

TERMINAL EVALUATION

Project ID:	9139
Project Name:	Food-IAP: Establishment of the Upper Tana Nairobi Water Fund (UTNWF)
Countr(ies):	Kenya
Implementing Agency:	IFAD

TABLE OF CONTENTS

I. OVERVIEW3

A. Description3

B. Key Dates3

C. Disbursements3

II. PROGRESS STATUS AND ISSUES4

A. Main Terminal Evaluation Findings4

B. Stakeholder Engagement5

C. Gender Equality5

D. Knowledge Management6

III. CORE INDICATORS7

IV: CO FINANCING10

V: ENVIRONMENTAL AND SOCIAL SAFEGUARDS11

VI. ANNEX12

I. Overview

A. Description

Project name

Food-IAP: Establishment of the Upper Tana Nairobi Water Fund (UTNWF)

Country

Kenya

GEF ID

9139

Implementing Agency

IFAD

Executing Entity

UNEP

Trust Fund

GET

Project Type

FSP

Objective

The Nature Conservancy; Ministry of Environment and Natural Resources, National Museums of Kenya, Water Resources Management Authority and Kenya Forest Services

B. Key Dates

CEO Endorsement/Approval

7/20/2016

Agency Approval

7/27/2016

Implementation Start

10/6/2016

First Disbursement

12/6/2016

Expected MTR

8/28/2019

MTR Submission

3/31/2026

Actual MTR

8/28/2019

Expected Completion

12/31/2021

Actual Completion

12/31/2021

Actual TE

8/18/2022

TE Submission

3/31/2026

Final Disbursement

10/22/2021

C. Disbursements

Project Financing

7,849,999.90

Cumulative Disbursement

7,201,596.87

II. PROGRESS STATUS AND ISSUES

A. Main Terminal Evaluation Findings

The Terminal Evaluation concludes that UTNWF achieved or exceeded most of its objectives, demonstrating high relevance, efficiency, and institutional effectiveness. It established a durable and scalable model for ecosystem-based water management, though sustained funding and stronger policy integration remain priorities for the next phase. The Water Fund model was the key innovation as a replicable, public–private financing mechanism for catchment conservation. It catalyzed the establishment of seven other Water Funds across Africa and was recognized internationally as a cost-effective nature-based investment approach.

Relevance – Highly Satisfactory: The project design was robust, contextually grounded, and highly relevant to Kenya’s national priorities on watershed conservation, food security, and climate resilience. UTNWF aligned with key government policies (e.g. National Environment Policy 2013, Forest Policy 2014, PPP Act 2013, ASTGS 2019–2029) and IFAD’s Country Strategic Opportunities Programme (COSOP 2013–2018 and 2020–2025). The project addressed the needs of rural smallholders through sustainable land management (SLM), climate-smart agriculture, and livelihood diversification. The Water Fund model proved to be an innovative mechanism for mobilizing private and public investment in ecosystem services, making UTNWF the first operational water fund in Africa.

Efficiency – Highly Satisfactory: Financial performance was strong: the full GEF/IFAD grant of USD 7.2 million was fully disbursed and absorbed. Co-financing targets were met, totalling USD 162.7 million, primarily from farmers, counties, and NGOs. Implementation remained largely on schedule despite minor COVID-19 delays. Strong partnerships and coordinated management ensured cost-effective delivery and optimal use of resources.

Effectiveness – Satisfactory: The Water Fund was legally registered as a charitable trust with an active Board of Trustees, Board of Management, and County Advisory Committees. The project also achieved significant ecosystem improvements: 77,401 ha under SLM (77% of target); 3.6 million trees planted (78% survival rate); 316 km of riparian land restored^[1] and protected; 15,463 water pans installed, harvesting 1.9 million m³ of rainwater; 27–31% sediment reduction in key rivers and 40% increase in annual water flow. 93% of households reported adequate water for 6–12 months of the year (up from 84% baseline); and 129,718 ha under restoration. The project established 33 monitoring stations, LDSF mapping for 5 sub-watersheds, and two online data centres. Lessons led to replication in Eldoret–Iten and Mombasa Water Funds.

Sustainability – Moderately Satisfactory: The UTNWF is now autonomous and operational, with counties and partners continuing to participate. Financial sustainability remains a key challenge. The Endowment Fund capitalization stood at USD 2.4 million versus the target of USD 7.5 million; private sector contributions were lower than expected. Counties provided strong co-financing, but clear post-project transition mechanisms (e.g. through CIDPs) were lacking.

Still, environmental sustainability is likely to persist thanks to continued county engagement, community ownership, and integration into county planning.

[1] As the TER did not provide a consolidated figure for the total area under restoration, an estimate was derived to ensure reporting completeness. This was calculated by combining the area restored at MTR (68,290

ha) with the additional area under sustainable land management reported at completion, while avoiding double counting. The resulting figure (129,718 ha) should therefore be considered an informed estimate based on available data rather than a directly reported value from the TER.

B. Stakeholder Engagement

The Upper Tana Nairobi Water Fund (UTNWF) transitioned from a project structure into a fully operational Public-Private Partnership. It is now a registered charitable trust with a Board of Trustees (BoT), Board of Management (BoM), and County Advisory Committee (CAC).

To achieve this transition, wide stakeholder engagement and fundraising took place, engaging national and county governments, research institutions (JKUAT, NMK, ICRAF), and regulatory agencies (WRA, KFS, NEMA) through MoUs and joint annual workplans. Mobilization of funds from both public and private sector institutions helped support tangible activities in the upstream catchments. This included support from international stakeholders including the Swedish International Development Agency, GEF, IFAD, Frigoken Limited and Coca-Cola. Counties provided substantial co-financing and technical support (USD 15.5 M co-financing), and joined the CAC for institutional anchoring and political support. Scientific partners strengthened evidence-based management through LDSF mapping, biophysical monitoring stations, and integrated WRA water-quality databases.

Since MTR, community participation also increased with over 51,400 beneficiaries reached (vs. 21,000 planned) through WRUAs, farmer groups, and schools. Women represent 39% and youth 17.6% of total participants. Institutional and policy engagement improved, with **four county-level policies** on wetlands, invasive species, quarry management, and stormwater finalized after stakeholder consultations in Nyeri, Nyandarua, and Murang'a counties and submitted for approval to the respective county assemblies and county executive committees.

Overall, this wide stakeholder engagement improved trust and coordination across public, private, and community actors, consolidating the Water Fund's legitimacy as Kenya's first operational nature-based investment platform and catalyzing replication: two additional Water Funds (Eldoret-Iten and Mombasa) are now in development, and seven others across Africa are under design. The collaboration

Challenges

- Endowment capitalization lagged due to limited private sector uptake; early design overestimated corporate funding potential. The fund's target was revised from USD 7.5 M to USD 5 M, with current capitalization at USD 2.4 M.
- Engagement of Water Resources User Associations (WRUAs) was uneven. Many were underutilized or lacked resources to sustain riparian conservation activities.
- Coordination between knowledge generation (Component 3) and policy influence (Component 1) remained weak; data were not always translated into advocacy or financing leverage.
- Conflict-of-interest risks emerged, as some partner agencies were both implementers and oversight members under the BoM, without clear governance mechanisms to manage this dual role.
- Market linkages for farmers (especially youth and women) and clarity on county exit strategies after MoU expiry remain incomplete, risking continuity of field-level engagement.

C. Gender Equality

The project included a dedicated Gender Action Plan (GAP) and a Gender Equality and Poverty Strategy, committing to gender-responsive targeting, participation, and benefit-sharing. Gender-sensitive indicators were integrated into the results framework, including: Percentage of women and youth participating in project-supported watershed groups; Number of women accessing productive assets (e.g. water pans, biogas, drip kits); Share of women in leadership and decision-making structures (BoM, community groups); Sex-disaggregated monitoring of beneficiaries and outcomes under the M&E system (MPAT, LDSF). Data were sex- and age-disaggregated across all output and outcome indicators; outreach to women and youth was tracked annually through Power BI and DHIS2 systems.

39% of all project beneficiaries were women (exceeding Kenya's national participation threshold of 30%) with women actively engaged in vegetative conservation and farm-based interventions. Women-headed households, elderly, and poor households received 50%-75% cost subsidies over the amounts paid by beneficiaries for key technologies (water pans, drip irrigation kits, and biogas units) reducing labour and fuel burdens. Youth constituted 17.6% of participants; 8% of watershed groups were youth-led, providing employment in nursery management and conservation activities. Women and youth groups established tree nurseries and participated in value chains such as avocado and dairy production, providing additional income and employment. Trainings on group dynamics, record keeping, soil and water conservation, agroforestry, and leadership was systematically implemented through farmer field schools and exchange visits. Women were intentionally placed in management and governance roles, most notably, a female chairperson of the Board of Management (BoM). County extension assistants and implementing partners were trained on gender-responsive approaches and reporting.

Financial subsidies and flexible payment schemes significantly increased women's and vulnerable groups' adoption of climate-smart technologies. Access to biogas and water harvesting systems decreased time spent collecting firewood and water, improving women's health and household energy security. Women's participation in local decision-making structures improved, and many reported greater influence in household production and financial decisions. Embedding women in leadership roles (e.g., BoM chair) also enhanced visibility and integration of gender concerns into fund governance.

Land ownership remains a barrier. Despite strong participation, women's and youth's access to land limited their ability to engage as direct beneficiaries in some interventions (e.g., drip irrigation). Women and youth still need stronger market linkages, entrepreneurship support, and financial inclusion to sustain benefits. Data-driven gender monitoring was effective but could be expanded to capture qualitative shifts in empowerment beyond numeric participation rates.

D. Knowledge Management

The project's KM strategy was embedded in Component 3: "Robust knowledge management and learning systems implemented to direct UTNWF management and share lessons both nationally and regionally." The KM approach aimed to: Strengthen monitoring, evaluation, and learning for adaptive management; Support institutions to monitor Global Environmental Benefits (GEBs); Establish digital data platforms for socio-economic and biophysical information; Facilitate national and regional learning on the water fund model for scaling-up. The KM plan included a communication strategy, production of knowledge products, and development of platforms to share lessons with government, private sector, and communities.

Two DHIS2 databases were established — one for socio-economic data and another for hydrometeorological data. Power BI dashboards were developed for the Nairobi City Water and Sewerage Company (NCWSC) to monitor flows, water quality, and dam levels in real time. 33 biophysical monitoring stations were established or upgraded (against of target of 28), generating real-time data on water quality and quantity. Data collected was integrated into the Water Resources Authority (WRA) database, accessible to partners and used for decision-making. In addition, two information centres were created at Sagana (county level) and National Museums of Kenya (NMK) (national level), providing public access to environmental, hydrological, and biodiversity data. The UTNWF website (nairobiwaterfund.org) was established as the main online hub for data, publications, and learning materials.

Several knowledge products were developed: Biodiversity Atlas and database hosted by NMK; Land Degradation Surveillance Framework (LDSF) reports for five sub-watersheds; Endline Multidimensional Poverty Assessment Tool (MPAT) reports and socio-economic outcome surveys; Policy briefs on riparian management, wetlands protection, and sustainable land management; UTNWF Strategic Plan 2022–2026 and Lessons Learned papers (2021–2022). Twelve national and regional KM seminars and exchange visits were conducted, and the project was showcased in World Water Week, GEF learning events, and a Communication and KM Strategy was developed and implemented, emphasizing digital visibility and audience segmentation (government, academia, private sector, communities). Through Social media (Twitter, Facebook) and SMS platform over 44,000 farmers were reached with conservation and climate advisories. Online information centres at NMK and Sagana further relayed knowledge through public engagements

Monitoring results (e.g. sedimentation, water quality trends) informed the targeting of conservation measures and scaling of water harvesting interventions. KM feedback loops led to adjustments in field practices, such as improved terracing designs, timing of tree planting, and refinement of riparian buffer measures. Endline findings and lessons informed the design of the UTNWF 2022–2026 Strategic Plan and the new generation of Water Funds in Kenya.

Lessons Learned and Good Practices

- Integrated data systems (linking socio-economic and hydrological databases) enhanced evidence-based decision-making.
- Open-access data sharing through WRA and NMK improved transparency and stakeholder trust.
- Embedding KM within M&E systems allowed for real-time adaptive management, aligning activities with performance data.
- Collaboration with academic institutions increased the scientific credibility of results and generated applied research outputs.

The use of SMS and digital dashboards demonstrated effective ways to bridge the gap between scientific data and community-level learning.

III. 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)
	337000	68290	129718

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		337,000.00	15,973.00	77,401.00

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)
		52,317.00	52,317.00

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)

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)
		15973	77401

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)
		15,973.00	77,401.00

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)
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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 CO₂e (direct)			4.1	5.8
Expected metric tons of CO₂e (indirect)				

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 CO₂e (direct)			4.1	5.8
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting			2018	2018
Duration of accounting			20	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 CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting			2018	
Duration of accounting			20	

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)
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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		0	8,870	20,046

Male		0	14,348	31,354
Total	0	0	23,218	51,400

IV: Co Financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Anticipated at CEO(\$)	Materialized at MTR(\$)	Materialized at TE(\$)
Recipient Country Government	Government of Kenya, through its loans from IFAD	Loan	Investment mobilized	37,886,000.00		37,886,000.00
Civil Society Organization	The Nature Conservancy (TNC)	In-kind		3,000,000.00	926,000.00	3,000,000.00
Private Sector	Water Fund Consortium	Grant		6,000,000.00		6,000,000.00
Private Sector	Water Fund Consortium	In-kind		4,000,000.00		4,000,000.00
Recipient Country Government	County Governments	In-kind		6,850,000.00	10,333,473.00	10,333,473.00
Other	CIAT	In-kind		750,000.00		750,000.00
Civil Society Organization	KENAFF	In-kind		410,064.00		410,064.00
Civil Society Organization	Green Belt Movement	In-kind		300,182.00		300,182.00
Civil Society Organization	NDEKA	In-kind		199,284.00	30,644.00	199,284.00
Civil Society Organization	SACDEP	In-kind		167,000.00	43,024.00	167,000.00

Beneficiaries	Upper Tana smallholder farmers	In-kind		1,487,800.00	970,610.00	1,372,858.00
Beneficiaries	Upper Tana Small Holder farmers	In-kind			54,142.00	54,142.00
Total Co-financing				61,050,330.00	1,098,420.00	64,473,003.00

Comments

Co-financing by stakeholders was met or exceeded and the only contribution below the target is the endowment capitalization. Farmers as beneficiaries contributed US\$ 1.427million against a target of US\$ 1.5 million.

V: ENVIRONMENTAL AND SOCIAL SAFEGUARDS

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
		Medium/Moderate	Medium/Moderate

Measures to address identified risks and impacts

The UTNWFP is designed as a project expected to provide and enhance environmental benefits as well as strengthen farmers' abilities to adapt and mitigate climate change. To achieve this, the project promotes an array of soil land water management interventions. At its design, the project was rated in category B and a Social Environmental and Climate Assessment Procedures (SECAP) review note was developed, and risks and mitigation actions identified. Previous supervision missions proposed the developed of an ESMP.

Given that the project is predominantly environment and climate-focused, most of the mitigation measures were embedded in the delivery of the project. At design, no budgetary provision was made for ESMP. Due to that budgetary constraint, the project innovatively addressed the identified and emerging risks and proposed mitigation measures. This was consolidated in a position paper that highlights the risks, mitigation measures, resources and responsibilities, and the resolution of a grievance mechanism.

The project has undertaken mitigation measures to reduce or avoid significant environmental and social risks as well as enhance environmental benefits. These measures include capacity building public and private partners in risks mitigation, institutional collaboration with national and county governments to provide a clear framework for leveraging skills and capacities, project activities and co-financing, provision of a shared platform for financing on nature-based solutions, and communities' livelihoods impacts, integrated climate-smart technologies and socio-economic coping mechanisms – including empowerment of vulnerable groups, women, and youth.

VI. ANNEX

Uploaded Document

Document Category	Prefix	Title
M and E Document	Terminal Evaluation (TE)	Final TER UTNWF