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Report No: ICR00577

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(TF0B6007)

ON A

GRANT FROM THE GLOBAL ENVIRONMENT FACILITY

IN THE AMOUNT OF US$4.34 MILLION

TO THE

Ministry of Ecology and Natural Resources, Forestry and Wildlife Committee

FOR

Kazakhstan Resilient Landscapes Restoration Project

March 30, 2026

Environment, Natural Resources & the Blue Economy
Europe And Central Asia

CURRENCY EQUIVALENTS

(Exchange Rate Effective {September 30, 2025})

Currency Unit =	Kazakhstan Tenge (KZT)
KZT 549.14 =	US$1
US$ =	SDR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Antonella Bassani
Country Director:	Najy Benhassine
Regional Director:	Sameh Naguib Wahba Tadros
Practice Manager:	Gayane Minasyan
Task Team Leader (s):	Talimjan Urazov, Nigel Ross Hughes
ICR Main Contributor:	Nigel Ross Hughes

ABBREVIATIONS AND ACRONYMS

CO2	Carbon Dioxide
CPF	Country Partnership Framework
CPSD	Country Private Sector Diagnostics
DAS/DASB	Dry Aral Seabed
E&S	Environmental and Social
ECA	Europe and Central Asia
[E]NPV	[Economic] Net Present Value
ERR	Economic Rate of Return
ESIA	Environmental and Social Impact Assessments
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESRS	Environmental and Social Review Summary
ESSA	Environmental and Social Systems Assessment
EX-ACT	EX-Ante Carbon balance Tool (EX-ACT)
FM	Financial Management
FY	Financial Year
ha	hectare
IFR	Interim Financial Report
IPF	Investment Project Financing
ISM	Implementation Support Mission
PDO	Project Development Objective
PIU	Project Implementation Unit
PROGREEN	The Global Partnership for Sustainable and Resilient Landscapes operating as a Multi-Donor Trust Fund
TOC	Theory of Change
US$	United States Dollar

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DATA SHEET

BASIC DATA

Product Information

Operation ID	Operation Name
P171577	Kazakhstan Resilient Landscapes Restoration Project
Product	**Operation Short Name**
Investment Project Financing (IPF)	Kazakhstan RESILAND
Operation Status	**Approval Fiscal Year**
Closed	2021
Current ESRC	
Moderate	

CLIENTS

Borrower/Recipient	Implementing Agency
Ministry of Ecology and Natural Resources, Forestry and Wildlife Committee	Ministry of Ecology and Natural Resources, Forestry and Wildlife Committee, Project Implem

DEVELOPMENT OBJECTIVE

Original Development Objective (Approved as part of Approval Package on 14-Jun-2021)

To pilot agroforestry practices using a community-centered approach and to build government capacity for landscape management and restoration.

FINANCING

Financing Source	Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Administered Financing	4,344,036.00	4,344,036.00	4,344,036.00

TF-B6007	4,344,036.00	4,344,036.00	4,344,036.00
Total	**4,344,036.00**	**4,344,036.00**	**4,344,036.00**

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Type	Amount Disbursed (US$M)	Key Revisions

Key Events	Planned Date	Actual Date
Concept Review	16-Oct-2019	16-Oct-2019
Decision Review	02-Sep-2020	08-Sep-2020
Authorize Negotiations	13-May-2021	30-Apr-2021
Approval	04-Jun-2021	14-Jun-2021
Signing	01-Jul-2021	01-Jul-2021
Effectiveness	01-Jul-2021	01-Jul-2021
Mid-Term Review No. 01	20-Oct-2023	10-Nov-2023
Operation Closing/Cancellation	30-Sep-2025	30-Sep-2025
ICR/NCO	30-Mar-2026	--

RATINGS SUMMARY

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Modest

ISR RATINGS

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US$M)
01	03-Nov-2021		Satisfactory	0.07
02	29-Jun-2022		Satisfactory	0.30

03	13-Dec-2022		Satisfactory	1.56
04	28-Jun-2023		Satisfactory	2.24
05	19-Dec-2023		Satisfactory	2.91
06	18-Nov-2024		Satisfactory	4.24
07	25-Jul-2025		Satisfactory	4.29

SECTORS AND THEMES

Sectors

Major Sector	Sector	%	Adaptation Co-benefits (%)	Mitigation Co-benefits (%)
FY17 - Agriculture, Fishing and Forestry	FY17 - Forestry	88	32	18
	FY17 - Public Administration - Agriculture, Fishing & Forestry	12	50	50

Themes

Major Theme	Theme (Level 2)	Theme (Level 3)	%
FY17 - Environment and Natural Resource Management	FY17 - Climate change	FY17 - Adaptation	34
		FY17 - Mitigation	22
	FY17 - Renewable Natural Resources Asset Management	FY17 - Forests Policies and institutions	100
		FY17 - Landscape Management	100

ADM STAFF

Role	At Approval	At ICR
Practice Manager	Kseniya Lvovsky	Gayane Minasyan
Regional Director	Steven N. Shonberger	Sameh Naguib Wahba Tadros
Global Director	Karin Kemper	Valerie Hickey
Practice Group Vice President	Juergen Voegele	Guangzhe Chen
Country Director	Lilia Burunciuc	Najy Benhassine
Regional Vice President	Anna Bjerde	Antonella Bassani
ADM Responsible Team Leader	Talimjan Urazov	Talimjan Urazov
Co-Team Leader(s)	Vladislava Nemova	Nigel Ross Hughes
ICR Main Contributor	Nigel Ross Hughes	

I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

1. At appraisal of the Kazakhstan Resilient Landscapes Restoration Project (the Project), the country faced widespread land degradation driven by climate stress and legacy land-use practices. Economic impacts are substantial: land degradation is estimated to cost 3–11 percent of GDP, with the cost of inaction five times higher than action. Without adaptation, wheat yields in some regions could fall by 30–50 percent by 2050. An estimated 66 percent of land was affected prior to the start of this project, with about 4 percent already desertified and roughly 76 percent of the territory highly sensitive to further desertification. Rising temperatures and shifting precipitation were reducing soil moisture in northern and western regions, accelerating desertification of croplands and rangelands and pushing suitable areas for crops and livestock northward[1,2]. Water scarcity compounded these trends. Inefficient irrigation and poor drainage contribute to salinization of irrigated soils, especially in the south, where irrigation water demand is projected to rise 10–14 percent by 2050. The desiccation of the Aral Sea has left a vast dry seabed that emits dust and salt storms, degrading air quality and soils and harming livelihoods across the region. Rangelands near settlements suffer from overgrazing (around 20 million hectares), and pasture productivity could decline by up to 40 percent under climate change. Forest cover was very low (≈4.7 percent), though saxaul forests played a critical role in stabilizing soils and reducing wind erosion. Large areas of arable land—over 10 million hectares—were abandoned, while wind erosion and dust storms were increasing.

2. At appraisal, Kazakhstan was also committed to environmentally sustainable growth, as shown by its 2020 Environmental Code and Paris Agreement targets, but faced significant macroeconomic challenges due to the COVID-19 pandemic, which contracted GDP and threatened food security for vulnerable rural populations. The government responded to land degradation challenges with afforestation initiatives, commitments to restore degraded land, and a farmer-centric approach to boost productivity and this Project was part of broad-based response. Lessons from past projects emphasized the importance of direct investment support, strong local capacity, community ownership, farmer training, and demonstration sites for sustainable land management and agroforestry. These were reflected as central features of the Theory of Change, which was followed consistently and without deviations, throughout Project implementation.

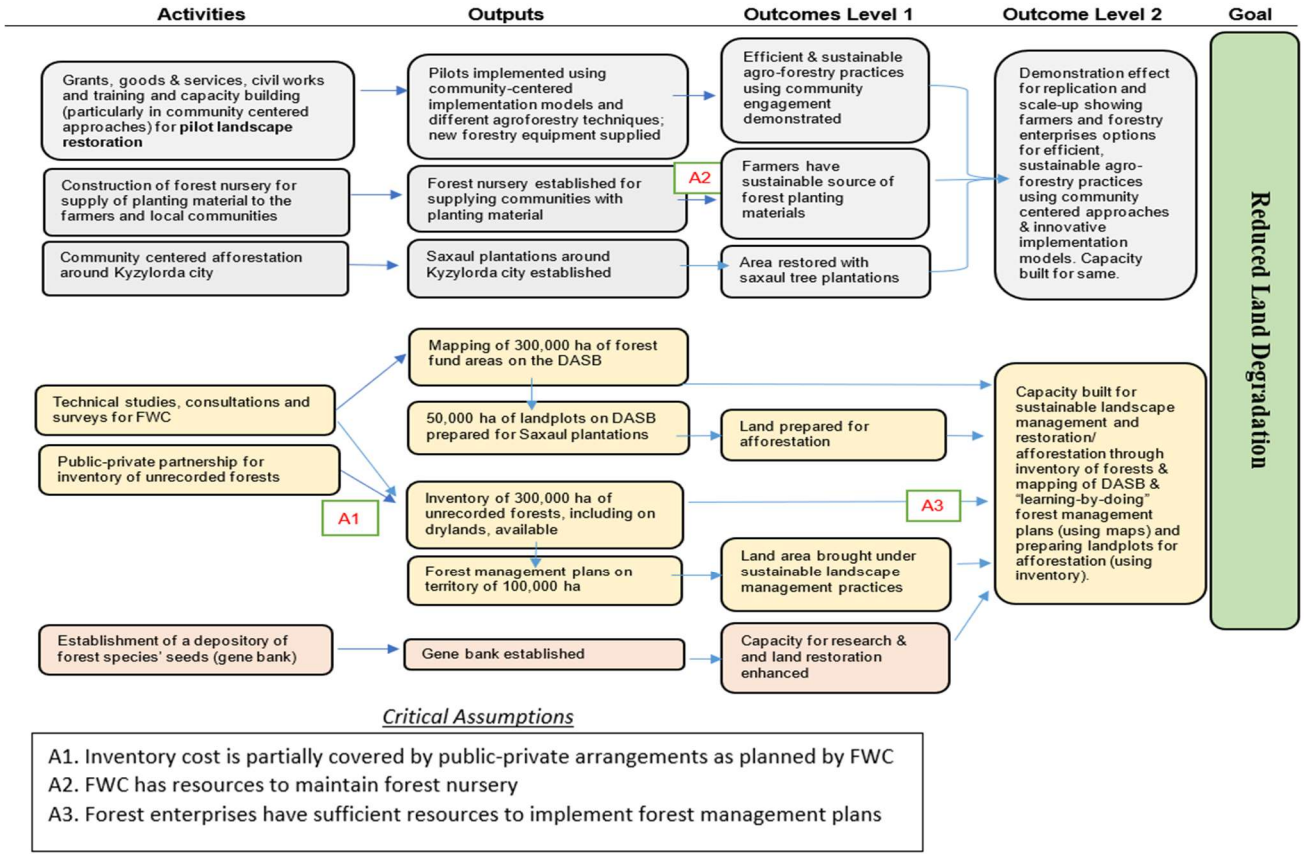
[1] World Bank Group.2022. Kazakhstan - Country Climate and Development Report : Executive Summary. Washington, D.C. : World Bank Group. https://documentsinternal.worldbank.org/search/33929701

[2] World Bank.2024. Kazakhstan - Climate Adaptation Options and Opportunities in the Agriculture Sector . Washington, D.C. : World Bank Group. https://documentsinternal.worldbank.org/search/34332936

3. The Project was closely aligned with the Country Partnership Framework FY20-25 (CPF)[3], specifically Focus Area 3 (Securing Sustainable, Resilient, and Low Carbon Growth), and Objective 7 of Preserving and Restoring Natural Capital[4].

Theory of Change (Results Chain)

4. The Theory of Change, as presented in the Project Appraisal Document (PAD) is provided below:



Project Development Objectives (PDOs)

5. The PDO, as articulated in the Grant Agreement and the PAD, was 'to pilot agroforestry practices using a community-centered approach and to build government capacity for landscape management and restoration.'

Key Expected Outcomes and Outcome Indicators

[3] World Bank. 2019. Country Partnership Framework (CPF) for the Republic of Kazakhstan for the Period of FY20-25. Report Number 143372-KZ

[4] The CPF for Kazakhstan expired on July 1, 2025, but remains the current one at project closing. At the time of ICR, a new CPF FY26–FY31 is still under preparation and hasn't been approved by the board yet.

6. The Project design focused on landscape restoration through forestry and agroforestry interventions[5]. The key PDO-level indicators were:
    - Identification of the most effective agroforestry practices using a community-centered approach (based on a cost-benefit analysis of the pilots) (from 'no' to 'yes')
    - Dryland area restored using community-centered approach (target:3135 ha)
    - Land area under sustainable landscape management practices (target:10,815 ha)
    - Capacity built for landscape restoration through mapping of degraded landscapes in Dry Aral Seabed (DAS) and inventory of unrecorded forests (from 'no' to 'yes' measured by completion of capacity building activities).

7. The key expected outcomes as outlined in the ToC were: (a) Efficient and sustainable agroforestry practices using community engagement demonstrated; (b) Farmers have sustainable source of forest planting materials, (c) Area restored with saxaul tree plantations; (d) Land prepared for afforestation, (e) Land area brought under sustainable landscape management practices, (f) Capacity for research and land restoration enhanced, (g) Demonstration effect for replication and scale-up showing farmers and forestry enterprises options for efficient, sustainable agro-forestry practices using community centered approaches and innovative implementation models (capacity built for same); (h) Capacity built for sustainable landscape management and restoration/afforestation through inventory of forests and mapping of the Dry Aral Seabed (DAS) and "learning-by-doing" forest management plans (using maps) and preparing land plots for afforestation (using inventory).

Components

8. The project had three components:

    - **Component 1: Piloting community – centered approach on dryland agroforestry and landscape restoration (US$2.463 million, fully disbursed):** This component financed grants, goods and services, works, training and operational costs to conduct several key activities related to actual landscape restoration. These included the piloting of afforestation around Kyzylorda city with saxaul and the piloting of agroforestry demonstration plots in Kyzylorda and Zhambyl oblasts.

    - **Component 2: Capacity building of the Forestry and Wildlife Committee (FWC) for integrated landscape management (US$1.378 million, fully disbursed).** This component was designed to increase afforestation capacity and support institutional needs of the forestry sector to become a sustainable and productive sector. In doing so, the Project financed technical studies, consultations mapping, surveys and design work, focused particularly on the Dry Aral Seabed (DASB) but also on preparing an inventory of 'unaccounted forests and preparation of forest management plans of newly accounted forests in the southern and south-western Kazakhstan. The project also supported the establishment of a gene bank to process, store and distribute forest seeds – the first and only such seed bank in Central Asia. Although not included in the original design, this component also supported the establishment of a major forest nursery

[5] Implementation of a parallel initiative approved at the same time by the Global Environment Facility (GEF), under direct implementation by the Food and Agriculture Organization (FAO), experienced prolonged start-up delays and has yet to generate results as of the time of this ICR mission. The FAO-implemented operation focusses on pasture restoration and the development of capacity for carbon financing and was supposed to complement support on forestry and agroforestry-based restoration approaches.

to generate planting stock for the afforestation of the DASB. This was made possible by reallocating resources from DASB mapping (costs for which were covered by a parallel project funded by the German government).

- **Component 3: Project coordination and monitoring (US$0.503 million, fully disbursed)** financed technical assistance, goods, training and the operating costs the Project Implementation Unit (PIU) within the FWC, which coordinated project implementation. This component also covered the operating costs of the Project Advisory Committee.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION

Revised PDOs and Outcome Targets

9. The PDO and outcome targets remained without modifications throughout project implementation.

Revised PDO Indicators

N/A

Revised Components

N/A

Other Changes

10. Under Component 2, an activity for the mapping of 300,000 ha DAS, for which an intermediate indicator was included, was dropped during implementation. However, the intermediate indicator was retained as the target was met with support from grant financing from the German government. The budget allocated for this activity (US$370,000) was reallocated to fill a funding gap for nursery development where substantial cost overruns were caused by Covid-driven inflation to the costs of building materials and other inputs. This allocation comprised 8.5% of total grant resources. The government's request to cancel the mapping activity and reallocate resources was documented in the Implementation Status and Results Reports (Sequence 1, 2, 4 and 5) dated November 2021, June 2022, June 2023 and December 2023, respectively.

Rationale for Changes and Their Implication on the Original Theory of Change

11. Subsequent to design, the German government (through GIZ) funded this activity through a separate and parallel activity. The intermediate indicator included to track progress of the mapping exercise was nonetheless retained as the outputs of the mapping (albeit subsequently financed by external financing from the German government) were essential for planning of DASB afforestation activities, which remained central to the Theory of Change. As a consequence, this change did not impact the results chain and the activity was completed to a level of quality sufficient to inform implementation of DAS re-forestation activities.

II. OUTCOME

A. RELEVANCE OF PDO

Rating: High

Assessment of Relevance of PDOs and Rating

12. The project's development objective comprises two elements (i) piloting agroforestry practices using a community-centered approach and (ii) building government capacity for landscape management and restoration. These objectives were aligned with the Kazakhstan Country Partnership Framework (CPF) for FY20–FY25 and supportive of government strategies and priorities, such as the Green Economy Concept and National Development Plan 2025. The PDO remained highly relevant to the CPF for FY20–FY25 (the last current CPF at project closing). The PDO is fully aligned with CPF Focus Area 3, which emphasizes (i) Sustainable management of natural capital (land and water resources); (ii) Climate resilience in environmentally fragile regions; and (iii) Reduction of land degradation and ecosystem vulnerability. The project's emphasis on landscape restoration, nursery development, and afforestation on degraded lands contributes directly to these objectives, particularly in regions exposed to climate stress and desertification.

13. The PDO is also closely aligned with the Kazakhstan Country Climate and Development Report (CCDR)[6], which highlights the need to strengthen climate resilience in land-based systems, improve management of natural capital, and reinforce institutional capacity for climate-aligned development. By restoring degraded forest and rangeland landscapes, enhancing nursery and afforestation systems, and strengthening institutions responsible for land and forest management, the Project directly supported priority CCDR pathways for a more resilient and sustainable development trajectory.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Rating: Substantial.

Assessment of Achievement of Each Objective/Outcome

14. Achievement of the PDO is assessed against its two core elements: (i) piloting agroforestry practices using a community-centered approach; and (ii) building government capacity for landscape management and restoration. While several PDO-level and intermediate indicators capture related dimensions of area restored and land under sustainable management, some overlap exists across these indicators, particularly for area-based measures. The assessment explicitly notes where results reported under multiple indicators refer to the same physical achievements.

PDO Outcome 1: Agroforestry practices piloted using a community-centered approach

15. The Project succeeded in identifying the most effective agroforestry practices using a community-centered approach (based on a cost-benefit analysis of the pilots) (PDO Indicator 1). Three of the nine agroforestry pilots demonstrated success. The cost-benefit analysis[7] found that, for the successful pilots, agroforestry

[6] World Bank. 2022. Kazakhstan Country Climate and Development Report. Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/099420411012246024 (accessed February 12, 2026).

[7] Analysis of the economic efficiency of agroforestry sites created as part of the landscape restoration project in Kazakhstan.

practices that combined fruit production with vegetable production were economically viable in the three cases in Kyzylorda region where there were suitable soils and available water for irrigation. For the successful plots in Kyzylorda, the cost benefit analysis showed that the plots could generate a full return on investment within 5 years with projected annual incomes per plot of around $39,000 after year 5. The ICR mission also noted that successful plots created substantial seasonal employment opportunities, often in remote areas where there were few alternative opportunities for employment, and also leveraged substantial additional investments from farmers keen to further expand agroforestry investments and diversify further – for example into aquaculture and agro-tourism. The plots in Zhambyl region suffered from poor site selection and use of unqualified specialists. Constrained budget availability to the PIU for field supervision of the remote sites in Zhambyl resulted in insufficient oversight. As a result, the remote and 'difficult-to-access' locations selected in Zhambyl region, with unsuitable soils and insufficient water for irrigation, contributed to the dissipation of farmer engagement and the agroforestry efforts in these pilots largely failed - and hence lost their potential value as pilots.

Table 1: Costs and returns from agroforestry plots.

Region	# plots	Grants size to farmers (US$)	Total Cost Per Plot (including design & supervision)	Projected annual income per plot (after 5 years)
Kyzylorda region	3	36,000	55,000	US$39,000
Zhambyl region	6	62,000	82,000	-

16. The Project helped restore 3135 ha of dryland area using community-centered approach (PDO Indicator 2). This comprised mostly reforestation using black saxaul in shelterbelts on forest land in the vicinity of Kyzylorda. Implementation was undertaken by State Forest Enterprises using community labor. This area target was achieved, but through a 'state-led' rather than 'community-centered' approach (as per the indicator), with state forest enterprises contracting seasonal labor from local communities.

17. Land area under sustainable landscape management practices (PDO Indicator 3) reached 10,815ha. Whilst the target was achieved, it should be noted that 3135 ha of reported results were for the same areas reforested and placed under agroforestry as reported in PDO Indicator 2. The remainder (7800 ha) refers to improvements in pastureland where machinery deployed by the project was used for pasture improvement activities.

PDO Outcome 2: Improved government capacity for landscape management and restoration

18. Through the commissioning of restoration plans for the DAS, the Project achieved its target for "Capacity built for landscape restoration through mapping of degraded landscapes in Dry Aral Seabed and inventory of unaccounted forests" (PDOI 4). To date, 700,000ha of saxaul has been established in the DAS. With regards to unaccounted forests, the project enabled contracting of the Kazakh Forest Management Enterprise – which has responsibility for forest inventory and forest management planning, to work with district authorities to identify and categorize unaccounted forests on agricultural and reserve lands adjacent to forest enterprises in Kyzylorda and Turkestan regions. Around 500,000ha were identified in Kyzylorda region and 236,000ha in Turkestan region. Once categorized, the State Forest Fund then has responsibility for forest land management, and these areas are placed under forest management plans and are managed to reduce forest fire risk and control hunting and grazing levels.

19. A significant additional contribution to landscape restoration capacity was made through financing the construction of a large tree nursery at the Kazaly State Institution – including machinery for harvesting, planning and land restoration in the DAB. The nursery will become fully operational in Spring 2026 with a capacity to produce 3 million seedlings per annum of black saxaul – sufficient for the restoration of 15,000 ha per annum. This investment also created around 35 additional permanent and seasonal jobs. In the medium term and long-term, restoration of the DAS ecosystem could contribute substantial economic benefits through reductions in saline deposits on agricultural and pastureland, distributed by dust storms from the Aral Sea.

Table 2: Summary of results achieved under the Project[8]

Project Results	Explanation
Farmers have sustainable sources of forest planting materials	In October 2024, a major new forest nursery, designed and financed with support from this project, was commissioned. The nursery will become operational in Spring 2026 and, in addition to saxaul seedlings grown for restoration of the DAS, this will also diversify future production to supply seedlings and grafted rootstock saplings of fruit trees for farmers.
Area restored with saxaul tree plantations	The project reached its target of restoring of 3,135ha of land, of which 3000ha were saxaul plantations around Kyzylorda[10]. However, the project will have wider impacts. The new nursery, financed by the project has the capacity to produce around 3 million saxaul seedlings per year, enough to provide planting stock for the annual planting of 15,000ha of land in the degraded DAS, including annual enrichment planting (post-planting survival rates after 12 months for saxaul in the DAS are approximately 30%). This will make a major contribution to achieving a national policy target of restoring 1.1 million ha of the DASB through the planting of saxaul.
Land prepared for afforestation	The project supported preparatory survey and design works for saxaul plantations on the Dry Aral Seabed (DAS), for which implementation is now underway.
Capacity for research and land restoration enhanced	The project made an important contribution by financing the procurement of specialized equipment at the Burabay Seed Bank – the only seed bank in Central Asia, building on a previous round of GEF-support delivered through UNDP. This seed bank receives, processes, stores and distributes tree seeds from across Kazakhstan. The Seed Bank is expected to become fully operational by July 2026.
Demonstration effect for replication and scale-up showing farmers and forestry enterprises options for efficient, sustainable agro-forestry practices using community centered approaches and innovative implementation models.	This has been partially achieved and could be fully achieved post project closure now that agroforestry plots have been completed and continue to mature. Lead farmers reported considerable interest from other farmers in adopting similar approaches and as the project continues with support from the PROGREEN trust fund, there are plans for open days to which farmers and micro-credit organizations will be represented (the latter, important given that future scale-up will need to be supported through loans rather than grants).

[8] Selected project results are featured in the results' story videos:
https://www.worldbank.org/en/news/video/2026/03/18/transforming-kazakhstans-degraded-lands-from-dust-to-orchards
https://www.worldbank.org/en/news/video/2026/03/18/protecting-kyzylorda-building-a-living-barrier-against-dust-wind-and-erosion
https://www.worldbank.org/en/news/video/2026/03/18/reviving-the-aral-seabed-millions-of-seedlings-for-a-sustainable-future

Capacity built for sustainable landscape management and restoration/afforestation through inventory of forests and mapping of the Dry Aral Seabed (DAS) and "learning-by-doing" forest management plans (using maps) and preparing land plots for afforestation (using inventory).	Forest inventory work was undertaken with the support of the Kazakh Forest Management Enterprise and subsequent to design, GIZ-funded the mapping of the DAB, both of which helped develop national capacity. Support for the Burabay seed bank also substantially developed national capacity for managing and improving tree seed quality which will bring widespread benefits to the forest sector in Kazakhstan.

20. Overall, the rationale for the substantial rating is based on strong performance of agroforestry pilots in Kyzylorda, significantly enhanced capacity for forest management and restoration of the DAS but moderated downwards by the avoidable problems experienced in Zhambyl and duplicated reporting of results across PDO indicators.

C. EFFICIENCY

Assessment of Efficiency and Rating
Rating: Substantial

21. Given the small size of the grant and limited resources available for supervision and ICR preparation, the ex-post economic analysis focuses only on selected project activities and provides indicative estimates of economic efficiency rather than a comprehensive valuation of all project benefits. This approach is consistent with the long-term and public-good nature of many environmental and landscape restoration benefits, which are inherently difficult to quantify fully at project closing. Results should therefore be interpreted as conservative and illustrative, rather than as precise measures of total project returns. However, the evidence from project's internal reports suggest that realized benefits exceeded PAD assumptions, implying a higher IRR at ICR stage. At PAD, profits were conservatively estimated at 10–15% of seedling costs. At ICR, the borrowers' analysis[9] shows annual profitability at 43%, with the full investment recouped in approximately five years.

22. Partial analysis of economic benefits showed high return on activities like agro-forestry demonstration plots and saxaul planting in Kyzylorda region. Conservative estimates of Economic Rate of Return (ERR) of demonstration plots, which assume only financial benefits from fruit trees starting from 5th year and agricultural crop starting from the second year, yield 27 percent over 10 years and 30 percent over 15 years, which is in line with ex-ante ERR estimates of 28 percent over 15 years. Economic Net Present Value (ENPV) of demo plots in Kyzylorda region is estimated at US$172,000, which proves its economic viability. The ex-post ERR proved to be a bit higher than ex-ante estimates due to the fact that the price of agricultural crops and fruits went higher during the project implementation period.

23. Quick assessment shows that planting 3,000 hectares of saxaul in Kyzylorda region is going to generate total annual economic benefits ranging from $2.3 million to $3.5 million (depending on the survival rate), combining carbon sequestration, sand stabilization, ecosystem services, and employment effects. The true

[9] *Analysis of the economic efficiency of agroforestry sites created as part of the landscape restoration project in Kazakhstan* (September 2025).

value rises over time as plantations mature, translating ecological restoration into tangible economic and social gains. This gives about 60 percent ERR over 10-year period on the project total cost excluding demonstration plots' expenses ($3.8 million). These economic benefits multiply given project contribution to the plantations on the Dry Aral Seabed by producing a nursery and completing design works on the territory of 100,000 ha (against planned 30,000 ha) as well as projected incremental (10 percent) improvement in the quality of lands under the administration of the forest fund, for which management plans were developed during the project implementation. These estimates do not include economic benefits of future scientific research that the gene bank established by the project will generate and the technical assistance provided by the project to the Forestry and Wildlife Committee for environmental legislation improvement. More details on estimates of economic benefits are provided in Annex 4.

24. Overall implementation and administrative efficiency was Substantial. The Project closed on time, with full disbursement and no cost overruns. Implementation arrangements were sufficient to support delivery of planned activities. Where activities were dropped during implementation, associated resources were reallocated in a targeted manner to higher-priority investments, contributing to stronger outcome delivery. These reallocations were managed without adversely affecting implementation progress and supported the project's overall effectiveness and maximized outcomes.

25. Due to the timely implementation of the Project activities and high return to investment of the agro-forestry plots and afforestation activities, the EFA showed that the project efficiency reached a level that would be normally expected in the similar projects in the environmental sector. No administrative inadequacies or cost overruns were recorded. As such the Project's overall efficiency is rated as Substantial.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

Rating: Satisfactory

26. The project largely succeeded in achieving the two intended outcomes embedded in the PDO - piloting agroforestry practices using a community-centered approach and building government capacity for landscape management and restoration. The Project's overall outcome rating is therefore rated as Satisfactory. This is based on the High rating for Relevance, and Substantial ratings for Efficiency and Efficacy. The PDO remained well aligned with national priorities and World Bank objectives, and most intended outcomes were achieved. The Project generates substantial economic benefits, was closed on time, was fully disbursed, incurred no cost overruns, and benefited from purposeful reallocation of resources to higher-impact activities. Together these elements support an overall Outcome rating of Satisfactory.

E. OTHER OUTCOMES AND IMPACTS

Gender

27. A gender indicator was not included in the results framework, therefore the impacts of the project on gender dimensions were not fully quantified. Meanwhile, in terms of the engagement of women in project-supported activities, women comprised 32% of those hired by the project (e,g, for seeds collection, tree nursery work, saxaul planting) and 34% of the recipients of project-supported trainings.

Institutional Strengthening

28. A number of activities contributed to institutional strengthening. Investment in the gene bank at the Republican Forest Seed Selection Center at Borovoye enabled this institution to procure the specialized equipment required for storing and distributing forest tree seeds. Likewise, substantial investment in the forest nursery close to the DAS has strengthened the capacity of SFE's, including for activities that help meet the high-level target for DAS restoration. Support for the identification and mapping of unrecorded forests by the Kazakh Forest Management Enterprise (which prepares forest inventories and management plans) has also strengthened district capacity to identify and categorize further forest land in the future and it is expected that additional areas of forest land will be approved in future.

Mobilizing Private Sector Financing

29. The agroforestry plots succeeded in acting as catalysts for substantial additional investment from some recipient farmers. Three farmers met during the ICR mission reported they had made substantial additional investments following the awards of the start-up grants for the agroforestry plots). Farmers with whom the ICR mission met had used their own funds to increase and diversify agroforestry areas, restore water-supply canals, create farm level water storage and develop infrastructure for domestic tourism. This scale of private sector resource mobilization was not quantified in reporting but is likely to be comparatively high in relation to the initial pilot-level investments.

Poverty Reduction and Shared Prosperity.

30. While figures for poverty reduction and shared prosperity are not available, the Project's most enduring contribution to poverty reduction and shared prosperity is likely to have come from seasonal employment generation in the agroforestry plots, which were located in areas where there were few other opportunities for employment. Given the high levels of profitability of the successful agroforestry pilots, there is considerable potential for replication and hence scaling impacts on employment and prosperity although this will depend on the continuation of efforts to promote these models to local credit providers. Substantial employment was also generated through local hiring of community members for reafforestation activities around Kyzylorda, during which 260 people were employed of which 90 were women. Given the success of the pilots and reafforestation work, it is quite possible that these activities will be replicated and scaled further and hence impacts on poverty reduction and prosperity may continue to scale, post-project.

Other Unintended Outcomes and Impacts

31. The Project's interventions helped mobilize funding. An additional US$2 million was approved from the PROGREEN (The Global Partnership for Sustainable and Resilient Landscapes operating as a Multi-Donor Trust Fund) in June 2023 (originally intended as additional financing) to expand and maximize the development outcomes of the Project. This has been processed as a separate project but with the same implementation arrangements under the Ministry of Ecology and Natural Resources (Forestry and Wildlife Committee).

III. KEY FACTORS AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

32. This project focused on tree and shrub-based approaches to landscape restoration, and it was envisaged that a complementary operation, to be implemented by FAO, would focus on rangeland aspects of landscape restoration. As such, this project and the FAO project were approved together by GEF Council. However, implementation delays impacted the FAO's 'direct implementation approach' and FAO project activities are still at an early stage, so no lessons could be drawn from the rangeland management operation at the time of this ICR.

33. Project design reflected strong inputs from the government side, and by the time of project effectiveness, the government had progressed to a high level of readiness. This enabled the project to make a swift start to project implementation, as recorded in the first ISR (sequence 1) for this operation (archived November 2021).

34. This operation was processed as a regular IPF, while for a small grant of less than US$5 million, it should have been processed as a small grant operation. It didn't affect much implementation, however, it extended preparation time and delayed implementation as more thorough review was done during preparation that included additional steps that could be skipped had this operation been processed as a small grant.

B. KEY FACTORS DURING IMPLEMENTATION

35. High inflation, partly linked with supply chain disruption during the Covid pandemic, greatly increased costs and this required reallocation of budget resources, in particular, to enable completion of the tree nursery. This was made possible by re-allocating resources originally allocated for DAS mapping (as this activity was funded, subsequent to project design, by the German government).

36. The project became effective July 1, 2021, and implementation start-up proceeded quickly thereafter. By the time of the Mid Term Review (MTR) in November 2023, implementation progress was reported at satisfactory level with no major issues, and this continued to project closure. This was a general reflection of a strong, motivated and well-organized PIU team who remain focused on delivery throughout project implementation and generally provided strong supervision of project activities. The exception to this was the poor site selection and design of agroforestry pilots in Zhambyl Oblast which led to the failure of a number of these pilots. The lack of sufficient oversight and support from the PIU during this period of early implementation emerged as an issue in hindering the pilots in Zhambyl, where poor contractor performance led to the selection of unsuitable sites for six of the nine agroforestry pilot plots. This eliminated the potential of the project to demonstrate successful models in one region. Budget constraints for project management and monitoring by the PIU clearly contributed to these shortcomings.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design

37. There was some misalignment between the indicators included at design and what the project eventually sought to achieve. For example, reporting against the PDO-level indicator "Dryland Area Restored Using Community Centered Approach." The area target (3,135ha) for this indicator was achieved, but 96% of the area reported against this indicator was not achieved using a 'community-centred approach' per the indicator. This was because the mandate for forest restoration lies with the State Forestry Enterprises operating at district level, rather than by communities. This model for implementation was the intended approach at design but was not clearly reflected in the wording of the indicator which refers to a 'community-centered' approach.

38. The project made a major contribution to the long-term restoration of the DAS, through financing the establishment of a major nursery to provide Saxaul and other planting stock. This became the largest single expenditure item in the project. However, given the design of the M&E framework, the results of this investment are not reflected adequately in reporting, since the indicator for DAS restoration refers only to mapping and inventorying unaccounted forests, for which there is a simple 'yes/no answer. A level 2 restructuring here could have been helpful to adjust the results framework and revise this indicator to measure the outcomes expected from this investment, for example the change in national capacity to produce planting stock for DAS restoration.

M&E Implementation

39. By grant closure, the ISR rated M&E as Moderately Satisfactory, reflecting delayed reporting during the early stages of implementation. Reporting also focused on outputs rather than on results and outcomes. As mentioned above, reports show some indicators overlap and 'double-count' areas—for instance, the achievement of restoration of 3000 ha of shelterbelts around Kyzylorda is reported against the PDO-level indicators for 'Dryland area restored using community centered approach' (PDO Indicator 2), against the PDO-level (CRI) indicator for 'Land area under sustainable land management approaches' (PDO 3 Indicator) and against the intermediate indicator for 'Establishment of saxaul and other drought resistant plantations around Kyzylorda'. The areas for the establishment of agroforestry and model farms are also duplicated across the PDO- and intermediate-level indicators. Implementation figures should have be reported distinctly to avoid these overlaps. These shortcomings reflect deficiencies in M&E implementation. As noted above, a restructuring to adjust the results framework would have been beneficial.

M&E Utilization

40. Project implementation appears to have also made good use of reporting data from the government's own M&E systems, especially for indicators where area (ha) targets were included. By design, the outputs from two important surveys and mapping projects fed into the M&E system – the inventory on unrecorded forests and the mapping of the DASB. Although it was not possible for the Bank to fully assess the robustness or accuracy of this data, these activities provided key baseline information and provided the basis for formulating forest management plans and afforestation plans, respectively. Therefore, it is clear that monitoring systems informed and contributed substantially to improving Project implementation efforts.

Justification of Overall Rating of Quality of M&E

41. Whilst the key M&E systems were established and largely implemented, enabling reporting against agreed indicators, the duplication of reporting across different indicators and inconsistent interpretation of the indicators (e.g. recording areas afforested by State Enterprises as 'community-centered') reduced the overall M&E quality rating to Modest.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

42. The Environmental and Social (E&S) risk rating for the Project was Moderate. E&S performance has consistently been Satisfactory throughout implementation, with all subprojects implementing the Environmental and Social Management Plans (ESMPs) in an adequate manner. Oversight of E&S systems implementation was provided by the Environmental and Social Specialist of the PMU who ensured classification of subprojects proportionate to their E&S risk levels in accordance with the Environmental and Social Management Framework (ESMF). Through implementation, no environmental, social, health, or safety (ESHS) non-compliance issues were recorded, and no outstanding environmental concerns were identified post-completion.

43. Environmental and social compliance was mainly ensured through the incorporation of relevant requirements into the bidding documentation and the implementation of screening checklists and ESMPs in accordance with national environmental legislation and the absence of major civil works. For receiving and processing grievances, the project used the existing government e-petition system - used by all state bodies and there was no project-specific GRM.

44. Procurement processes and contract implementation were implemented well - with no major issues reported. Financial management (FM) arrangements - including planning and budgeting, accounting, financial reporting, internal controls, funds flow, external audits, organization, and staffing arrangements - were also implemented well throughout the project and considered acceptable to the Bank. Interim Financial Reports (IFRs) were usually also submitted to the Bank on time.

C. BANK PERFORMANCE

Quality at Entry

45. This operation was comprehensively designed, especially for a small size grant of less than US$5 million. The main deficiencies at entry were associated with the design of the results framework – which did not provide sufficient distinction between indicators, leading in some cases to duplicated reporting – the same results reported against two or more indicators.

Quality of Supervision

46. The World Bank conducted a total of 7 Implementation Support Missions (ISMs) following project effectiveness including a Mid Term Review in November 2023 and the Implementation Completion Review (ICR) mission in October 2025. ISMs responded to emerging issues effectively. Limited budgetary resources available for supervision restricted the number and coverage of field missions. The World Bank team also succeeded in securing additional grant resources from the Global Partnership for Sustainable and Resilient Landscapes (PROGREEN) Trust fund. Ultimately, these were processed as a separate project (Kazakhstan

Resilient Landscapes Restoration Project P179008) with the same PDO and identical implementation arrangements, with a stronger focus on protected areas.

47. While supervision missions responded to implementation issues as they emerged, weaknesses in the Results Framework—particularly overlapping and ambiguously defined area-based indicators—were not addressed through formal restructuring. In retrospect, a Level-2 restructuring following the Mid-Term Review would have been appropriate to realign indicators with the evolving focus of the project (including the substantial investment in nursery capacity) and to strengthen the evaluability of results. The absence of such restructuring constrained the ability of supervision to fully support adaptive results management.

48. Resource availability for implementation support by the Bank was insufficient. This was a particular constraint in Kazakhstan with long distances between sites and high transportation costs. Also, resource constraints affected fiduciary oversight. Limited allocations restricted funding for annual audits and contributed to overlap between financial management and procurement responsibilities within a single fiduciary position. While the team endeavored to manage these duties diligently, the combined workload occasionally reduced efficiency and timely execution.

Justification of Overall Rating of Bank Performance

49. Overall, the World Bank's performance is rated Satisfactory. Shortcomings were identified with the design of results framework, but all technical and fiduciary requirements were met in a proactive manner, contributing to both supporting project implementation and enhancing the World Bank's dialogue with sectoral counterparts and stakeholders.

Rating: Satisfactory

D. RISK TO DEVELOPMENT OUTCOME

50. All risks at entry were rated as moderate. Some risks were lowered to 'low' (political and governance, sector strategies and other – relating to covid risks ongoing at entry). At Project closing, there remains a risk that the successful pilot results derived from the agroforestry plots in Kyzylorda will not be translated into widespread uptake without a strong push to support extension to other farmers and engagement of Banks and micro-credit organizations that will be needed to provide the credit to farmers interested in replicating such approaches. During the ICR mission, it was agreed that the ongoing PROGREEN-funded project (PROGREEN Kazakhstan Resilient Landscapes Restoration Project - P179008) – which has the same implementation arrangements, will continue to support extension to other farmers, banks and micro-credit organizations.

V. LESSONS AND RECOMMENDATIONS

51. This project generated concrete, transferable operational lessons for scaling DAS restoration under comparable ecological and institutional conditions. As the first project in the RESILAND regional program to reach closure, this operation provides practical lessons for scaling DAS restoration. In particular, the development of a dedicated saxaul nursery system and the use of mechanized planting approaches in the DAB and around Kyzylorda demonstrated strong seedling survivorship and cost-effective implementation

under harsh conditions. These approaches offer directly transferable solutions for Uzbekistan and other Central Asian countries pursuing large-scale DAS restoration, where similar restoration objectives and constraints apply.

52. Agroforestry pilots can be economically viable and scalable when site selection, technical design, and financing arrangements are aligned, but early supervision intensity matters. The project demonstrated that agroforestry models can generate attractive returns and employment in suitable locations, as evidenced by successful pilots in Kyzylorda. Conversely, weaker site selection and limited early supervision contributed to underperformance elsewhere. Scaling such models will require careful upfront screening, adequate supervision during early implementation, and early engagement with financial institutions to transition from grant-based pilots to credit-financed replication.

53. Translating successful pilots into scalable solutions requires structured post-project knowledge dissemination. The agroforestry pilots in Kyzylorda achieved strong results and demonstrate clear potential for replication. However, ICR field discussions suggest that more systematic efforts to disseminate lessons from these pilots to other farmers, local authorities, and financial institutions, including banks and micro-credit organizations, could have further strengthened prospects for scale-up. As the PIU continues to manage the PROGREEN funded project, there is an opportunity to build on the project's achievements through targeted outreach and knowledge-sharing activities that facilitate wider replication of successful approaches.

54. Results frameworks for landscape restoration projects should be designed—and adaptively updated—to avoid overlapping area-based indicators that obscure performance assessment. This project achieved or exceeded most quantitative targets; however, the use of multiple PDO-level and intermediate indicators covering similar land areas resulted in duplicated reporting and reduced clarity around results attribution. For future operations, especially those combining pilot activities with large-scale area-based interventions, clearer differentiation between indicators and timely restructuring when project emphasis shifts would strengthen evaluability and support adaptive management.

ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS FRAMEWORK

PDO Indicators by Outcomes

To pilot agroforestry practices using a community-centered approach								
Indicator Name	Baseline		Closing Period (Original)		Closing Period (Current)		Actual Achieved at Completion	
	Result	Month/Year	Result	Month/Year	Result	Month/Year	Result	Month/Year
Identification of the most effective agroforestry practices using a community-centered approach (based on a cost-benefit analysis of the pilots) (Yes/No)	No	Mar/2021	Yes	Dec/2025	Yes	Dec/2025	Yes	Sep/2025
	Comments on achieving targets		This indicator shows identification of the most effective agroforestry practices. Demonstration plots have been set up and activities completed. A short analytical note reviewed implementation success of individual plots and recommendations on which plots can be scaled up are issued.					
Dryland Area Restored Using Community Centered Approach (Hectare(Ha))	0.00	Mar/2021	3,135.00	Dec/2025	3,135.00	Dec/2025	3,135.00	Sep/2025
	Comments on achieving targets		This indicator measures, in hectares, the dryland area restored using community-centered approach (saxaul plantations around Kyzylorda) of which 3000 ha of saxual shelterbelts have been completed, 9 ha of plots in Kzylorda and 126 ha of plots in Zhambyl.					
To build government capacity for landscape management and restoration								
Indicator Name	Baseline		Closing Period (Original)		Closing Period (Current)		Actual Achieved at Completion	
	Result	Month/Year	Result	Month/Year	Result	Month/Year	Result	Month/Year
Land area under sustainable landscape management practices (Hectare(Ha))	0.00	Mar/2021	10,815.00	Dec/2025	10,815.00	Dec/2025	10,839.00	Sep/2025
	Comments on achieving targets		The indicator measures, in hectares, the land area for which new and/or improved sustainable landscape management practices have been introduced. Land is the terrestrial biologically productive system comprising soil, vegetation, and the associated ecologicalnd hydrological processes; Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project; Sustainable landscape management					

			(SLM) practices refers to a combination of at least two technologies and approaches to inrease land quality and restore degraded lands for example, agronomic, vegetative, structural, and management measures that, applied as a combination, increase the connectivity between protected areas, forest land, rangeland, and agriculture land. This includes 3000 ha achieved in shelterbelts, 9 ha in plots of Kyzlorda, 30 ha in demo plots in Zhambyl oblast and 7800 ha of improved pasturelands in Zhambyl oblast that field received equipment from the project.					
Capacity built for landscape restoration through mapping of degraded landscapes in Dry Aral Seabed and inventory of unrecorded forests (Yes/No)	No	Mar/2021	Yes	Dec/2025	Yes	Dec/2025	Yes	Sep/2025
	Comments on achieving targets		Mapping of unrecorded forests found 333,000 ha has been completed.					

Intermediate Indicators by Components

Piloting community – centered approach on dryland agroforestry and landscape restoration								
Indicator Name	Baseline		Closing Period (Original)		Closing Period (Current)		Actual Achieved at Completion	
	Result	Month/Year	Result	Month/Year	Result	Month/Year	Result	Month/Year
Forestry Nursery to supply planting materials to farmers and local communities (Number)	0.00	Mar/2021	1.00	Dec/2025	1.00	Dec/2025	1.00	Sep/2025
	Comments on achieving targets		Construction is completed and commissioned in October 2024. In November 2024 they will sow the seeds of saxual to prepare planting material. 55,000 saplings to be made available annually in and around Kyzlorda city and 3 million spalings for the Aral Sea Bed contributing towards presidents 2 billion tree planting commitment by 2025. In accordance with design full commercial production stage will be achieved by 2028.					
Establishment of saxaul and other drought-resistant plantations around Kyzylorda (Hectare(Ha))	0.00	Mar/2021	3,000.00	Dec/2025	3,000.00	Dec/2025	3,000.00	Sep/2025
	Comments on achieving targets		This indicator measures progress toward establishment of saxaul and drought-resistant plantations around Kyzylorda. A total of 4.9 million seedlings have been planted. Survival rate has seen an increase from 32% in 2023 to 51% in 2024.					
	0.00	Mar/2021	15.00	Dec/2025	15.00	Dec/2025	15.00	Sep/2025

3 Demo plots to demonstrate innovative techniques of agroforestry in Kyzylorda oblast (Hectare(Ha))	Comments on achieving targets	All activities have been completed						
6 Model Farms for agroforestry pilot sub-projects in Zhambyl Oblast (Hectare(Ha))	0.00	Mar/2021	7,800.00	Dec/2025	7,800.00	Dec/2025	7,800.00	Sep/2025
	Comments on achieving targets	This indicator will monitor progress toward establishment of agroforestry model farms, each farm is expected to put 1,300 ha in sustainable land management practice. Demo plots on 120 ha has been set up. 1,300 ha of adjacent area for each plot will be affected once project activities on demo plots are completed. Major demo plot activities have been completed.						
Reduction of greenhouse gas emissions (Metric ton)	0.00	Mar/2021	204,800.00	Dec/2025	204,800.00	Dec/2025	-122,571.42	Sep/2025
	Comments on achieving targets	The indicator will measure the reduction of GHG as result of project activities. FAO expert was engaged to calculate emission reduction estimate. FY21: -24,514.28; FY22: -49,028.57;FY23: -73,542.85; FY24: -98,057.13 and FY25: -122,571.42 tCO2eq FY21 year value will be input as CO2 eq for each year for the results framework. This estimate will be further refined with detailed estimates of yield of respective crops accrued in agroforestry plots ;						
Community participation in forestry activities (Number)	0.00	Mar/2021	1,000.00	Dec/2025	1,000.00	Dec/2025	1,012.00	Sep/2025
	Comments on achieving targets	This indicator measures a number of people from communities participating in project forestry activities. For GEF purposes the project will report on the broader set of beneficiaries, which includes local residents benefitting from afforested areas and improved land productivity. Completion of forestry activities like planting of 3,000 ha in Kyzylorda contributed toward progress in achievement of the target. Target is achieved according to the PIU report.						
Of which female participants (Number)	0.00		400.00		400.00		327.00	
	Comments on achieving targets	This indicator measures female participation in the project forestry activities						
Capacity building of the Forestry and Wildlife Committee (FWC) for integrated landscape management								
Indicator Name	Baseline		Closing Period (Original)		Closing Period (Current)		Actual Achieved at Completion	
	Result	Month/Year	Result	Month/Year	Result	Month/Year	Result	Month/Year
Mapping of the forest fund areas on the Dried Aral Sea bed (DAS) (Hectare(Ha))	0.00	Mar/2021	300,000.00	Dec/2025	300,000.00	Dec/2025	300,000.00	Sep/2025
	Comments on achieving targets	This indicator measures area of DAS covered by updated maps. It has been achieved with GIZ funded activities.						

Preparatory survey and design works for saxaul plantations on DAS (Hectare(Ha))	0.00	Mar/2021	50,000.00	Dec/2025	50,000.00	Dec/2025	100,000.00	Sep/2025
	Comments on achieving targets		This indicator measures area of DAS with plantation plans prepared. Due to cost saving the project financed design works for an area double in size comparing to the original plan.					
Inventory of the unrecorded forests (Hectare(Ha))	0.00	Mar/2021	140,000.00	Dec/2025	140,000.00	Dec/2025	601,000.00	Sep/2025
	Comments on achieving targets		This indicator measures area covered by forest inventory. 333,000 ha on unrecorded forests have been identified in the inventory					
Depository of forest species' seeds (gene bank) in Kazakh Scientific Research Instituite in Schuchinsk (Number)	0.00	Mar/2021	1.00	Dec/2025	1.00	Dec/2025	1.00	Sep/2025
	Comments on achieving targets		This indicator monitors establishment of a gene bank in KSRFI in Schuchinsk. Seed bank is operational. PIU will be working to legitimize the gene bank through issuance of a legal charter.					
Forest area brought under management plans (Hectare(Ha))	0.00	Mar/2021	100,000.00	Dec/2025	100,000.00	Dec/2025	173,915.00	Sep/2025
	Comments on achieving targets		333,000 ha unrecorded forests have been identified in the inventory. A process to recognize and legally change the classification of unrecorded forests to forest cover (state forest land) was undertaken with the local government - Akimiyat and has been completed across 173,915 ha. This 173,915 ha are now covered under a forest management plan as a result of the reclassification.					

B. KEY OUTPUTS

To pilot agroforestry practices using a community-centered approach	
PDO Indicators	• Identification of the most effective agroforestry practices using a community-centered approach (based on a cost-benefit analysis of the pilots) (from 'no' to 'yes') • Dryland area restored using community-centered approach (target:3135 ha) • Land area under sustainable landscape management practices (target:10,815 ha) • Capacity built for landscape restoration through mapping of degraded landscapes in Dry Aral Seabed (DAS) and inventory of unrecorded forests (from 'no' to 'yes' measured by completion of capacity building activities).
Key Outputs (linked to the achievement of the PDO Outcome)	• Pilots implemented using community-centered implementation models and different agroforestry techniques; new forestry equipment supplied • Saxaul plantations around Kyzylorda city established • Design and survey work for selection of areas for plantations of 50,000 ha on Dry Aral Seabed • Inventory identified 601,000 ha of unaccounted forests in Kyzylorda and Zhambyl oblasts • Development of forest management plans was completed covering an area of 173,915 ha
Component 1: Piloting community – centered approach on dryland agroforestry and landscape restoration	
Intermediate Results Indicators	• Forestry Nursery to supply planting materials to farmers and local communities • Establishment of saxaul and other drought-resistant plantations around Kyzylorda • 3 Demo plots to demonstrate innovative techniques of agroforestry in Kyzylorda oblast • 6 Model Farms for agroforestry pilot sub-projects in Zhambyl Oblast • Reduction of greenhouse gas emissions • Community participation in forestry activities
Key Outputs (linked to the achievement of the Component)	• A forest nursery of 33.5 ha was built in Kazalinsk • Saxaul plantation of 3,000 ha created around Kyzylorda city • 3 pilots to test agroforestry practices were established in Kyzylorda region • 6 pilots to test agroforestry practices were established in Zhambyl region • Following equipment supplied: - Wheeled tractor – 1.4 traction classes – 2 units; - Wheeled tractor of traction class 2 – 1 unit; - Tractor trailer – 1 unit; - Tank semi-trailer – 1 unit; - Four-wheel drive truck – 1 unit; - Mounted ploughshare – 1 unit; - Sections of dental harrows – 26 pieces; - Gasoline motor pump - 4 units; - Forest planting machine - 1 unit; - Mounted forest planter – 2 units; - Mounted forest seeder for nurseries – 1 unit; - Cultivator for the nursery – 1 unit.

	- Backhoe loader – 1 unit; - Wheeled tractor – 4 traction classes – 1 unit; - Cargo-passenger vehicle – 1 unit; - Tank semi-trailer – 1 unit; - Forest planting machine – 2 units; - Mounted disc harrows – 2 units; - Mounted plows – 3 units; - Digging staples – 2 units.
Component 2: Capacity building of the Forestry and Wildlife Committee (FWC) for integrated landscape management	
Intermediate Results Indicators	• Mapping of the forest fund areas on the Dried Aral Seabed (completed with GIZ financing) • Preparatory survey and design works for saxaul plantations on DAS • Inventory of the unrecorded forests • Depository of forest species' seeds (gene bank) • Forest area brought under management plans
Key Outputs (linked to the achievement of the Component)	• Design and survey work for selection of areas for plantations of 50,000 ha on Dry Aral Seabed was completed • Inventory identified 601,000 ha of unaccounted forests in Kyzylorda and Zhambyl oblasts • Development of forest management plans was completed covering an area of 173,915 ha • A genetic bank of seeds of forest species growing in drylands and degraded landscapes was established under the Republican Forest Seed Collection Center in Borovoye • Consultancy services were provided to FWC to support capacity building in managing degraded landscapes.

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Talimjan Urazov	Team Leader
Nigel Ross Hughes	Team Leader
Aliya Kim	Financial Management Specialist
Kuat Sultan	Procurement Specialist
Rahmoune Essalhi	Procurement Specialist
Sanjeet Kumar	Procurement Specialist
Zhuldyz Zhurumbetova	Environmental Specialist
Obaidullah Hidayat	Environmental Specialist
Gernot Brodnig	Social Specialist
Anara Akhmetova	Procurement Team
Grace Aguilar	Team Member
Davor Smiciklas	Team Member
Linh Van Nguyen	Team Member
Ayala Peled Ben Ari	Team Member
Olamide Oluwaseyi Bisi-Amosun	Team Member
Olga Bessedina	Team Member
Mohammad Nadeem	Team Member

B. STAFF TIME & COST

Stage of Project Cycle	Staff Time & Cost	
	No. of Staff Weeks	US$ (including travel and consultant costs)
Preparation		
FY20	30.399	191,718.38

FY21	27.919	121,483.60
Total	58.32	313,201.98
Supervision/ICR		
FY20	0.000	148.22
FY22	19.597	89,999.12
FY23	10.147	69,599.89
FY24	11.182	84,972.08
FY25	12.175	74,416.88
FY26	6.200	34,772.98
Total	59.30	353,909.17

ANNEX 3. PROJECT COST BY COMPONENT

Component	Amount at Approval (US$M)	Actual at Project Closing (US$M)
Piloting community – centered approach on dryland agroforestry and landscape restoration	2.5	2.7
Capacity building of the Forestry and Wildlife Committee (FWC) for integrated landscape management	1.3	1.0
Project coordination and monitoring	0.5	0.6

ANNEX 4. EFFICIENCY ANALYSIS

The ex-ante economic analysis indicated that the Project would generate substantial economic returns even under conservative assumptions and different scenarios. This analysis compared the subproject costs with their estimated economic benefits for the first 25 years, both discounted to 2020 (the baseline year). At design, the project was expected to deliver an IRR of nearly 10% and an NPV of $5.1 million at an 8% discount rate. Implementation was almost entirely consistent with the components and activities included in the Project Appraisal Document and the Theory of Change, and as described above, all outputs and outcomes were achieved in full or exceeded end of project targets. The three pilot plots in Kyzylorda region cost around US$165,000 for three pilot plots and those in Zhambyl region cost US$492,000 for 6 pilot plots. Per-hectare costs ranged from $3,500 (Kyzylorda) to $11,000 (Zhambyl) - the wide range due to variation between sites in local conditions, water availability etc.

During the ex-post economic analysis only selected project activities were reviewed as very limited funds were allocated for the project supervision and M&E. A partial analysis of economic benefits of selected activities showed following results.

Agro-forestry demonstration plots

To calculate economic viability of demonstration plots in Kyzylorda region the average yield of fruit and berry plantations, the actual yield of agricultural crops, and wholesale prices for products were taken as a source of revenue for farmers. It was assumed that fruit and berry plantations begin to actively bear fruit 3-7 years after planting. The main phase of active fruiting occurs at the age of 5 years, taking into account the climatic characteristics of the region. For modeling, a decreasing coefficient of 0.5 was used—taking into account the difficult growing conditions.

Income from tree plantations

Culture	Area (ha)	Yield (kg/ha)	Forecast harvest (kg)	Price (KZT/kg)	Income (KZT million)	Revenue (thousand $)
Apple tree	4,23	10700	45 200	300	13,6	26,6
Plum	1,52	3300	5 000	200	1,0	2,0
Apricot	0,87	5400	4 700	200	0,94	1,8
Pear	0,65	2300	1 500	300	0,45	0,9
Almond	0,51	750	380	3000	1,14	2,2
Cherry	0,51	1060	540	500	0,27	0,5
Currant	0,32	2200	700	500	0,35	0,7
Barberry	0,16	1250	200	500	0,1	0,2
Sea buckthorn	0,16	3100	500	1000	0,5	1,0
Briar	0,34	1060	360	500	1,1	2,2
Peach	0,01	10000	100	800	0,2	0,4
Grape	0,4	5000	2 000	250	0,5	1,0
Cherry	0,35	7000	2 400	2000	4,8	9,4

Total projected annual income from fruit plantations: 24.95 million tenge ($48.9 thousand)

Income from crops

Culture	Area (ha)	Yield (kg/ha)	Total yield (kg)	Price (KZT/kg)	Income (million tenge)	Revenue (thousand $)
Watermelons	3,2	60 000	192 000	50	9,6	18,8
Melon	2,4	60 000	144 000	70	10,1	19,7
Pumpkin	1,32	50 000	66 000	60	4,6	9,1
Zucchini	0,1	30 000	3 400	100	0,34	0,67
Tomatoes	0,5	2 000	500	600	0,3	0,6
Potato	0,1	20 000	2 000	300	0,6	1,2
Bonfire	0,18	4 000	720	15000	0,011	0,021
Zhitnyak	0,18	8 000	1 440	15000	0,022	0,042
Lucerne	1,5	10 000	15 000	50000	0,75	1,47
Melilot	0,35	3 000	1 050	15000	0,016	0,031
Amaranth	0,11	3 000	330	1500	0,5	0,97
Mint	0,12	10 000	1 200	500	0,6	1,18
Sage	0,12	20 000	2 400	1500	3,6	7,0

Total: projected income from crops for the 2-year period is 31.04 million tenge ($ 60.78 thousand)
The average annual income from crops is 15.52 million tenge ($30.4 thousand)

Considering that the cost of creation of agro-forestry plots in Kyzylorda was about US$165,700 and the total annual minimum income from demonstration plots is around US$30,400 in the first five years and will be US$79,300 after the fifth year, conservative estimates of Economic Rate of Return (ERR) of demonstration plots yield 27 percent over 10 years and 30 percent over 15 years, which is in line ex-ante ERR estimates of 28 percent over 15 years. Economic Net Present Value (ENPV) of demo plots in Kyzylorda region at 10 percent discount is estimated at US$151,000, which proves its economic viability. The ex-post ERR proved to be a bit higher than ex-ante estimates due to the fact that the price of agricultural crops and fruits went higher during the project implementation period.

Saxaul plantations

Saxaul (Haloxylon ammodendron) planting in Kyzylorda region yields both ecological and socioeconomic benefits, which can be monetized to estimate economic advantage. Following quantitative reasoning was taken into account: One hectare of 13-year-old saxaul absorbs 4.95 tons of carbon per year. Assuming mature trees with similar growth for 3,000 ha: Total carbon sequestered per year=3,000×4.95=14,850 tons CO_2. Economic value: Carbon offset prices vary; assuming $30 per ton CO_2 (a conservative global average) would yield 14,850 X 30 =$445,500 per year.
Each saxaul bush can anchor up to 4 tons of loose sand, and wind speed reduction reaches 87% after 5 years. 2,500 bushes per hectare (typical density) would get 30 million tons stabilized, which get approximately $500,000 to $1,000,000 of annual losses saved to agriculture and infrastructure. Saxaul will also produce oxygen and rough estimates get $200,000–$500,000/year from improved air quality and reduced healthcare costs. Financial cost of plantation (US$700,000) is in fact employment opportunity and local economic activity that contributes to the local communities' wages and welfare.

Thus, a very quick assessment shows that planting 3,000 hectares of saxaul in Kyzylorda region is going to generate total annual economic benefits ranging from $2.3 million to $3.5 million (depending on the survival rate), combining carbon sequestration, sand stabilization, ecosystem services, and employment effects. The true value rises over time as plantations mature, translating ecological restoration into tangible economic and social gains. This gives about 60 percent ERR over 10-year period on the project total cost excluding demonstration plots' expenses ($3.8 million).

Other activities

Project economic benefits multiply given its contribution to the plantations on the Dry Aral Seabed by producing a nursery and completing design works on the territory of 100,000 ha (against planned 30,000 ha) as well as projected incremental (10 percent) improvement in the quality of forest fund lands for which management plans were developed during the project implementation. Estimates do not also include economic benefits of future scientific research that the gene bank established by the project will generate and the technical assistance provided by the project to the Forestry and Wildlife Committee for environmental legislation improvement. In addition to the direct incremental net benefits, incremental benefits from reduced GHG emissions are included using FAO's EX-Ante Carbon Balance Tool (EX-ACT) model. The project's impact on GHG emissions is estimated at 204.8 thousand t CO2-eq over the duration of the project. Because no transactions of carbon credits are planned to reach direct beneficiaries, the financial value of carbon is set to zero. Overall, efficiency (value for money) rating is considered substantial for this small grant.

ANNEX 5. RECIPIENT, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

The draft ICR was shared with the Recipient on January 23, 2026. The team received feedback on January 30, 2026. Implementing agency focused their comments on factual clarifications that have been addressed in the finalized version of ICR.