices of the NEXUS approach. Particular attention was given to sustainable natural resource management planning in the Chu–Talas River Basin, including integrated water allocation, climate-resilient agriculture and ecosystem protection, using a participatory and territory-based approach. emphasized sustainable natural resource management, climate-resilient agriculture, and ecosystem protection within the basin. These participatory processes contributed to shaping the project's conceptual framework, particularly its focus on cross-sectoral coordination, nature-based solutions, and capacity strengthening. | 29-30.06.2024 |
| Ministry of Natural Resources, Ecology and Technical Supervision, Water Resource Service, | 33rd Meeting of the Commission of the Kazakhstan and the Kyrgyzstan on the use of | 26.04.2024 |

| | | |
|---|---|---|
| Ministry of Foreign Affairs and other relevant institutions within the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers | interstate water management facilities on the Shu and Talas rivers where the Commission was informed about the start of preparation of the GEF project and asked GEF focal points to submit endorsement letters to GEF secretariat. | |
| Water Resource Service under the Ministry of Water Resources and Agriculture | Discussion between the Water Resource Service and the secretariat of the Water Convention on the GEF project on the margins of the Global workshop on droughts in transboundary basins | 26-28.02.2024 |
| Ministry of Natural Resources, Ecology and Technical Supervision, Water Resource Service, Ministry of Foreign Affairs and other relevant institutions within the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers | 32nd Meeting of the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers where SAP was endorsed through the joint statement | 22.12.2023 |

**Kazakhstan**

| **Participant** | **Consultation / Activity** | **Date** |
|---|---|---|
| Ministry of Water Resources and Irrigation, environmental authorities, hydrometeorological services, local authorities and other institutions within the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas river | Consultations during development and adjustment of PIF | 2021-2025 |
| Ministry of Water Resources and Irrigation, Ministry of Foreign Affairs, local authorities, water canals and other relevant institutions within the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas river | 32nd Meeting of the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers where SAP was endorsed through the joint statement | 22.12.2023 |
| Ministry of Water Resources and Irrigation, Ministry of Foreign Affairs, local authorities, water canals and other relevant institutions within the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas river | 33rd Meeting of the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers where the Commission was informed about the start of preparation of the GEF project and asked GEF focal points to submit endorsement letters to GEF secretariat. | 26.04.2024 |
| Ministry of Water Resources and Irrigation | Discussion meeting with Vice Minister of Water Resources and irrigation. | 15.07.2024 |
| Ministry of Ecology and Natural Resources | Discussion meeting with Ministry of Ecology and Natural Resources | 06.08.2024 |
| Ministry of Water Resources and Irrigation | Discussion meeting with Vice minister of water resources and irrigation. | 27.08.2024 |
| Ministry of Ecology and Natural Resources | Discussion between the Minister and UNECE Executive Secretary on overall cooperation including in the Chu-Talas basin within the new GEF project at the margines of COP 29 in Baku, | November 2024 |

| | | |
|---|---|---|
| | Azerbaijan. This meeting was followed by a more technical discussion between Kazakhstan GEF OFP and the secretariat of the Water Convention on the GEF project. | |
| Ministry of Ecology and Natural Resources | Discussion between Kazakhstan GEF OFP and the secretariat of the Water Convention on the GEF project on the margins of the 62nd UNFCCC Subsidiary Bodies meeting | June 2025 |
| Ministry of Water Resources and Irrigation, Ministry of Foreign Affairs, local authorities, water canals and other relevant institutions within the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas river | 36th meeting of the Commission of the Kazakhstan and the Kyrgyzstan on the use of interstate water management facilities on the Shu and Talas rivers. The Commission in the meeting minutes acknowledged the importance of the monitoring of SAP implementation. | 26.09.2025 |
| Ministry of Water Resources and Irrigation | Consultation on development of GEF project to support SAP implementation on the margines of the 6th joint meeting of the Working Group on IWRM and the Working Group on Monitoring and Assessment under the Water Convention. The Ministry representative was supportive of the project because it will help both countries to implement SAP and develop transboundary cooperation. | 13-15.10.2025 and follow up communication in November-December 2025 |
| State Hydrometeorological Service Kazhydromet under the Ministry of Ecology and Natural Resources | Consultations during development and adjustment of PIF | February 2026 |
| Non-profit joint-stock company 'Information and Analytical Centre for Water Resources' of the Ministry of Water Resources and Irrigation | Consultations during development and adjustment of PIF | February 2026 |
| Ministry of Water Resources and Irrigation | Consultations during development and adjustment of PIF | February 2026 |
| Ministry of Water Resources and Irrigation,<br><br>Ministry of Ecology and Natural Resources | Communication between the representative of the Ministry of Water Resources and Irrigation and GEF OFP from the Ministry of Ecology and Natural Resources with UNDP Kazakhstan and the secretariat of the Water Convention regarding GEF project and PIF endorsement | February 2026 |

[1] The proponents confirm that, during the PPG phase, they will execute a robust and inclusive stakeholder consultation process covering all relevant stakeholder groups, including CTWC bodies, national and subnational authorities, municipalities and utilities, hydrometeorological and technical institutions, academia, civil society organizations, Water User Associations, farmers and local communities, women and youth groups, vulnerable groups, private sector actors, and development and financing partners. Inputs from these consultations will be systematically documented and used to refine the full project design, including site selection, implementation arrangements, stakeholder roles, safeguards instruments, gender analysis and action plan, and the Stakeholder Engagement Plan, prior to CEO endorsement.

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

### Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

### Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

| PIF | CEO Endorsement/Approval | MTR | TE |
|---|---|---|---|
| High or Substantial | | | |

## E. OTHER REQUIREMENTS

### Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

## ANNEX A: FINANCING TABLES

### GEF Financing Table

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

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Programming of Funds | Grant / Non-Grant | GEF Project Grant($) | Agency Fee($) | Total GEF Financing ($) |
|---|---|---|---|---|---|---|---|---|
| UNDP | GET | Regional | International Waters | International Waters: IW-3 | Grant | 5,785,500.00 | 549,622.00 | 6,335,122.00 |
| **Total GEF Resources ($)** | | | | | | **5,785,500.00** | **549,622.00** | **6,335,122.00** |

### Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount ($)

150000

PPG Agency Fee ($)

14250

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Programming of Funds | Grant / Non-Grant | PPG($) | Agency Fee($) | Total PPG Funding($) |
|---|---|---|---|---|---|---|---|---|
| UNDP | GET | Regional | International Waters | International Waters: IW-3 | Grant | 150,000.00 | 14,250.00 | 164,250.00 |
| **Total PPG Amount ($)** | | | | | | **150,000.00** | **14,250.00** | **164,250.00** |

Please provide justification

## Sources of Funds for Country Star Allocation

| GEF Agency | Trust Fund | Country/ Regional/ Global | Focal Area | Sources of Funds | Total($) |
|---|---|---|---|---|---|
| **Total GEF Resources** | | | | | **0.00** |

## Indicative Focal Area Elements

| Programming Directions | Trust Fund | GEF Project Financing($) | Co-financing($) |
|---|---|---|---|
| IW-3 | GET | 5,785,500.00 | 41400000 |
| **Total Project Cost** | | **5,785,500.00** | **41,400,000.00** |

## Indicative Co-financing

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount($) |
|---|---|---|---|---|
| Recipient Country Government | Ministry of Water Resources and Irrigation, Government of Kazakhstan | Public Investment | Investment mobilized | 300000 |
| Recipient Country Government | Ministry of Industry and Construction, Government of Kazakhstan | Public Investment | Investment mobilized | 100000 |

| | | | | |
|---|---|---|---|---|
| Recipient Country Government | Ministry of Emergency Situations, Government of Kazakhstan | Public Investment | Investment mobilized | 100000 |
| Recipient Country Government | Ministry of Ecology and Natural Resources, Government of Kazakhstan | Public Investment | Investment mobilized | 100000 |
| Recipient Country Government | Ministry of Agriculture, Government of Kazakhstan | Public Investment | Investment mobilized | 400000 |
| Recipient Country Government | Water Resources Service under Ministry of Water Resources, Agriculture and Processing Industry of KR, Government of Kyrgyz Republic | Public Investment | Investment mobilized | 1500000 |
| Recipient Country Government | Ministry of Natural Resources, Ecology and Technical Supervision of KR, Government of Kyrgyz Republic | Public Investment | Investment mobilized | 500000 |
| Recipient Country Government | Ministry of Emergency Situations of KR, Government of Kyrgyz Republic (Kyrgyzhydromet and Forestry Services under this body) | Public Investment | Investment mobilized | 500000 |
| Beneficiaries | Chu-Talas Water Commission | In-kind | Recurrent expenditures | 700000 |
| Others | United Nations Economic Commission for Europe (UNECE) | In-kind | Recurrent expenditures | 1000000 |
| GEF Agency | United Nations Development Programme (UNDP) | In-kind | Recurrent expenditures | 500000 |
| Others | United Nations Educational, Scientific and Cultural Organization – Intergovernmental Hydrological Programme (UNESCO-IHP) | Grant | Investment mobilized | 1200000 |
| Donor Agency | Switzerland (Swiss Agency for Development and Cooperation – SDC) | Grant | Investment mobilized | 1500000 |
| Donor Agency | World Bank | Grant | Investment mobilized | 1300000 |
| Donor Agency | Islamic Development Bank | Loans | Investment mobilized | 26000000 |
| Donor Agency | European Bank for Reconstruction and Development (EBRD) | Loans | Investment mobilized | 1000000 |
| Donor Agency | Asian Development Bank (ADB) | Loans | Investment mobilized | 3800000 |
| Others | National Academy of Science, Government of Kazakhstan | In-kind | Recurrent expenditures | 250000 |

| | | | | |
|---|---|---|---|---|
| Others | National Academy of Science, Government of Kyrgyz Republic | In-kind | Recurrent expenditures | 250000 |
| Civil Society Organization | CAMP Alatoo Public Foundation, Kyrgyzstan | In-kind | Recurrent expenditures | 80000 |
| Civil Society Organization | Forestry Association of Kyrgyzstan | In-kind | Recurrent expenditures | 60000 |
| Civil Society Organization | Global Water Partnership in Kyrgyzstan | In-kind | Recurrent expenditures | 60000 |
| Civil Society Organization | Global Water Partnership in Kazakhstan | In-kind | Recurrent expenditures | 30000 |
| Others | Kazakh Scientific Research Institute of Water Economy, Kazakhstan | In-kind | Recurrent expenditures | 30000 |
| Others | Kazakh National University of Water Management and Irrigation, Kazakhstan | In-kind | Recurrent expenditures | 140000 |
| **Total Co-financing** | | | | **41,400,000.00** |

Describe how any "Investment Mobilized" was identified

For Government of Kazakhstan including the Ministry of Water Resources and Irrigation, the Ministry of Industry and Construction, the Ministry of Emergency Situations, the Ministry of Ecology and Natural Resources, and the Ministry of Agriculture (US$1,000,000) and Government of the Kyrgyz Republic including the Water Resources Service under the Ministry of Water Resources, Agriculture and Processing Industry, the Ministry of Natural Resources, Ecology and Technical Supervision, and the Ministry of Emergency Situations (including Kyrgyzhydromet and Forestry Services) (US$ 3,000,000) identified co-financing done by mapping existing and planned government investment and technical programmes that already support national water security, basin planning, monitoring, and ecosystem management, and then tagging those lines that directly contribute to the project's TDA–SAP pathway and early stress-reduction measures. Chu-Talas Water Commission in-kind co-financing (US$ 700,000) as recurrent expenditure, covering the routine staff time, operations, and use of government systems and assets needed to implement this project.

Academic co-financing (US$ 770,000 total) from national research institutions and universities in Kazakhstan and Kyrgyzstan represents a structured contribution of scientific expertise, including hydrological modelling, climate risk assessments, water related friendly practices and data analysis. These inputs directly support evidence-based decision-making within the project and strengthen the technical foundation of transboundary water management. The involvement of national academies ensures continuity of knowledge and institutionalization of analytical capacities.

CSO and NGO co-financing (US$ 230,000 total) reflects organized engagement of civil society networks, including Global Water Partnership platforms, and community-based organizations. These contributions support stakeholder consultations, participatory planning, awareness raising, and local-level implementation support. Their involvement provides a clear mechanism for inclusiveness, transparency, and uptake of project interventions at the community and basin levels.

UNECE in-kind co-financing (US$ 1,000,000) will cover capacity building activities in the framework of the Water Convention and the Protocol on Water and Health (e.g. thematic workshops, guidance materials and knowledge products, technical expertise) as well as projects in Central Asia with UNECE engagement in such areas as integrated water resource management, transboundary cooperation, monitoring, water-energy-food-ecosystem nexus and climate change adaptation. The UNDP co-financing (US$ 500,000) reflects its role as GEF Implementing Agency and includes technical assistance, project management, and oversight and quality assurance functions. UNDP will provide fiduciary oversight, results-based monitoring, environmental and social safeguards compliance, gender mainstreaming, and quality assurance of project outputs. This ensures that implementation meets GEF and UNDP standards, reduces risks, and guarantees effective utilization of co-financing to achieve measurable results.

In addition to public investments, the project will leverage co-financing from development partners and IFIs that are directly aligned with SAP priorities. At present this co-financing indicative and more precisely will be validated during PPG phase. This includes UNESCO (IHP) (US$ 1,200,000) and Switzerland (SDC) (US$ 1,500,000) focusing on strengthening water governance, transparency, and stakeholder participation in the Chu–Talas Basin will strengthen knowledge generation, basin-level data systems, institutional capacity, and inclusive governance mechanisms, directly underpinning the project's outputs on transboundary cooperation, joint monitoring, and stakeholder engagement; and the World Bank (US$ 1,300,000) through ongoing and pipeline investments in climate-resilient water services, including rehabilitation of irrigation and water supply systems, institutional strengthening, and integration of climate resilience into water sector planning. These contributions will enhance institutional capacity, data systems, and governance frameworks.

Significant co-financing is also expected from international financial institutions supporting infrastructure and basin-relevant investments. This includes ADB investments (US$ 3,800,000) in water resources management, irrigation modernization, and climate-resilient agriculture programmes in the basin, including canal rehabilitation, improved water-use efficiency, and institutional reforms, Islamic Development Bank loan to the Government of Kazakhstan (US$ 26,000,000) aimed at reconstructing irrigation infrastructure (i.e. channels) of Zhambyl region in Kazakhstan, directly contributing to improved water conveyance efficiency and reduced losses in the Chu–Talas basin context, and EBRD programmes (US$ 1,000,000) targeting municipal water supply and wastewater infrastructure and environmental infrastructure, including rehabilitation of urban water networks, reduction of pollution loads, and strengthening of utility performance and governance. These investments are closely aligned with the project's objectives on irrigation efficiency, pollution reduction, and climate resilience, and will be further detailed and synchronized with project activities during the PPG phase.

Overall, the total indicative co-financing amounts to US$ 41,400,000 demonstrating strong partnership mobilization and alignment with SAP priorities. During the PPG phase, these contributions will be further validated, disaggregated, and time-aligned with the project implementation period, with formal commitment letters secured from key partners to ensure a robust and realistic co-financing portfolio at CEO endorsement.

## ANNEX B: ENDORSEMENTS

### GEF Agency(ies) Certification

| GEF Agency Type | Name | Date | Project Contact Person | Phone | Email |
|---|---|---|---|---|---|
| GEF Agency Coordinator | Ms. Nancy Bennett | 2/12/2026 | | | nancy.bennet@undp.org |
| Project Coordinator | Mr. Stamatios Christopoulos | 2/12/2026 | | | stamatios.christopoulos@undp.org |

### Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

| Name | Position | Ministry | Date (MM/DD/YYYY) |
|---|---|---|---|
| Mrs. Saule Sabiyeva | Director of the Climate Policy department | Ministry of Ecology and Natural Resources of the Kazakhstan | 2/25/2026 |
| Mr. Almaz Musaev | Deputy Minister | Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic | 2/17/2026 |

## ANNEX C: PROJECT LOCATION

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

The Chu and Talas River Basins are located in the northern part of the Tien-Shan Mountains and the eastern part of the Turan lowland. The Chu Basin covers 62,500 km², of which 42.5% is in Kyrgyzstan and 57.5% in Kazakhstan. The Talas Basin covers 52,700 km² with 21.7% is found in Kyrgyzstan and 78.3% in Kazakhstan.


**Chu and Talas river basin**

- Irrigated areas
- Water removal for irrigation
- Highly stressed downstream ecosystems with uncertain future
- Melting glaciers due to climate change effects
- Water pollution from urban areas without appropriate water treatment

**Approximate coordinates of suggested project sites, decimal degrees, WGS 1984**

| Project Site | Latitude | Longitude |
|---|---|---|
| (a) Middle and lower reaches of the Chu River, incl. areas up- and downstream of Tasotkel reservoir | 43.3689 | 73.9139 |
| (b) Transboundary middle reach of the Chu forming the Kazakhstan–Kyrgyzstan border (riparian buffer corridor) | 43.0429 | 74.7177 |
| (c) Lower reaches of the Chu River, including the Akzhar area | 44.9000 | 67.7138 |
| (d) Upper catchments of the Chu, Talas, and Asa systems in Kazakhstan, and upper catchments more broadly | 42.8670 | 76.7000 |

## ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

**(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.**

Title

## ANNEX E: RIO MARKERS

| Climate Change Mitigation | Climate Change Adaptation | Biodiversity | Land Degradation |
|---|---|---|---|
| Significant Objective 1 | Significant Objective 1 | Significant Objective 1 | Significant Objective 1 |

## ANNEX F: TAXONOMY WORKSHEET

| Level 1 | Level 2 | Level 3 | Level 4 |
|---|---|---|---|
| ☐ Influencing models | | | |
| | ☒ Transform policy and regulatory environments | | |
| | ☒ Strengthen institutional capacity and decision-making | | |
| | ☒ Convene multi-stakeholder alliances | | |
| | ☒ Demonstrate innovative approaches | | |
| | ☐ Deploy innovative financial instruments | | |
| ☒ Stakeholders | | | |
| | ☐ Indigenous Peoples | | |
| | ☒ Private Sector | | |
| | | ☐ Capital providers | |
| | | ☐ Financial intermediaries and market facilitators | |
| | | ☐ Large corporations | |
| | | ☒ SMEs | |
| | | ☒ Individuals/Entrepreneurs | |
| | | ☐ Non-Grant Pilot | |
| | | ☐ Project Reflow | |
| | ☒ Beneficiaries | | |
| | ☒ Local Communities | | |
| | ☒ Civil Society | | |
| | | ☐ Community Based Organization | |
| | | ☒ Non-Governmental Organization | |
| | | ☒ Academia | |
| | | ☐ Trade Unions and Workers Unions | |
| | ☒ Type of Engagement | | |
| | | ☒ Information Dissemination | |
| | | ☒ Partnership | |
| | | ☒ Consultation | |
| | | ☒ Participation | |
| | ☒ Communications | | |
| | | ☒ Awareness Raising | |
| | | ☐ Education | |
| | | ☐ Public Campaigns | |
| | | ☐ Behavior Change | |

| | | | |
|---|---|---|---|
| ☒ **Capacity, Knowledge and Research** | | | |
| | ☐ **Enabling Activities** | | |
| | ☒ **Capacity Development** | | |
| | ☒ **Knowledge Generation and Exchange** | | |
| | ☐ **Targeted Research** | | |
| | ☐ **Learning** | | |
| | | ☐ Theory of Change | |
| | | ☐ Adaptive Management | |
| | | ☐ Indicators to Measure Change | |
| | ☐ **Innovation** | | |
| | ☒ **Knowledge and Learning** | | |
| | | ☒ Knowledge Management | |
| | | ☐ Innovation | |
| | | ☒ Capacity Development | |
| | | ☒ Learning | |
| | ☒ **Stakeholder Engagement Plan** | | |
| ☒ **Gender Equality** | | | |
| | ☒ **Gender Mainstreaming** | | |
| | | ☒ Beneficiaries | |
| | | ☒ Women groups | |
| | | ☒ Sex-disaggregated indicators | |
| | | ☐ Gender-sensitive indicators | |
| | ☒ **Gender results areas** | | |
| | | ☐ Access and control over natural resources | |
| | | ☒ Participation and leadership | |
| | | ☒ Access to benefits and services | |
| | | ☒ Capacity development | |
| | | ☒ Awareness raising | |
| | | ☐ Knowledge generation | |
| ☒ **Focal Areas/Theme** | | | |
| | ☐ **Integrated Programs** | | |
| | | ☐ Commodity Supply Chains ([1]Good Growth Partnership) | |
| | | | ☐ Sustainable Commodities Production |
| | | | ☐ Deforestation-free Sourcing |
| | | | ☐ Financial Screening Tools |
| | | | ☐ High Conservation Value Forests |
| | | | ☐ High Carbon Stocks Forests |
| | | | ☐ Soybean Supply Chain |
| | | | ☐ Oil Palm Supply Chain |
| | | | ☐ Beef Supply Chain |
| | | | ☐ Smallholder Farmers |
| | | | ☐ Adaptive Management |
| | | ☐ Food Security in Sub-Sahara Africa | |
| | | | ☐ Resilience (climate and shocks) |
| | | | ☐ Sustainable Production Systems |
| | | | ☐ Agroecosystems |
| | | | ☐ Land and Soil Health |
| | | | ☐ Diversified Farming |
| | | | ☐ Integrated Land and Water Management |
| | | | ☐ Smallholder Farming |

| | | | |
|---|---|---|---|
| | | | ☐ Small and Medium Enterprises |
| | | | ☐ Crop Genetic Diversity |
| | | | ☐ Food Value Chains |
| | | | ☐ Gender Dimensions |
| | | | ☐ Multi-stakeholder Platforms |
| | | ☐ Food Systems, Land Use and Restoration | |
| | | | ☐ Sustainable Food Systems |
| | | | ☐ Landscape Restoration |
| | | | ☐ Sustainable Commodity Production |
| | | | ☐ Comprehensive Land Use Planning |
| | | | ☐ Integrated Landscapes |
| | | | ☐ Food Value Chains |
| | | | ☐ Deforestation-free Sourcing |
| | | | ☐ Smallholder Farmers |
| | | ☐ Sustainable Cities | |
| | | | ☐ Integrated urban planning |
| | | | ☐ Urban sustainability framework |
| | | | ☐ Transport and Mobility |
| | | | ☐ Buildings |
| | | | ☐ Municipal waste management |
| | | | ☐ Green space |
| | | | ☐ Urban Biodiversity |
| | | | ☐ Urban Food Systems |
| | | | ☐ Energy efficiency |
| | | | ☐ Municipal Financing |
| | | | ☐ Global Platform for Sustainable Cities |
| | | | ☐ Urban Resilience |
| | ☐ **Biodiversity** | | |
| | | ☐ Protected Areas and Landscapes | |
| | | | ☐ Terrestrial Protected Areas |
| | | | ☐ Coastal and Marine Protected Areas |
| | | | ☐ Productive Landscapes |
| | | | ☐ Productive Seascapes |
| | | | ☐ Community Based Natural Resource Management |
| | | ☐ Mainstreaming | |
| | | | ☐ Extractive Industries (oil, gas, mining) |
| | | | ☐ Forestry (Including HCVF and REDD+) |
| | | | ☐ Tourism |
| | | | ☐ Agriculture & agrobiodiversity |
| | | | ☐ Fisheries |
| | | | ☐ Infrastructure |
| | | | ☐ Certification (National Standards) |
| | | | ☐ Certification (International Standards) |
| | | ☐ Species | |
| | | | ☐ Illegal Wildlife Trade |
| | | | ☐ Threatened Species |
| | | | ☐ Wildlife for Sustainable Development |
| | | | ☐ Crop Wild Relatives |
| | | | ☐ Plant Genetic Resources |
| | | | ☐ Animal Genetic Resources |
| | | | ☐ Livestock Wild Relatives |
| | | | ☐ Invasive Alien Species (IAS) |
| | | ☐ Biomes | |

| | | | |
|---|---|---|---|
| | | | ☐ Mangroves |
| | | | ☐ Coral Reefs |
| | | | ☐ Sea Grasses |
| | | | ☐ Wetlands |
| | | | ☐ Rivers |
| | | | ☐ Lakes |
| | | | ☐ Tropical Rain Forests |
| | | | ☐ Tropical Dry Forests |
| | | | ☐ Temperate Forests |
| | | | ☐ Grasslands |
| | | | ☐ Paramo |
| | | | ☐ Desert |
| | | ☐ Financial and Accounting | |
| | | | ☐ Payment for Ecosystem Services |
| | | | ☐ Natural Capital Assessment and Accounting |
| | | | ☐ Conservation Trust Funds |
| | | | ☐ Conservation Finance |
| | | ☐ Supplementary Protocol to the CBD | |
| | | | ☐ Biosafety |
| | | | ☐ Access to Genetic Resources Benefit Sharing |
| | ☐ **Forests** | | |
| | | ☐ Forest and Landscape Restoration | |
| | | | ☐ REDD/REDD+ |
| | | ☐ Forest | |
| | | | ☐ Amazon |
| | | | ☐ Congo |
| | | | ☐ Drylands |
| | ☒ **Land Degradation** | | |
| | | ☒ Sustainable Land Management | |
| | | | ☒ Restoration and Rehabilitation of Degraded Lands |
| | | | ☒ Ecosystem Approach |
| | | | ☒ Integrated and Cross-sectoral approach |
| | | | ☐ Community-Based NRM |
| | | | ☒ Sustainable Livelihoods |
| | | | ☐ Income Generating Activities |
| | | | ☒ Sustainable Agriculture |
| | | | ☒ Sustainable Pasture Management |
| | | | ☐ Sustainable Forest/Woodland Management |
| | | | ☒ Improved Soil and Water Management Techniques |
| | | | ☐ Sustainable Fire Management |
| | | | ☐ Drought Mitigation/Early Warning |
| | | ☐ Land Degradation Neutrality | |
| | | | ☐ Land Productivity |
| | | | ☐ Land Cover and Land cover change |
| | | | ☐ Carbon stocks above or below ground |
| | | ☐ Food Security | |
| | ☒ **International Waters** | | |
| | | ☐ Ship | |
| | | ☐ Coastal | |
| | | ☒ Freshwater | |
| | | | ☐ Aquifer |
| | | | ☒ River Basin |
| | | | ☐ Lake Basin |

| | | | |
|---|---|---|---|
| | | ☒ Learning | |
| | | ☐ Fisheries | |
| | | ☐ Persistent toxic substances | |
| | | ☐ SIDS : Small Island Dev States | |
| | | ☐ Targeted Research | |
| | | ☒ Pollution | |
| | | | ☐ Persistent toxic substances |
| | | | ☐ Plastics |
| | | | ☒ Nutrient pollution from all sectors except wastewater |
| | | | ☐ Nutrient pollution from Wastewater |
| | | ☐ Transboundary Diagnostic Analysis and Strategic Action Plan preparation | |
| | | ☒ Strategic Action Plan Implementation | |
| | | ☐ Areas Beyond National Jurisdiction | |
| | | ☐ Large Marine Ecosystems | |
| | | ☐ Private Sector | |
| | | ☐ Aquaculture | |
| | | ☐ Marine Protected Area | |
| | | ☐ Biomes | |
| | | | ☐ Mangrove |
| | | | ☐ Coral Reefs |
| | | | ☐ Seagrasses |
| | | | ☐ Polar Ecosystems |
| | | | ☐ Constructed Wetlands |
| | ☐ **Chemicals and Waste** | | |
| | | ☐ Mercury | |
| | | ☐ Artisanal and Scale Gold Mining | |
| | | ☐ Coal Fired Power Plants | |
| | | ☐ Coal Fired Industrial Boilers | |
| | | ☐ Cement | |
| | | ☐ Non-Ferrous Metals Production | |
| | | ☐ Ozone | |
| | | ☐ Persistent Organic Pollutants | |
| | | ☐ Unintentional Persistent Organic Pollutants | |
| | | ☐ Sound Management of chemicals and Waste | |
| | | ☐ Waste Management | |
| | | | ☐ Hazardous Waste Management |
| | | | ☐ Industrial Waste |
| | | | ☐ e-Waste |
| | | ☐ Emissions | |
| | | ☐ Disposal | |
| | | ☐ New Persistent Organic Pollutants | |
| | | ☐ Polychlorinated Biphenyls | |
| | | ☐ Plastics | |
| | | ☐ Eco-Efficiency | |
| | | ☐ Pesticides | |
| | | ☐ DDT - Vector Management | |
| | | ☐ DDT - Other | |
| | | ☐ Industrial Emissions | |
| | | ☐ Open Burning | |
| | | ☐ Best Available Technology / Best Environmental Practices | |
| | | ☐ Green Chemistry | |
| | ☐ **Climate Change** | | |
| | | ☐ **Climate Change Adaptation** | |
| | | | ☐ Climate Finance |
| | | | ☐ Least Developed Countries |

| | | | |
|---|---|---|---|
| | | | ☐ Small Island Developing States |
| | | | ☐ Disaster Risk Management |
| | | | ☐ Sea-level rise |
| | | | ☒ Climate Resilience |
| | | | ☒ Climate information |
| | | | ☐ Ecosystem-based Adaptation |
| | | | ☐ Adaptation Tech Transfer |
| | | | ☐ National Adaptation Programme of Action |
| | | | ☐ National Adaptation Plan |
| | | | ☐ Mainstreaming Adaptation |
| | | | ☐ Private Sector |
| | | | ☐ Innovation |
| | | | ☐ Complementarity |
| | | | ☒ Community-based Adaptation |
| | | | ☒ Livelihoods |
| | | ☐ **Climate Change Mitigation** | |
| | | | ☐ Agriculture, Forestry, and other Land Use |
| | | | ☐ Energy Efficiency |
| | | | ☐ Sustainable Urban Systems and Transport |
| | | | ☐ Technology Transfer |
| | | | ☐ Renewable Energy |
| | | | ☐ Financing |
| | | | ☐ Enabling Activities |
| | | ☐ **Technology Transfer** | |
| | | | ☐ Poznan Strategic Programme on Technology Transfer |
| | | | ☐ Climate Technology Centre & Network (CTCN) |
| | | | ☐ Endogenous technology |
| | | | ☐ Technology Needs Assessment |
| | | | ☐ Adaptation Tech Transfer |
| | | ☐ **United Nations Framework on Climate Change** | |
| | | | ☐ Nationally Determined Contribution |