MINISTRY OF WATER,
SANITATION AND IRRIGATION

WaterFund
Financing the Water Sector
WATER SECTOR TRUST FUND

MINISTRY OF FOREIGN AFFAIRS
OF DENMARK
Danida

GREEN GROWTH AND EMPLOYMENT PROGRAMME

End of Programme Evaluation - December 2022

Kenya Country Programme
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WaterFund
Financing the Water Sector

MINISTRY OF FOREIGN AFFAIRS
OF DENMARK
Danida

Final Report

for,

End of Programme Evaluation of Green Growth and Employment Programme (GGEP)

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Submitted by:

adi ADVANCE DEVELOPMENT INITIATIVE
RESEARCH | TECHNICAL ASSISTANCE | PROJECT MANAGEMENT

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Advance Development Initiative (ADI) acknowledges the continued support of DANIDA in addressing poverty reduction, inclusive green growth, rights, and sustainable management of natural resources in the Arid and Semi-Arid (ASAL) counties of Kenya**,** and commitment to programme evaluation as a tool for learning, accountability, and continuous improvement of interventions

The Authors.
Nairobi, December 2022

Executive Summary

Background

Water Sector Trust Fund, under the support of the Government of Kenya and the Royal Danish Embassy (DANIDA), supported the Green Growth and Employment Programme (GGEP) through development cooperation. This engagement targeted the Arid and Semi-Arid (ASAL) Counties of Northern and North-Eastern Kenya (Tana River, Lamu, Garissa, Wajir, Mandera, Marsabit, Isiolo and Turkana). Green Growth and Employment Programme was implemented between July 2017 to December 2020 with an additional no-cost extension to June 2022. WaterFund partnered with implementing agents including Community-Based Organizations (CBOs), Water Utilities (WUs), Water Resource Users Association (WRUA), Water Services Providers (WSPs), and Conservancies to implement water, sanitation, livelihood, and water resources management projects. These implementing agents worked closely with other stakeholders including County Governments, the Water Resources Authority (WRA), and Northern Rangeland Trust (NRT) to successfully deliver 23 water and sanitation services projects and 32 water resource management projects in the eight target counties with total financing of Ksh 975 million. At the beginning of the programme, the Government of Kenya declared drought a national disaster in February 2017, this necessitated reallocation of initial funding to emergency response under Drought Emergency Response Programme (DERP)

The end-term evaluation assessed the overall results and impact of the GGEP (including DERP) projects and their sustainability, established lessons learnt and best practices related to planning, design, and implementation of water sector programmes. The evaluation mainly adopted a theory-based approach guided by the programme theory of change. Further, the evaluation was guided by the revised Organization for Economic Co-operation and Development (OECD) criteria of Relevance, Coherence, Effectiveness, Efficiency, Impact, and Sustainability in reviewing the programme design, implementation strategies and mechanisms, activities, contextual factors, achieved results, and their sustainability. The specific objectives of this evaluation were to assess:

i. The extent to which the interventions have brought intended and unintended change to the beneficiary groups in line with the targets of GGEP and how well they were achieved.
ii. Functionality and sustainability of water supply, water resources management, and sanitation projects.
iii. Effectiveness of the established systems of engagement with Counties in water planning, implementation, and assessment of implementation capacities of implementing partners including adherence to the financing agreements and other contractual obligations.
iv. Effectiveness and efficiency of capacity-building approaches in the delivery of sustainable water supply and water resources management projects with a focus on programme implementation and Operations and Management (O&M) training.
v. The outcomes and impact of the policy and institutional support structures on WaterFund and at the county level
vi. The programmes level of influence in promoting Public Private Community Partnerships in water service provision in ASALs.

Methodology

The evaluators collected both secondary and primary data, utilizing participatory and interactive approaches zeroing on quantitative and qualitative methodologies to collect data (mixed-method approach). The evaluators developed and employed an array of practical and participatory tools; a structured questionnaire was utilized to collect data from primary stakeholders, Key Informant Interviews (KII) guides and Focus Group Discussions (FGD) guides were utilized for qualitative data. For secondary data, a desk review was conducted to capture past work and studies on thematic areas under GGEP, this was done in the broader context of the two partnering countries (Kenya and Denmark). A total of 386 participants were surveyed at the household level consisting of 55% women and 45% men. Also, more than 20 FGDs' and 50 key stakeholders participated in in-depth interviews drawn from Implementing Agents, WaterFund, DANIDA, County and National Government staff e.g., Water Resources Authority (WRA), Projects leadership, and other Development Partners in the water sector.

Data analysis and synthesis were done using Statistical Package for the Social Sciences (IBM-SPSS) for quantitative data, qualitative data was analyzed through coding to capture cross-cutting themes. To establish change, a comparison was done with baseline data and targets set for the programme, also against established standards including the Ministry of Health's ratio of students per toilet and Sphere's Core Humanitarian Standards (CHS) e.g., minimum distance to a water source. Other analyses conducted included Sustainability Index, Creditworthiness Index and Kirkpatrick's model to assess the effectiveness of capacity building approaches

Key Findings

Achievement of overall Development Engagement (DE) Objective

GGEP partially achieved the overall Development Engagement (DE) Objective of enhanced water resources management and investments in selected ASAL counties for improved and sustained access by communities and households to water and sanitation for their domestic and productive needs. An estimated 24,800 new households against a target of 30,000 new households received **water services** because of GGEP after successful implementation of water projects spread across the eight counties, through drilling and equipping of boreholes, construction of distribution mains, raised storage tanks, underground sump tanks, community water points (water kiosks and yard taps), and households' connections. Additionally, 1,788 households were reached with temporary emergency water supply under the Drought Emergency Response Programme (DERP) through water trucking

On **sanitation services**, approximately 3,350 people representing about 620 households had access to improved sanitation services including 2500 school children and more than 450 community members against a target of 4,000 new households. This was achieved through a combination of sanitation approaches mainly targeting institutions. GGEP supported several interventions including constructing 116 doors of Ventilated Improved Pit (VIP) latrines in schools achieving the Ministry of Health & World Health Organization (WHO) standards of pupils to toilet door ratio (1:25) and 18 doors of VIP latrines in public institutions (Mosque & Dispensary). Hygiene was further enhanced through hygiene promotion, establishing hand washing facilities, and community sensitization.

Under **improved water resources management planning**, GGEP worked with 27 WRUAs and 5 Conservancies. A total of 14 Community Based Resource Management (CBRM) catchment areas covering 2,010.83 km^2 were planned through the development of Sub-Catchment Management Plans (SCMPs) and Conservancy Development Management Plan (CDMP) for coordinated management of the resources. Of

this total area, 561 km^2 against a target of 7,000km^2 had been implemented through conservation activities including mangrove restoration which is critical in protecting coastal lines from erosion and supporting aquatic ecosystem, planting of indigenous trees and construction of water pans for aquifer recharging.

Water storage was significantly increased through rainwater harvesting and harvesting of surface run off water. An estimated 184,072m^3 water storage was successfully developed. This included installation of 27No. rainwater harvesting tanks each with a capacity of 10m^3 and 5No. djabias were constructed in Lamu County each with a capacity of 100m^3. On surface run off water harvesting, the programme successfully developed 2No. berkads each with a capacity of 100m^3, construction of 7No. sand dams and 5No. climate proofed water pans of various sizes ranging from 30,000 to 50,000m^3.

The programme further supported **livelihood** activities to improve economic status of communities and adaptive capacity to climate change and, as an incentive to the local communities to participate in catchment conservation. A significant number of community members benefited from beekeeping, planting of indigenous fruits and environmental conservation activities like energy saving jikos and biogas to reduce deforestation and increase energy efficiency

The evaluation established four main reasons that hindered full realization of DE overall objectives:

a) Design related shortfalls: Achievement of the target was premised on two major preconditions that were not met (Annex 2_ Revised GGEP ToC) . First, *Water and sanitation services will be targeted at investments with highest impact on communities and households*; The evaluation revealed that some of the projects targeted were not high impact projects. Secondly, *Effective, and timely implementation of programme activities*; All the projects were not successfully completed at the time of evaluation.

a) Strategies: Some of the strategies were not effective e.g., on sanitation, the programme focused on increasing institutional sanitation coverage mainly targeting public institutions such as schools, mosques, and dispensaries within targeted project areas despite GGEP sanitation approach and indicators designed to target households (GGEP Results Framework).

b) Three projects in Marsabit County were terminated and dropped from the programme namely:- Dhakane Water and Sanitation Project, Godoma Waititi Water Supply and Sanitation Project and Lataka Water Supply and Sanitation Project due to a variance of 46.3%. This was above the 25% threshold allowed by the Public Procurement and Assets Disposal Act (PPADA).

c) WRUA projects were adversely affected by the persistent droughts; Most water pans had not filled up at the time of evaluation due to lack of rainfall, for example, water pans in Mandera County were all dry after successful completion.

Relevance and Coherence

GGEP was relevant to the water, sanitation, and water resources management needs of primary beneficiaries. Most respondents 69.6% reported that GGEP to a larger extent addressed their water needs. Even though sanitation was majorly implemented in schools, more than half of households 54.4% felt that it addressed to a larger extent their sanitation and hygiene needs. The programme was also found to be well aligned with key stakeholder policies, priorities, and strategic objectives including DANIDAs' The Right to a Better Life strategy, Constitution of Kenya 2010, Vision 2030, Kenya Water Master Plan, Water Sector Trust Fund Strategic Plan (2018–2022) and the County Governments' County Integrated Development Plans (CIDP) 2018-2022.

GGEP programme design was coherent both internally and externally. The DE was modeled around existing

WaterFund financial and operational mechanisms on Rural Investment and Water Resources Investment. The design and implementation were informed by lessons learnt from previous programmes and support, including support from DANIDA for example, the need for opening for projects with larger financial requirements, so that the WaterFund portfolio includes larger projects with increased impact. GGEP strategy was also informed by WaterFunds Green Growth Strategy on mainstreaming of green technology in projects in response to climate change by increasing resilience of investments as well as lowering the O&M costs. The programme was consistent with GoK policy targets on developing the ASAL region including improved livelihoods, drought management, and relief as well as the development of water and the economic sectors to enhance the resilience of communities in the ASALs. Finally, GGEP utilized WaterFund's established delivery mechanisms and partnerships with counties, that have proven to be effective in addressing the challenges of limited access to water and sanitation and poor water resources governance in ASALs.

Effectiveness

GGEP largely achieved the expected results across the six output areas as outlined in the Development Engagement Document (DED). The evaluation also determined unexpected results realized from the intervention.

Achievement of planned results 1: ASAL counties' capacity and engagement in integrated water, sanitation, and water resources-related planning improved.

The GGEP supported counties' capacity and engagement in integrated water, sanitation, and water resources-related planning have been improved through partnerships. All counties have water data used for planning and maintenance. However, these data are not regularly updated. On sanitation, the Counties' data on rural sanitation i.e., Community Led Total Sanitation (CLTS) is updated regularly through the Ministry of Health CLTS Home. Data on Wajir County however has not been updated for almost 2 years. Five of the counties have water legislation (Not supported by GGEP) in place which are effectively used to govern water and sanitation investment within the counties. The three others (Wajir, Tana River and Mandera) still lack this legislation, and the process of enactment has been delayed due to lack of political goodwill or priority by the County Governments.

Achievement of planned results 2: Water and sanitation access and deficit in the ASAL addressed

GGEP Programme targeted community water projects prioritized under the County Integrated Development Plan (CIDP) to increase water service coverage targeting households and public institutions. The programme supported both rehabilitation and development of new boreholes, desalination plants, augmentation, and installation of reticulation systems. Consequently, the GGEP implementation reached approximately 24,800 households with access to improved water services from 23 GGEP-supported water projects. Additionally, 1,788 households were reached with temporary emergency water supply under the DERP emergency programme through water trucking.

Communities within GGEP target areas were satisfied with water (78.5%) and sanitation (56.6%) services. The evaluation revealed that 70.8% of the households in the target areas had access to safe water supply while 63.5% had access to sanitation. Also, 73.4% collected enough water (20-25 liters per person per day- UNDP/ WHO) for their domestic use. GGEP projects also reduced distance to water point, 34% of respondents accessed water within a distance that meets Sphere standards (Less than 500m). All the GGEP investments were climate-proofed and mainstreamed green approaches including proper siting, solar power for pumping, shading of plastic tanks, increasing capacity of water pans to a minimum of 30,000m^3

and environmental protection measures such as lining of pans and soil conservation practices such as construction of gabions to reduce siltation and control flooding.

Similarly, approximately 3,350 people representing about 620 households had access to improved sanitation services including 2500 school children and more than 450 community members. This was achieved through a combination of sanitation approaches targeting public institutions (Schools, Mosques, and Dispensaries) within the water project target location.

Achievement of planned results 3: Sustainable and community-based management of water resources and rangeland improved

Water storage was significantly increased through rainwater harvesting and harvesting of surface run off water. An estimated 184,072m^3 water storage was successfully developed. This included installation of 27No. rainwater harvesting tanks each with a capacity of 10m^3 and 5No. djabias were constructed in Lamu County each with a capacity of 100m^3. On surface run off water harvesting, the programme successfully developed 2No. berkads each with a capacity of 100m^3, construction of 7No. sand dams and 5No. climate proofed water pans of various sizes ranging from 30,000 to 50,000m^3.

On water resources management planning, a total of 14 Community Based Resources Management consisting of 12 WRUA's (Ali Kune, Lagha Madha, Tawakal, Anaam, Kotile Korisa, Sharaha, Khansa Hosle, Gedilum, Lagha Togwene, Bubisa,Turbi, and Shurr) and 2 Conservancies (Kiunga and Pate Marine) catchment areas, covering 2,010.83 km^2 were planned through development of SCMPs and CDMP for coordinated management of the resources. Of this total area, 561 km^2 has been implemented through conservation activities including mangrove restoration which is critical in protecting coastal lines from erosion and supporting aquatic ecosystem, planting of indigenous trees and construction of water pans for aquifer recharging.

The programme further supported livelihood activities to improve economic status of communities and adaptive capacity to climate change and encourage participation in conservation activities . A significant number of community members benefited from beekeeping, planting of indigenous fruits and environmental conservation activities like energy saving jikos and biogas to reduce deforestation and increase energy efficiency

Achievement of planned results 4: Improved capacity and engagement by implementing agents (WRUAs, CBOs, Water Utilities, and Conservancies) for planning and efficient water service delivery

WaterFund's engagement with the Implementing Agents included activities that build their capacities in key areas of project implementation. Each agent had its key staff trained on proposal development, financial management, procurement, and contract management in the initial stages of the implementation. Capacity-building approaches were highly effective and contributed to successful implementation, improved service delivery and sustainability of the investment. Nearly all (94.8%) of the GGEP projects were successfully implemented, indicating an improved capacity of implementing agents to manage and implement ASAL climate change resilience projects. Sampled (N=7) GGEP projects were found to be creditworthy (average Creditworthiness Index of 71%), two projects had a Creditworthiness Index (CWI) below the GGEP target of 70%

Achievement of planned results 5: Enhanced experience for promoting Public Private Community Partnerships (PPCP) in water provision in the ASALs

This output sort to pilot models for collaboration between the public sector and private sector actors in provision of water services and water resource management in the ASALs counties to produce lessons on models for increased water service coverage and promote sustainable drylands productive opportunities. Lamu Water and Sewerage Company signed a service contract with Davis and Shirtliff to provide technical support through routine Operation and Maintenance of the two reverse osmosis plants installed in Kiunga and Kizingitini Islands. Isiolo County also used the delegated approach to Water Utilities to ensure service delivery in the rural areas. The evaluation however did not establish any funds leveraged from these two pilots. PPCP has not been fully leveraged in water and sanitation provision in the ASAL despite capacity building.

This target was not achieved. The evaluation established that PPP model was not feasible due to the high threshold (infrastructural projects of Ksh 250million and above) which was way above the GGEP investments. Further PPCP arrangements lacks proper legislative frameworks to thrive especially in ASAL where water and sanitation services provision is considered commercially not viable due to exacerbated challenges

Achievement of planned results 6: Strengthened institutional performance of WaterFund

WaterFund institutional capacity was improved by GGEP investment as evidenced by improved capacity in programme management, improved efficiency, and accountability in project implementation. For example, less than 1% of investment cost was questioned. The evaluation also revealed that the Fund is in the process of developing an Integrated Project Management Information System to map and manage supported investments. Currently, mapping is done under the Joint Annual Operations Monitoring Exercise (JAOME)

Efficiency

GGEP projects utilized resources efficiently, ensuring value for money for the intended primary beneficiaries. Local expertise was effectively utilized, and the County Governments provided most of the technical backstopping. Most projects were completed within the timelines 95%, few overlapped the timings, and an initial 6-month no-cost extension was approved to the end of 2021. A further additional 6-month extension was granted to aid in financial accounting. The evaluation established four main challenges that may have contributed to the delays: The covid-19 pandemic, reallocation of resources to DERP, delays in disbursements of programme funds from the National Treasury and, cases of insecurity reported in some project areas.

WaterFund's internal structures and systems enhanced implementation of the projects hence achievement of the results while few external procedures created bottlenecks in implementation e.g., the arrangement to work with WRUAs through WRA had some hitches on institutional mandates and reporting processes affecting timelines and working relationships in the field.

Impact

a) Improved Hygiene Practices: GGEP implementation contributed to improved health of the targeted households due to increased access to clean water. On average, GGEP increased positive hygiene behaviours such as hand washing of which 72.1% of the respondents reported practicing.

b) Resilience and Green Growth: Increased access to water for both household use and for agriculture coupled with climate proofing of GGEP infrastructure provided alternative livelihood activities, reduced competition for pasture and natural resources and increased resilience and adaptative capacity of communities to climate change shocks.

c) Improved Socioeconomic Status: GGEP implementation contributed to improved economic status of the targeted households. The GGEP programme included some intended livelihood projects. The provision of beehives to Kiunga and Pate communities, Jikos and biogas to Lower Tana Delta conservancies, selling of water through community water points are some examples that contributed to income sources to the beneficiaries. GGEP also significantly impacted agriculture in the ASALs, 72.1% of the households in the project areas reported engaging in agriculture because of water availability with many households (61.6%) adopting new agricultural practices. Almost half of survey respondents (42%) also indicated new employment opportunities created by the programme mainly for youth and women as evidenced by Kheri women group in Kipao water project in Tana River County

d) Human-Animal Conflict: Increased access to water and alternative livelihood activities reduced competition for water and natural resources. GGEP projects also implemented activities directly aimed at reducing conflicts e.g., establishing schedules for watering animals, construction of malkas; a corridor to the river for livestock watering and protection within the rivers

e) Better Learning Environment: Increased access to sanitation facilities in schools especially gender segregated sanitation contributed to a better learning environment and retention of girls in school. It also reduced cases of open defecation, sexual abuse and gave privacy and confidence to girls e.g., Kiunga Primary had few pit latrines forcing boys and girls to share some doors. School sanitation also included hygiene promotion that contributed to improved health

Sustainability

GGEP put robust mechanisms to ensure sustainability of the investment: Ensuring community participation in the project design from proposal writing, appraisals, supervision of works, monitoring, and evaluation. Training on programme implementation, governance and, operation and maintenance for water committees, linkage and partnership with County Governments, green growth approaches mainstreaming contributing to a reduction in O&M costs in addition to increased adaptation and mitigation of climate change impacts. The programme also adopted Rural Water Provision Service Delivery Models and guidelines developed by Water Service Regulatory Board (WASREB) in partnership with Caritas International, Gatsby Africa and WaterFund to ensure sustainability of the investment after handing over to respective County Governments as per the Memorandum of Understanding (MoUs)

GGEP projects were also found to have a high sustainability index (SI), above 70% and 80% SI for WatSan and WRM projects respectively

Mainstreaming of Cross-cutting issues

a) Adaptation to Programme Context: GGEP implementation context largely remained the same throughout the implementation, for example, security risks were minimal to change the contextual approach. COVID-19 outbreak, and the restrictions thereafter was the only major challenge on programme context.

b) Gender, Equality and Social Inclusion (GESI): GGEP mainstreamed GESI throughout the programme design and implementation, participation of women, youth and persons with disability was given priority, for example, during project identification, WaterFund and partners gave priority to projects with higher benefits or engagement of the special groups. The initial programme community meetings ensured that all aspects of age, ethnicity and class were represented. Also, Water points and sanitation facilities had rams for ease of access for persons living with physical disabilities. The GESI component was guided by WaterFund's GESI Strategy on institutionalizing GESI mainstreaming in WaterFund investments.

c) Partnerships and Stakeholder Cooperation: Effective collaboration between partners contributed to the successful implementation of GGEP projects. Collaboration between stakeholders was demonstrated throughout the implementation. During programme design, WaterFund collaborated with the County Governments to identify priority areas of target. During implementation, implementing agents worked closely with county-relevant departments e.g., Water, Health, and Natural Resources and Environment, WaterFund and other partners like NRT and WRA through joint project monitoring visits and supervision

d) Environment, Social and Governance (ESG) risks and Opportunities: The evaluation revealed few ESG risks: Climate shocks like prolonged rains leading to flooding, conflicting political interests among local administration, erosion of indigenous knowledge on biodiversity, frequent conflicts among the pastoral communities and cross-border conflicts linked to competition for resources, slow/ non-compliance with various government regulations such as NEMA, WRA, WASREB etc. There exist opportunities that can be leveraged to mitigate ESG risks identified, through collaboration and partnership

e) Monitoring, Evaluation, Reporting, and Learning (MERL) mechanisms: GGEP established a robust Monitoring and Evaluation (M&E) framework that facilitated reporting and sharing experiences between stakeholders, therefore, facilitating learning and accountability

f) Innovation and Learning: GGEP implementation had the witnessing to test and adopt promising technologies: promoting the reduction of non-revenue water and improving water quality. Some of the key technological and implementation innovations included: Installation of a Reverse Osmosis system in Kizingitini and Kiunga, the adoption of solar pumps, and the inclusion of Conservancies as an alternative for water catchment and resources management implementation had paid off greatly.

Lessons learnt

WaterFund has a proven record of designing its programmes based on lessons learnt from previous interventions. The recruitment of County Resident Monitors/Engineers is a good example of improving efficiency and output. The GGEP implementation has a few lessons learnt by the implementers, WaterFund, and evaluators.

a) Working with WSP' has capacity gaps since most of them are focused on major towns within the Counties with inadequate resources to traverse the vast ASAL counties.

b) Working with WRUAs has management and reporting challenges brought about by different setups between WRA and WaterFund and implementing agency and financier respectively.

c) Project implementation under the GGEP had a strong reliance on community engagement from the design stages. The existing community management structures played a vital role in ensuring meaningful community participation.

d) Sustained monitoring and follow-up of the projects is an essential ingredient to effective and efficient implementation of activities and sustainable investment.

e) Provision of water for domestic and livestock production, integrated water resources management, and rangeland management significantly reduce the intra- and inter-communal conflicts in ASAL counties.

f) The involvement of ASAL County Governments is central to the success and sustainability of the investment. This will ensure alignment of activities with County Government priority areas for budgetary consideration and allocation, coordinated development of the county and efficient use of resources that avoids duplication of activities

g) Implementation of activities at the County level demands a well-established institutional arrangement. In most ASAL counties, water service provision was undertaken by various providers with a bias toward urban centers, this can greatly affect enhanced water and sanitation services, especially to the disadvantaged rural communities.

h) Investing in capacity building of Implementing agents and primary beneficiaries contributes to an efficient implementation of ASAL projects and improves participation and local ownership

Recommendations

The GGEP final evaluation interacted with the project documents, collected primary and secondary data from a wide range of stakeholders, and physically accessed the project sites for observation. Analysis of these data and processes, therefore, gives the evaluators confidence in giving the following pertinent recommendations.

Recommendations for WaterFund

a) Capacity Building of Implementing Agents: Capacity building is a process and needs to be multi-dimensional. WaterFund needs to carry out an initial Capacity Assessment to identify ALL the capacity gaps in key areas of; Governance, Policy Development, Human Resources, Project Implementation, Financial Management, Resource Mobilization, and Sustainability mechanisms before carrying out the capacity building.

b) Data capture and sharing: WaterFund should build the capacity of counties' departments to strengthen data and information management for enhanced planning in water and sanitation services provision i.e., to be able to capture data, validate, synthesize, disseminate, and effectively use the data for decision making.

c) Impact survey or research: WaterFund should research carbon footprints for the Pate Island and Lower Tana Delta jiko/biogas projects to understand the economical savings in terms of fuel consumption, pollution, and health status of the beneficiaries and the County

d) Results Framework: Make all project indicators clear and have indicator definitions/reference sheet to aid in data collection, analysis, and interpretation.

e) Project designing: WaterFund's experience in rural Kenya is a strength and could be leveraged to inform better designing of projects in terms of timelines, practicability, and cost. Projects that include policy or legislation influence or working with County Governments need to be timed with the political timelines in the country.

f) Emerging trends: Identifying emerging trends, such as how water scarcity generates new forms of exploitation is important. WaterFund should invest in assessments to determine emerging trends affecting water resources in hard-to-reach areas.

g) Gender and Inclusion: It is essential to continue applying a gender-transformative approach with gender and inclusion indicators.

h) Clear Theory of change; There is need to improve programme design through developing clear ToC that indicates all the critical components; highlighting the programme logic, results pathway, causal link, interventions, and underlying assumptions.

i) Broadening partnerships: There is need to expand partnerships and collaboration with all integral National Government institutions for effective implementation of climate change adaptation components. For example, partnering with Kenya Forestry Research Institute (KEFRI) and Kenya Agricultural & Livestock Research Organization (KALRO) to support climate change adaptation interventions

Recommendations for Implementing Agents

a) Work through partnerships: The Implementing agents should embrace working with partners as an opportunity to reach past their limitations.

b) Leverage funding opportunities to build efficiency: The implementing agents should self-develop using opportunities they have to be more attractive to donors and achieve more in their implementation.

Recommendations for County Governments

a) Water Master Plan: The Counties are semi-autonomous and must project into the future of their constituents in terms of water resources and management. Each county should have detailed County Water Master Plan and budgets for funding.

b) Water Data: The County Department of Water needs a hub equipped with staff and a system for water sources, quality, access, and functionality of real-time information for sustainability.

c) County budgets for water and sanitation: The counties should continue allocating resources for water and sanitation including supervision, monitoring and operation & management (O&M) costs.

d) Water Service Providers: Service provision should be sustainable and commercially sound. The Counties must put measures in place to enable Water Utilities to function like smart commercial private companies with results-driven staff, well-motivated, well-funded with targets set as part of performance appraisal.

e) Transboundary water cooperation: There is a strong need for Counties to work with experts from different fields to find solutions for climate-smart security. Transboundary water cooperation and water diplomacy offer two promising avenues for peace and conflict resolution.

Recommendations for DANIDA

a) Encourage growth through competition: Funding projects in counties offers an opportunity to motivate through creative funds. The donor could set aside funds for replicating or upscaling innovative projects within the areas under the ongoing funding.

b) Set aside funds for both impact and sustainability assessment 2 years after programme completion

Table of Contents

Abbreviations and Acronyms

ADI	Advance Development Initiative
ASAL	Arid and Semi-Arid Lands
CBA	Cost Benefit Analysis
CBO	Community-Based Organization
CBNRM	Community-Based Natural Resource Management
CDMP	Conservancy Development Management Plan
CIDP	County Integrated Development Plan
CLTS	Community Lead Total Sanitation
CRM	County Resident Monitor
COVID	Corona Virus Disease
CWI	Creditworthiness Index
DAC	Development Assistance Committee
DANIDA	Danish International Development Agency
DE	Development Engagement
DED	Development Engagement Document
DERP	Drought Emergency Response Project
ESG	Environment, Social, and Governance
EU	European Union
FGD	Focus Group Discussion
GESI	Gender Equality and Social Inclusion
GGEP	Green Growth and Employment Programme
GoK	Government of Kenya
GPS	Global Positioning System
HH	Household
IFAD	International Fund for Agricultural Development
ILAC	Institutional Learning and Change
INGO	International Non-Governmental Organization
IP	Implementing Partners
JAOME	Joint Annual Operations Monitoring Exercise
KII	Key Informant Interview
KPI	Key Performance Indicator
M&E	Monitoring and Evaluation
MD	Managing Director
MEAL	Monitoring, Evaluation, Accountability, and Learning
MERL	Monitoring, Evaluation, Research, and Learning
MIS	Management Information System
MoH	Ministry of Health
MOU	Memorandum of Understanding
MTAP	Medium-term ASAL Programme
NADIMA	National Policy for Disaster Management
NEMA	The National Environmental Management Authority
NRC	Norwegian Refugee Council
NRT	Northern Rangeland Trust

NRW	Non-Revenue Water
INGO	International Non-Governmental Organization
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
OECD	Organization for Economic Co-operation and Development
O&M	Operations and Maintenance
PPADA	Public Procurement and Asset Disposal Act
PPP	Public Private Partnership
SCMP	Sub Catchment Management Plan
SDG	Sustainable Development Goals
SI	Sustainability Index
SMART	Specific, Measurable, Achievable, Relevant and Time-bound
ToC	Theory of Change
TOR	Terms of Reference
UNHCR	United Nations High Commission for Refugees
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene
WASREB	Water Services Regulatory Board
WDC	WRUA Development Cycle
WHO	World Health Organization
WLP	Water and Livelihoods Programme
WRA	Water Resources Authority
WRM	Water Resources Management
WRUA	Water Resource Users Association
WSP	Water Service Provider
WaterFund	Water Sector Trust Fund
WU	Water Utility
WUA	Water Users Association

Tables and Figures

Chapter 1: Evaluation Background

1.1 Introduction

The concept of green growth has its origins in the Asia and Pacific Region where it was viewed as a key strategy for achieving sustainable development as well as the Millennium Development Goals (2 and 7 relating to poverty reduction and environmental sustainability)- United Nations Economic and Social Commission for Asia and the Pacific- UNESCAP, 2012. At the global level, the Rio+20 Summit in 2012 called for the adoption of a green economy. Green growth has further been defined as a strategy of investing in natural capital, thus making "green" an ecologically sustainable driver of economic growth. Green growth is also used as an efficient strategy to support the implementation of the 2030 Agenda for Sustainable Development.

Sustainable Development Goals (SDG) Agenda 2030 provides a scope of reference for global development up to 2030. The sixth goal (SDG 6) focuses specifically on water-related issues, including water, sanitation, and hygiene (WASH) services. In line with this interdependence between SDGs, WASH related targets are either explicitly or indirectly linked to all other SDGs including eradication of poverty, zero hunger, gender equity, education, sustainable cities. For example, the SDGs on health, education and communities contain targets that are directly contingent on developing WASH services.

For the water and sanitation sector, the SDG target of achieving universal access by 2030 is particularly ambitious in those countries with large disparities in access, such as in sub-Saharan Africa. These countries are still far from meeting the targets. According to WHO, achieving universal coverage by 2030 will require quadrupling of current rates of progress in safely managed drinking water, safely managed sanitation, and basic hygiene services.

Kenya's Situation: Significantly more Kenyans have access to safe drinking water (59 %) than to basic sanitation (29 %)[1]. Since 2000, access to safe drinking water has increased by 12 percent, while access to basic sanitation has fallen by five percent. Similarly, 9.9 million people drink directly from contaminated surface water sources and an estimated 5 million people practice open defecation. Only 25% have hand-washing facilities with soap and water at home. Achieving universal access to drinking water and sanitation by 2030 will be challenging given current levels of investment, projected population growth, and climate change.

1.2 Description of the GGEP Intervention

Water Sector Trust Fund, under the support of the Government of Kenya and the Royal Danish Embassy (DANIDA), supported the Green Growth and Employment Programme (GGEP) through development cooperation. This engagement targeted the Arid and Semi-Arid (ASAL) Counties of Northern and North-Eastern Kenya (Tana River, Lamu, Garissa, Wajir, Mandera, Marsabit, Isiolo, Turkana). The engagement addressed the provision of water and sanitation services and management of water resources. These services are key aspects in addressing poverty reduction, inclusive green growth, rights, and sustainable management of natural resources in the ASALs. The thematic Green Growth and Employment Programme was implemented under the overarching Kenya Country Programme 2016-2020 to support Kenya's "inclusive greener growth with higher employment".

[1] UNICEF, 2022: Water, Sanitation and Hygiene | UNICEF Kenya

Table 1: Programme Development Engagement Summary

Title of the DE (Development Engagement)	Green Growth and Employment Thematic Programme (GGEP)
Implementing partner or partners	Water Sector Trust Fund
Date of the DED (Development Engagement Document) agreement	1st July 2016 – 31st December 2020
Planned period of implementation	From: 1st July 2016 to 31st December 2020
Actual period of implementation	From: 1st July 2017 to 30th June 2022
Total grant as per DED	DKK 65,000,000
Disbursed amount	DKK 59,530,670.74 (Ksh. 896,193,353.30)
Spent amount	Ksh. 873,247,128.20

1.3 GGEP Implementation

Green Growth and Employment Programme implementation began in July 2017 with the planning activities that included county engagement activities, mobilizations for proposals development, calls for proposals, and appraisals. The projects were implemented through to December 2021. Due to non-completion, the projects had a no-cost extension of 6 months to June 2022. At the beginning of the programme, the Government of Kenya declared drought a national disaster in February 2017, this necessitated reallocation of funds (Ksh 82,002,185.00) to emergency response under Drought Emergency Response Programme (DERP)

The main objective of GGEP was to enhance water resources management and investments in selected ASAL counties for improved and sustained access by communities and households to water and sanitation for their domestic and productive needs. The GGEP targets were revised after the mid-term review undertaken in September 2018 that also included an addendum to the Programme -Water and Livelihood Sub-Programme in Refugee, Host and Other Vulnerable Communities of Kenya implemented in Turkana West Sub County. The revised targets were as highlighted in the table below:

Key outputs for the project included: -

Table 2: Output indicator table vs revised DED targets

Output	Original DED	Revised DED
Output 1:	ASAL counties' capacity and engagement in water-related planning improved	ASAL counties' capacity and engagement in water-related planning improved
Output 2:	Water and sanitation access and deficit in the ASAL addressed through support to 56 new and county prioritized water and sanitation services delivery systems	Water and sanitation access and deficit in the ASAL addressed through support to 24 projects
Output 3:	Sustainable and community-based management of water resources improved through support to 56 WRUAs	Sustainable and community-based management of water resources improved through support to 27 projects
Output 4:	Improved capacity and engagement by implementing agents (WRUAs, CBOs, Water Utilities) for planning and efficient water	Improved capacity and engagement by implementing agents (WRUAs, CBOs, and Water Services Providers) for planning and efficient

Output	Original DED	Revised DED
	service delivery	water service delivery
Output 5:	Enhanced experience for promoting Public Private Partnerships in water provision in the ASALs	Enhanced experience for promoting Public Private Community Partnerships in water provision in the ASALs
Output 6:	Strengthened institutional performance of WaterFund	Strengthened institutional performance of WaterFund

The GGEP programme was implemented by different organizations and institutions under partnership with WaterFund in each of the 8 counties. These included Community Based Organizations (CBOs), Water Utilities (WUs), and Water Services Providers (WSPs) supported and monitored by the County Government Department of Water, implemented water and sanitation projects. The Conservancies and Water Resource Users Associations (WRUAs) implemented the water resource management projects supported by Water Resources Authority (WRA) and Northern Rangeland Trust (NRT). The following were the project implementers in each County.

Table 3: GGEP Implementing Partners[2]

No.	County	Implementing Agents
1.	Tana River	Tana Water and Sewerage Company, Madogo WRUA, Kigaruni WRUA, Lagha Tula WRUA, Ndera Community Conservancy, Lower Tana Delta Conservancy
2.	Lamu	Lamu Water and Sewerage Company, Amu Island WRUA, Kiunga Community Conservancy, Pate Marine Community Conservancy, Hanshak Nyongoro Community Conservancy.
3.	Garissa	Garissa Water and Sewerage Company, Ali Kune WRUA, Lagha Madha WRUA, Tawakal WRUA, Anaam WRUA, Kotile Korisa WRUA, Sharaha WRUA, Khansa Hosle WRUA, Gedilum WRUA, Lagha Togwene WRUA, Kasha WRUA and Habarow WRUA.
4.	Wajir	Wajir Water and Sewerage Company, Buriya WRUA
5.	Mandera	Mandera Water and Sewerage Company, Mujtama WRUA and Dahan WRUA
6.	Marsabit	Bubisa WRUA, Turbi WRUA, Shurr WRUA and Wama WRUA
7.	Isiolo	Isiolo Water and Sewerage Company, Kipsing WRUA, Kuro Bisan Owo WRUA and Garfasa WRUA
8.	Turkana	Lorugum WRUA, Kochodin WRUA. Namoru Akwan, Lokichar and Kangirisae WUAs
9.	National	Water Resources Authority and Northern Rangeland Trust

1.4 Evaluation Purpose, Objectives, and Scope

1.4.1 Purpose and Objectives

This evaluation was commissioned to provide evidence to WaterFund and DANIDA, on achieved results in GGEP projects and their sustainability. Further, the evaluation was to determine lessons learnt and best practices related to the planning, design, and implementation of water sector programmes in similar

[2] Counties are arranged according to the county codes

contexts. This knowledge is to be utilized to inform and strengthen various approaches adopted by DANIDA and WaterFund in implementation of projects through different implementation agents (Water Service Providers, Water Users Associations, Water Resources Users Associations, Community Based Organizations and Conservancies) and International Non-Governmental Organizations (INGOs). In addition, it is expected that the knowledge will be utilized by the Ministry of Water, Sanitation and Irrigation and other stakeholders in the Water Sector to guide policy and ASAL interventions.

Finally, this evaluation was to inform DANIDA and the Government of Kenya inter alia on the extent to which the objectives of the programme were met in terms of provision of water and sanitation services, and water resources management in the counties of implementation in addition to the functionality and sustainability of funded projects that are (or are in final steps of being) handed over to the duty bearers (County Governments, Water Service Providers, WRUAs, and Communities and institutions such as schools and hospitals in terms of sanitation projects).

The specific objectives of this evaluation are to assess:

a) The extent to which the interventions have brought intended and unintended change to the beneficiary groups in line with the targets of the GGEP and how well they were achieved.
b) Functionality and sustainability of water supply, water resources management and sanitation projects.
c) Effectiveness of the established systems of engagement with counties in water planning, implementation, and assessment of implementation capacities of implementing partners including adherence to the financing agreements and other contractual obligations.
d) Effectiveness and efficiency of capacity-building approaches in the delivery of sustainable water supply and water resources management projects with a focus on programme implementation and O&M training.
e) The outcomes and impact of the policy and institutional support structures on WaterFund and at the county level
f) The programmes' level of influence in promoting Public Private Community Partnerships in water service provision in ASALs.

1.4.2 Scope of the Evaluation

Programmatic Scope

The evaluation covers the full GGEP Programme as detailed in the revised Development Engagement Documents (DED) as well as DERP Projects. This involved a review of the programme design, implementation strategies and mechanisms, activities, and contextual factors. The evaluation also reviewed and assessed findings and recommendations made during the Programme Midterm Review (2018) and their implementation

Geographical Scope

Geographically, the evaluation focused on the 8-programme target ASAL Counties. The ASALs in Kenya are spread across 29 counties with varying degrees of aridity. This engagement targeted the critically water stressed ASALs of Northern and North-Eastern Kenya (Tana River, Lamu, Garissa, Wajir, Mandera, Marsabit, Isiolo and Turkana). These dryland counties are home to the poorest population in Kenya, characterized by persistent drought and limited water availability. These Counties constitute 80% of the land area of Kenya and are home to approximately 20% of the population.

The economy of the arid lands is dominated by mobile pastoralism. The areas experience the lowest development indicators and the highest incidence of poverty in the county. In Wajir, Mandera, Marsabit and Turkana, between 74% - 97% of the people live below the absolute poverty line. With high levels of population growth in the ASALs, poverty is likely to grow unless major investments are made in ASAL services and productive sectors.

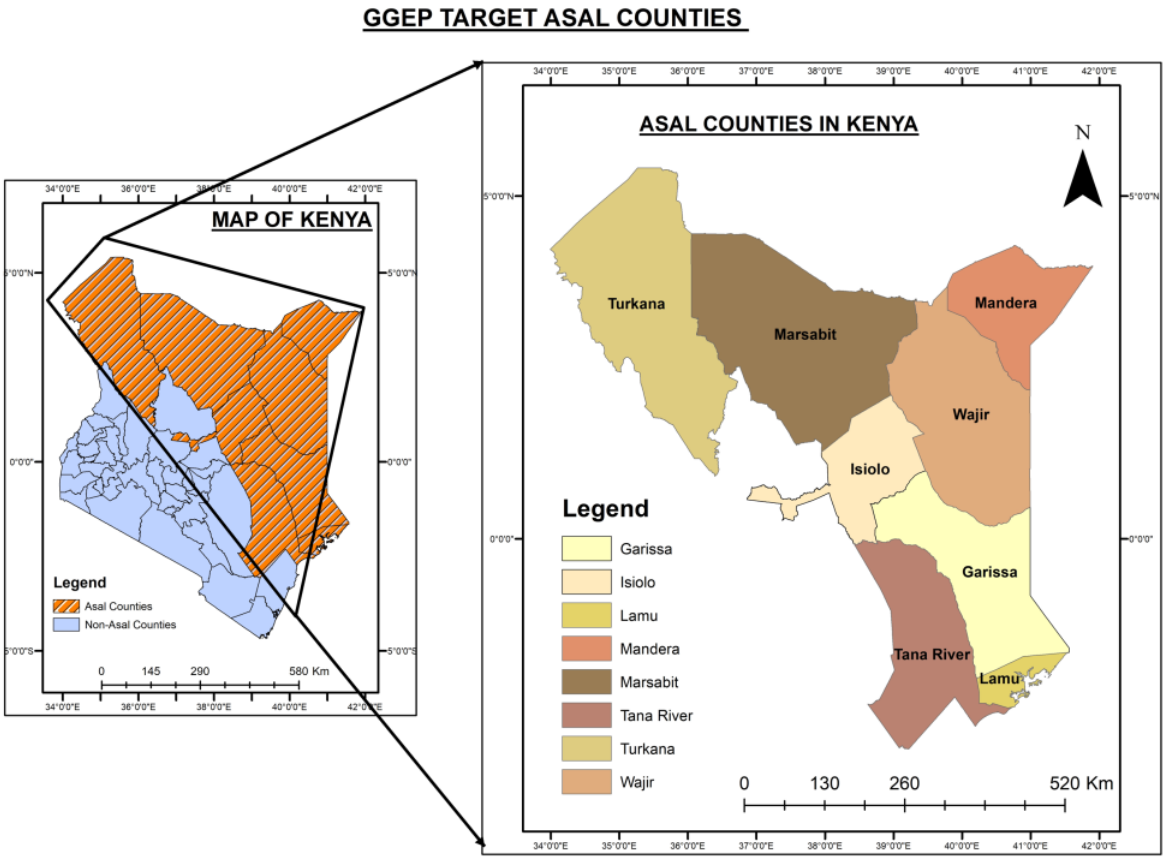


Figure 1: Map showing GGEP target ASAL counties

1.5 Logic of the Intervention (Programme Theory)

The long-term goal of GGEP engagement is captured within the WaterFund mission statement of 'assured water resources availability and accessibility of water and sanitation by all' and directed by the WaterFund commitment to reach out further to the underserved ASAL counties. The intermediate goal is 'enhanced water resources management and investments in selected ASAL counties for improved and sustained access by communities and households to water and sanitation for their domestic and productive needs. This includes "increasing access to water and livelihood opportunities in refugee-host and other vulnerable communities, created through enhanced water resources management and investments in Turkana West". This too is the goal and outcome of the additional and new funding for WaterFund work. To achieve this goal, several major challenges need to be overcome by this intervention particularly: the specific challenges associated with limited access to water, sanitation, and poor management of water and range resources found in ASAL refugee-hosting areas, where resource strain and competition are of serious scale.

In summary, the Theory of Change for the development engagement states that if support is provided to:

a) Better capacities of implementing agents to plan, undertake and manage water, sanitation, and water resource management investments (output 4)

b) Improved capacities of counties to plan, prioritize and facilitate water, sanitation, and water resource management investments (output 1)
c) Enhanced institutional performance and delivery mechanism of WaterFund to plan, deliver and facilitate water, sanitation, and water resource management investments (output 6) and
d) Increased investments in water, sanitation, and water resources management infrastructure that are sustainable and climate resilient (part of outputs 2 and 3)

Then this will, considering that risks are negotiated as described in risk assessment, result in:

a) Improved access to water/secured water supply and sanitation services, (output 2)
b) Improved and integrated management of water resources and improved livelihoods/economic opportunities (output 3)
c) Sustainable and inclusive economic growth in the ASALs (outcome of the DE)

Chapter 2: Evaluation Methodology

2.1 Evaluation Design and Approach

The Evaluation of GGEP programme utilized a theory-based approach . The inherent societal complexity of interventions has seen theory-based evaluation move into the mainstream of thinking and practice about how interventions are designed, described, measured, and evaluated within the last 20 years[3]. Theory-based evaluation establishes evidence to a) test the assumptions underlying the chain of causality that leads from output to intermediate outcomes, and contributions towards impact and b) test the theory to see if it holds and draw conclusions about whether and how an intervention contributed to observed results. The evaluation therefore adopted Theory of change (TOC) evaluation and contribution analysis. The evaluation was guided by the ToC as explicitly outlined in DED and further illustrated in the Results Framework to guide a) formulation of evaluation questions and, b) selection of various evaluation methods.

2.2 Methods for Gathering the Evidence

The evaluators collected both secondary and primary data, utilizing participatory and interactive approaches zeroing on quantitative and qualitative methodologies to collect data (mixed-method approach). The evaluators developed and employed an array of practical and participatory tools; a) quantitative study design, a structured questionnaire was utilized to collect data from primary stakeholders with households as the unit of analysis. The Survey was designed to answer questions specific to various project outcomes, impact, and sustainability, and b) qualitative study design, Key Informant Interviews (KII) guides and Focus Group Discussions (FGD) guides were utilized. (Annex 9_ Data collection tools).

For secondary data, a desk review was conducted to capture past work and studies on thematic areas under GGEP, this was done in the broader context of the two partnering countries (Kenya and Denmark). This detailed desk review provided the basis for analysis and discussion within the evaluation context. Some of the key documents reviewed included a) CIDPs' for the 8 counties b) programme documents including Development Engagement documents, Mid-term review, and completion report c) other key partners' strategic documents and reports including WaterFund's strategic plan, Annual Rural Harmonized Report, DANIDAs' The Right to a Better Life' Strategy for Denmark's Development Cooperation, 2012 and, d) Kenya water sector management framework documents e.g., Kenya Water Act, National Environmental Sanitation and Hygiene Policy, WRUA Development Cycle, 2019 Population and Housing Census Reports among other key documents (Annex 7_Documens Reviewed)

2.3 Sampling

2.3.1 Project Selection

The consultant utilized a two-stage sampling process. First, projects were sampled in each county considering specific parameters for evaluation. Secondly, study participants were sampled from the selected projects within each county.

[3] Treasury Board Secretariat of Canada (2012). Theory-based approaches to evaluation: Concepts and practices. Ottawa, Canada: Treasury Board Secretariat.

The selection of projects observed the following requirements.

i. The selection included at least two-thirds of the water and sanitation projects and half of Water resources management projects implemented by WRUAs and Conservancies
ii. Drought Emergency Response (DERP) projects funded under GGEP were well covered.
iii. Projects selected for the field study were randomly sampled from each category (i) with points (i) and (ii) above considered.

Table 4 Sampled projects

	GGEP-DERP Projects		
	Water and Sanitation Projects	WRM Projects	
County	**Project Selected**	**Project Selected**	**Projects/ County**
Tana River	Rehabilitation of Geresa water pan, Nanighi and Kipao water and sanitation project	Kigaruni, Lagha Tula WRUA and Lower Tana Conservancy	6
Lamu	Poromoko, Pangani Phase 2 and Mkunumbi phase 2 water projects	Pate Marine and Hanshak Nyongoro Community Conservancy Projects	5
Garissa	Harajab, Libahlow and Shebta-aad Water and Sanitation Projects	Habarow, Tawakal and Kasha WRUAs	6
Wajir	Korija, Riba and Sabuli Water and Sanitation Projects	Buriya WRUA	4
Mandera	Lanqura Community Rural Water Supply Project	Mujtama WRUA	2
Marsabit	0	Bubisa and Turbi WRUAs	2
Isiolo	Godarupa and Awarsitu Pipeline Extension Water Project	Kuro Bisan Owo WRUA	3
Turkana	Namoru Akwar Lokorkor and Lokichar Water & Sanitation Extension Project	Lorugum WRUA	3
Total	**17**	**14**	**31**

Summary: Total sample was 31 projects. This represented 53% of all GGEP-funded projects. Among the 31, 17 are Water and Sanitation (DERP 3) and 14 are Water Resources Management projects (Conservancies 3).

2.3.2 Sampling for Household Survey

We sampled a total of 422 households for quantitative data collection. The quantitative sample size was calculated using the Cochran Israel formula with an adjustment of 10% to take care of any possible design effect.

$n \geq (Z\text{^}2.p.q)/d\text{^}2$

$n \geq (\ 〚1.96〛\ \text{^}2\ x0.5x0.5)/\ 〚0.05〛\ \text{^}2\ = 384.16$

Adding 10% for design effect: n = 384+ (384x10/100) = 384+38 = 422

Where:

n= desired sample size
z= standard normal deviation at the required confidence level
p= proportion of the target population or the estimated characteristics being measured
q= the maximum prevalent error for the prevalent estimate ±0.05
d= the marginal error allowed (d=0.05 since confidence limit is 95%)

The sample was allocated proportionately across counties using number of funded projects. Consequently, every project had approximately 15 household surveys.

2.4 Methods for synthesis and analysis

This stage involved synthesis, collation, and analysis of both secondary and primary data to establish evidence for conclusion on various evaluation questions. Quantitative data was analyzed mainly using descriptive statistics by use IBM-SPSS. Qualitative data was analyzed through coding to capture cross-cutting themes. To establish change, a comparison was done with baseline data and targets set for the programme, also against established standards including the Ministry of Health's ratio of students per toilet and Sphere's Core Humanitarian Standards (CHS) e.g., minimum distance to a water source. Other analyses conducted included Sustainability Index, Creditworthiness Index and Kirkpatrick's model to assess the effectiveness of capacity building approaches

2.5 Evaluation Questions

To achieve the evaluation objectives and purpose, the evaluators formulated and endeavored to answer key evaluation questions based on the OECD-DAC criteria:

Table 5 OECD- DAC Evaluation Criteria

Evaluation Criteria	Description in relation to GGEP
Relevance	The extent to which the programme objectives and design responded to ASAL communities, counties, DANIDA, WaterFund and GoK needs, policies, and priorities
Coherence	The compatibility of the programme with other interventions within the selected communities by WaterFund, County Governments and other key stakeholders.
Effectiveness	The extent to which the programme achieved its objectives, and its results, including any differential results across groups.
Efficiency	The extent to which the intervention delivered results in an economic and timely way as compared to other feasible alternatives.
Impact	The extent to which the programme has generated significant positive or negative, intended, or unintended, higher-level effects among the beneficiaries.
Sustainability	Gauges the extent to which the net benefit of the programme continues to the beneficiaries after the project is terminated.

The key evaluation questions were synthesized into 33 sub-questions for a focused evaluation (Annex 1_Evaluation design matrix). The evaluators also assessed mainstreaming of the following cross-cutting issues in the design, implementation, and achievements of GGEP programme goals i) Gender, Equality and Social Inclusion (GESI), ii) Partnerships and Collaboration iii) Environment, Social and Governance (ESG) iv) Accountability and v) Innovation and learning.

Chapter 3: Evaluation Findings

3.1 Household characteristics

A total of 386 participants were surveyed across all the eight counties. There were more female respondents 54.7% (N=211) than males 45.3% (N=175), this can be attributed to the fact that males in ASALs are not always at home due to breadwinning roles and pastoralism. Even though this was the case, women play a major role in water and sanitation aspects of the community as caregivers thus more views from them are a plus for the evaluation. The literacy levels are still very low in the GGEP counties with 58.3% of respondents having not-attended school at all, and only 1.3% had post-secondary education. The findings also show that fewer women 0.5% proceed to post-secondary education as compared to their male counterparts 2.9%. Majority of the respondents 51.1% were between the age of 35-50 years, a middle age who have experienced the growth, changes, and challenges of the ASALs situation for the last 3-4 decades.

Table 6: Study participants' demographics, Counts (%)

Category		Tana River	Lamu	Garissa	Wajir	Mandera	Marsabit	Isiolo	Turkana
Gender	Male	34 (43)	21 (36)	37 (45)	17 (36)	15 (50)	22 (73)	14 (47)	15 (54)
	Female	46 (58)	37 (69)	46 (55)	30 (64)	15 (50)	8 (27)	16 (53)	13 (46)
Age	18 – 35	13 (16)	33 (57)	10 (13)	5 (11)	14 (47)	10 (35)	12 (41)	8 (29)
	36 – 50	37 (46)	17 (29)	59 (75)	31 (66)	11 (37)	14 (48)	12 (45)	12 (43)
	>50	30 (38)	8 (13)	10 (13)	11 (23)	5 (17)	5 (17)	4 (14)	8 (29)
Education	None	44 (55)	20 (35)	69 (83)	25 (52)	16 (53)	22 (73)	17 (57)	12 (43)
	Primary	29 (36)	27 (47)	10 (12)	10 (21)	11 (37)	8 (27)	10 (33)	13 (46)
	Secondary	5 (9)	10 (17)	4 (5)	9 (19)	1 (3)	0	3 (10)	3 (11)
	Post-secondary	0	1 (2)	0	3 (6)	2 (7)	0	0	0

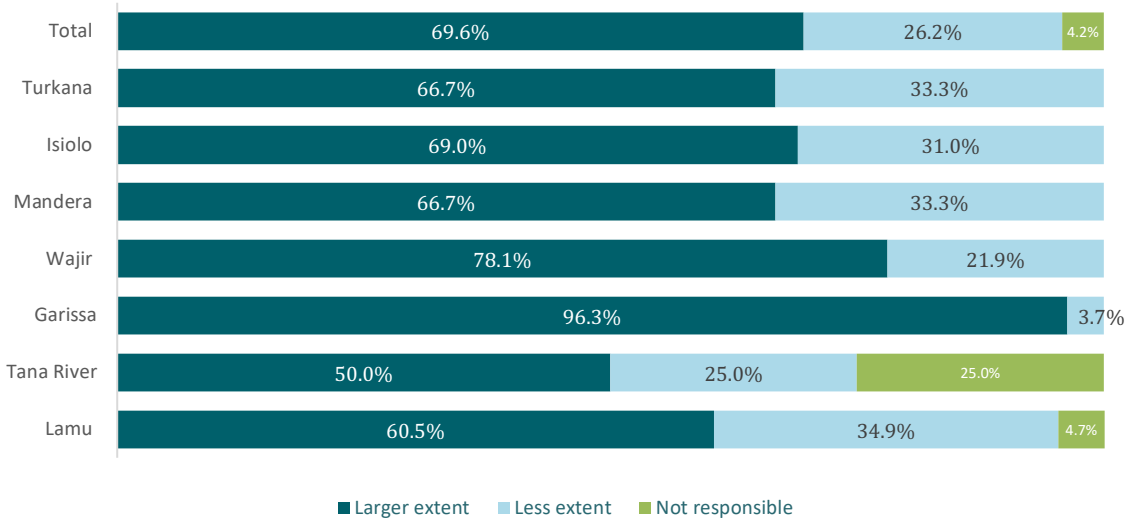
3.2 Relevance of the programme

3.2.1 GGEP Relevance to Primary Beneficiaries Needs and Priorities

Finding 1: GGEP was relevant to water, sanitation, and WRM needs of primary beneficiaries. The projects implementation structures ensured appropriate response to community needs

Most respondents 69.6% reported that the GGEP to a larger extent addressed their water needs. This was particularly evident in Garissa County at 96.3%. Even though sanitation was majorly implemented in schools, more than half of households 54.4% felt that it addressed to a larger extent their sanitation and hygiene needs. From the qualitative data, it was evident that WaterFund collaborated with all the eight ASAL counties to identify priority needs as embedded in the counties' 2018-2022 CIDPs focusing on prioritizing water and sanitation infrastructure and interventions. The collaboration embraced community participation mechanisms that the counties went through in developing the CIDPs. Most implementing agents participated in the project design from proposal writing, physical appraisals of their projects and initial project inception meetings, implementation, monitoring, and evaluation

More than half of respondents across the GGEP Counties indicated that the intervention addressed their Water needs



3.2.2 GGEP Relevance to Key Stakeholders' Policies and Strategic Objectives

Finding 2: GGEP was found to be well aligned with key stakeholder policies, priorities and, strategic objectives

The GGEP fits into all the development frameworks of Kenya including the 2010 Constitution, Vision 2030, and international agreements such as Sustainable Development Goals, Ngor declaration, Water and Sanitation for all, thus is very relevant to the Country, the Kenyan Government, and the people of Kenya. The engagement addressed provision of water and sanitation services and management of water resources which are key aspects in addressing poverty reduction, inclusive green growth, rights, and sustainable management of natural resources in the ASALs. This intervention through its design, objective and implementation was found to be aligned with the strategic objectives of Key partners:

DANIDA	*Danish development strategy 'The Right to a Better Life'. Specifically, to one of the four core objectives, green growth. Through this, Denmark intended to support developing countries in fighting poverty and creating sustainable development through green growth, increased earnings, and more jobs, especially for the youth targeting environmental protection, sustainable agriculture, sustainable and resource-efficient management, and use of energy and improved access to water. 'The Right to a Better Life' Strategy for Denmark's Development Cooperation, 2012*
WaterFund	*WaterFund strategic objective of increasing access to water and sanitation services to 4.7 million underserved Kenyans by 2022 and Institutional development and systems strengthening of WaterFund to enhance its capacity to deliver on its mandate. Water Sector Trust Fund Strategic Plan (2018–2022)*
County Governments	*All the Counties' CIDPs 2018-2022 have water development and resources management as priority areas for their constituents and GGEP projects fit into the Counties' plans and aspirations. The Counties' identified needs and priorities through a consultative process that involved the people and their leaders in decision-making, right from the Ward to the County level. Sub-County Development Boards, and Ward Development Boards to ensure that the projects captured in the CIDP are based on community needs as identified during the ward-level public participation fora. Most Counties also had water catchment protection, and conservation of natural resources as key strategic areas with the*

promise to support projects that aim at protection of water catchments, disaster management, and early warning systems. On renewable energy, most counties promised to explore the use of solar water pumps as a way of utilizing green energy

Kenya Government

The Constitution of Kenya 2010 in Article 27 recognizes that measures should be put in place to encourage affirmative action programmes and policies to address past inequalities. Economic and social rights for all are also recognized in Article 43. These include the right to health care services, adequate housing and sanitation, adequate food of acceptable quality, clean and safe water, and appropriate social security for vulnerable groups in society. Supporting water infrastructure and increasing access to water is relevant to the Country's constitution. The Kenyan government blueprints Medium Term Plans being implemented and Vision 2030 in which water provision falls under the social pillar, Big 4 agenda, Kenya Water Master Plans, and Ministry of Water, Sanitation and Irrigation's policies all work towards access to safe water for all Kenyans by 2030.

3.2.3 Robustness of GGEP Theory of Change (TOC)

Finding 3: GGEP Theory of change was found to be robust with shortcomings at the levels of causal assumptions

Evidence has shown that a robust ToC improves the effectiveness of interventions by providing clarity, rigour, and transparency, and facilitates programme monitoring and evaluation. Also, a clear ToC is integral in programme learning and adaptative management. The GGEP Theory of change was found to be generally well grounded by clearly outlining the underlying multidimensional challenges facing ASAL Communities in Kenya. The DED specified a proper situation analysis, stakeholder analysis, risk analysis and management, M&E plan, and implementation arrangements with meticulously identified implementing agents and partners. The design is realistic, efficient and provides enough opportunity for stakeholder involvement and participation.

For clarity and efficient implementation, the ToC was further illustrated using a results framework. The results framework was well detailed providing additional information including SMART (Specific, Measurable, Attainable, Relevant, and Time-bound) indicators at the output level- the outcome indicators can be improved on to include qualitative indicators that measure change. Some baseline data were not available from the results framework whereas other cases indicated absolute values, this presented a challenge as there was no proper benchmark against which to measure progress towards achieving outputs and results expected, compromising effective M&E strategy and programme performance reporting.

However, the use of the results framework, in the absence of a well-developed Theory of Change with assumptions underpinning the theory, and a clear causal pathway presented significant challenges to creating an overall vision of change for the programme. This inhibited the programmes' ability to effectively link results expected (outcomes) in a causal chain, and to develop more appropriate results and indicators for monitoring and evaluation (M&E) and reporting purposes. (Annex 2_Revised GGEP ToC)

The evaluators however did not conduct an extensive Quality of Design Assessment.

3.3 Coherence

3.3.1. GGEP Coherence in Design and Implementation

Finding 4: GGEP programme design was internally and externally coherent. The design was informed by lessons learnt from previous programmes and harmonized with existing efforts in ASALs

GGEP design and implementation were found to be coherent both internally and externally. The MTAP 3

focuses on the very arid, poor, and underserved. The engagement builds on lessons learnt from previous support (including support from DANIDA) to water resources management and water and sanitation services to the ASALs. The DE was modeled around existing WaterFund financial and operational mechanisms a) Rural Investment: This mechanism develops rural communities' capacities to access funding and implement and maintain water and sanitation facilities. Under this mechanism, ASALs have been targeted for purposes of focusing on financing water and sanitation projects. The focus recognizes and appreciates the need for water and sanitation in the ASALs, as well as their unique characteristics concerning water and sanitation and b) Water Resources Investment: This mechanism supports communities to manage their water resources including rangelands within their sub-catchments. The two financing mechanisms have traditionally been implemented mainly through CBOs and Community Based Natural Resources Management organizations such as WRUAs

The programme also built on the lesson learnt during the implementation of the engagement and relevant for the revised DE was the need for an opening for projects with larger financial requirements, so that the WaterFund portfolio will include larger projects with increased impact. The programme was consistent with GoK policy targets on developing the ASAL region including improved livelihoods, drought management, and relief as well as the development of water and the economic sectors to enhance the resilience of communities in the ASALs. This engagement also made it possible for WaterFund to expand its operations to include eight of the poorest ASAL counties in Kenya, thereby contributing to achieving more equal national development. The two new ASAL counties (Turkana and Mandera) included in the engagement, in addition to those six targeted under the current DANIDA support to WaterFund (MTAP), are very arid, poor, and underserved. Further, the engagement builds on lessons learnt from previous support (including support from DANIDA) to water resources management and water and sanitation services to the ASALs. Lessons learnt showed that coverage can be improved even under difficult conditions, but also highlight challenges and the need to adapt approaches to ensure effectiveness. This engagement addressed these challenges of delivery and sustaining of investments while utilizing the updated approaches to address the problems in the ASALs.

GGEP strategy was also informed by WaterFunds Green Growth Strategy on mainstreaming of green technology in projects in response to climate change by increasing resilience of investments as well as lowering the O&M costs. For example, the programme adopted increased capacity of water capture and storage under rural water resource management where at least 30,000m^3 capacity for water pans was adopted to hold water for longer periods and avert the effects of drought. Finally, GGEP utilized WaterFunds established delivery mechanisms and partnerships with counties, that had proven to be effective in addressing the challenges of limited access to water and sanitation and poor water resources governance in ASALs. Therefore, this engagement ensured aligned and harmonized support between WaterFund and County efforts.

3.4 Effectiveness

3.4.1 Achievement of Expected Results

Achievement of Overall DE Objective: Enhanced water resources management and investments in selected ASAL counties for improved and sustained access by communities and households to water and sanitation for their domestic and productive needs.

Outcome Indicators		Target	End Term
Indicator 1.1	Increase in number of households with sustained coverage from improved water services in eight ASAL counties because of the DED	30,000 households reached with sustained water services	83% of the target was reached, approximately 24,800 households have access to improved water services.
Indicator 1.2	Increase in number of households with sustained coverage from improved sanitation services in eight ASAL counties because of the DED	4,000 new households reached with sustained sanitation services	3,350 people (Approx. 620 households)[4] have access to improved sanitation services. Also, 2500 school children and more than 450 community members (Through dispensaries and mosques) had access to sanitation services.
Indicator 1.3	Increase in area implemented under improved water resources management planning (as SCMP or other water and range management arrangements) in the eight targeted ASAL counties because of the DED	7000km^2 implemented under improved water resources management planning	28.7% of the target achieved, 2,010.83 km^2 of new catchment was put under improved water resources planning and management, approximately 561 km^2 has been implemented through conservation.

Finding 5: GGEP's overall Development Engagement Objective was partially achieved

An estimated 24,800 new households received water services because of GGEP after successful implementation of water projects spread across the eight counties, through drilling and equipping of boreholes, construction of distribution mains, raised storage tanks, underground sump tanks, community water points (water kiosks and yard taps), and households' connections. Additionally, 1,788 households were reached with temporary emergency water supply under the DERP emergency programme through water trucking .

On sanitation, approximately 3,350 (620 households) people had access to improved sanitation services. Also, 2500 school children and more than 450 community members (through dispensary and mosque) had access to sanitation services. This was achieved through a combination of sanitation approaches mainly targeting institutions. GGEP supported several interventions including constructing 116 doors of VIP latrines in schools, achieving the Ministry of Health & WHO standards of pupils to toilet door ratio (1:25) and 18 doors of VIP latrines in public institutions (Mosque & Dispensary). Hygiene was further enhanced through hygiene promotion, establishing hand washing, and community sensitization.

Under improved water resources management planning, GGEP worked with 27 WRUAs and 5 conservancies. A total of 14 Community based resource management consisting of 12 WRUA's (Ali Kune, Lagha Madha, Tawakal, Anaam, Kotile Korisa, Sharaha, Khansa Hosle, Gedilum, Lagha Togwene, Bubisa,Turbi, and Shurr) and 2 Conservancies (Kiunga and Pate Marine) catchment areas covering 2,010.83 km^2 were planned through the development of SCMPs and CDMP for coordinated management of the resources. Of this total area, 561 km^2 has been implemented through conservation activities including mangrove restoration which is critical in protecting coastal lines from erosion and supporting aquatic ecosystem, planting of indigenous trees and construction of water pans for aquifer recharging.

[4] According to KNBS, 2019 ASAL Counties average household size is 5.4 persons

Water storage was significantly increased through rainwater harvesting and harvesting of surface run off water. An estimated 184,072m^3 water storage was successfully developed. This included installation of 27No. rainwater harvesting tanks each with a capacity of 10m^3 and 5No. djabias were constructed in Lamu County each with a capacity of 100m^3. On surface run off water harvesting, the programme successfully developed 2No. berkads each with a capacity of 100m^3, construction of 7No. sand dams and 5No. climate proofed water pans of various sizes ranging from 30,000 to 50,000m^3.

The programme further supported livelihood activities to improve economic status of communities and adaptive capacity to climate change and, as an incentive to the local communities to participate in catchment conservation. A significant number of community members benefited from beekeeping, planting of indigenous fruits and environmental conservation activities like energy saving jikos and biogas to reduce deforestation and increase energy efficiency

The overall targets of GGEP were not fully achieved, the evaluation established the following causes

d) Achievement of the target was premised on two major preconditions that were not met (Annex 2_ Revised GGEP ToC)

- *Water and sanitation services will be targeted at investments with highest impact on communities and households*. The evaluation revealed that some of the projects targeted were not high impact projects for example, Shebta-ad and Godarupa Water and Sanitation projects in Garissa and Isiolo Counties respectively. The outcome was further affected by the nomadic nature of the ASAL communities for instance, a visit to Kuro -bisan in Isiolo County, the evaluators found the whole community who were targeted to benefit from the project had migrated to a different location
- *Effective and timely implementation of programme activities*. All the projects were not successfully completed at the time of evaluation. Though the completion rate was commendable (94.8% of projects successfully completed), some projects including Lorgum WRUA in Turkana, Awarsitu and Riba water projects in Wajir County had not been successfully completed

e) Some of the strategies were not effective. For instance, on sanitation, the programme focused on increasing institutional sanitation coverage mainly targeting public institutions such as schools, mosques, and dispensaries within targeted project areas despite GGEP sanitation approach and indicators designed to target households (GGEP Results Framework).

f) WRUA projects were adversely affected by the persistent droughts, most water pans had not filled up at the time of evaluation due to lack of rainfall. For example, water pans in Mandera County were all dry after successful completion.

g) Three projects in Marsabit County were terminated and dropped from the programme namely:- Dhakane Water and Sanitation Project, Godoma Waititi Water Supply and Sanitation Project and Lataka Water Supply and Sanitation Project due to a variance of 46.3%. This was above the 25% threshold allowed by the Public Procurement and Assets Disposal Act (PPADA). The evaluation established two main factors that led to the increase in project costs a) changes in scope after initial design e.g., In Godoma there was a change in pipe sizes and lengths to the target village (Waititi), the design had provided for a 2 inch pipe which changed to 4 inch and length increased by 1.2km and, b) Increase in cost of hardware materials and restrictions during the Covid-19 pandemic affected procurement of critical materials some of which were to be outsourced globally for

instance, hardware for reverse osmosis plants. The programme team unsuccessfully attempted to bring on board another implementing partner to cover the deficit. This was not feasible due to the programme timelines

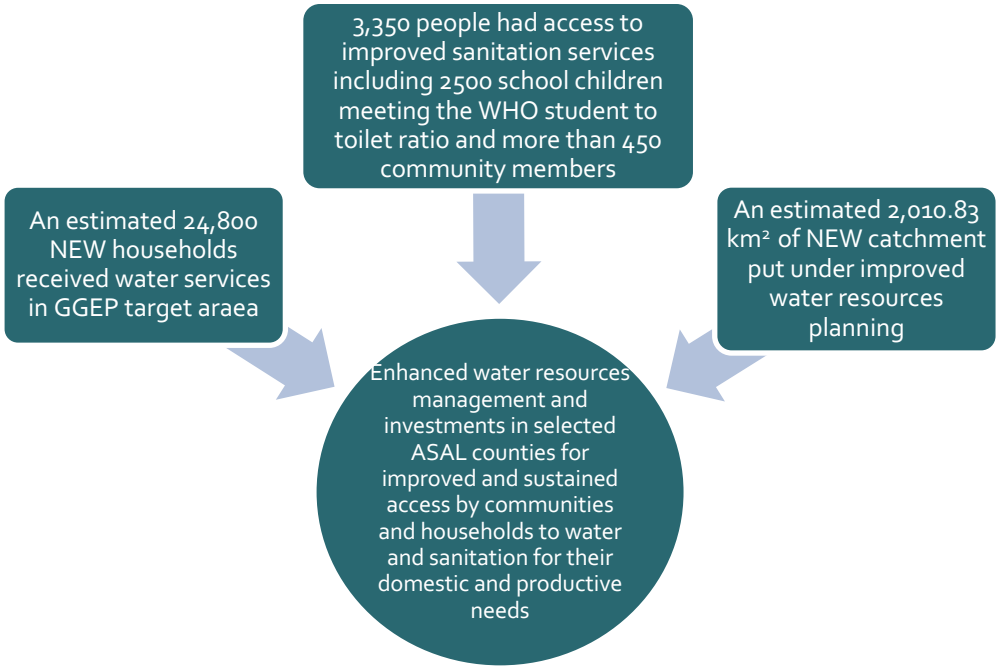


Figure 2: Achievement of overall DE Objective

Achievement of planned results 1: ASAL counties' capacity and engagement in integrated water, sanitation, and water resources-related planning improved.

Output Indicators		Baseline	Target	End Term
Indicator 2.1	Number of Counties effectively using water and sanitation data for planning and for performing their regulatory functions	No water and sanitation data available and limited capacity for using data and regulating services	8 counties using and updating water and sanitation data for improved planning and follow-up and perform their regulatory functions	100% of the Counties have water and sanitation data used for planning and implementation.
Indicator 2.2	Number of Counties (8) with an effective water sector legislative and policy formulation framework to support effective planning and implementation.	Limited legislative and policy frameworks in the target counties to support effective programme planning and implementation	8 counties implementing an effective water sector policy and implementation frameworks in policy formulation and decision making	62.5% of the Counties i.e., 5 have water legislations although not supported under GGEP

Finding 6: All Counties have water and sanitation data but are not regularly updated. Five of the Counties have water legislation in place.

All the Counties have data on the number and types of water sources in their Counties such as boreholes, springs, rivers, streams, shallow wells, water pans, and sand dams used for planning. There is also information on boreholes functionality that assists the County water departments in follow-up for repair

and maintenance. What is lacking in most counties is the digitalized real-time updated data on water points with GPS locations, management information, and efficiency. Most data are manually kept and only used during the CIDP development.

On sanitation, the Counties' data on rural sanitation i.e. Community Led Total Sanitation can be found on CLTS - Kenya | Home (health.go.ke) updated in terms of villages triggered, claims, verified and Open Defecation Free certified. Data on Wajir County however has not been updated for almost 2 years.

On water policies and legislation, five of the counties i.e., 62.5% have water legislation supported by USAID to develop, the three others (Wajir, Tana River and Mandera) still lack this legislation, and the process of enactment has been delayed due to lack of political goodwill or priority by the County governments. These legislations have been utilized to guide the implementation of Water, Sanitation and WRM investments within the counties. However, the evaluation did not establish any evidence of challenges in implementation of GGEP projects occasioned by absence of water policies and legislations. This could be due to the nature of engagement where DANIDA had direct contract with WaterFund who in turn entered financing agreements with various implementing agents.

Achievement of planned results 2: Water and sanitation access and deficit in the ASAL addressed

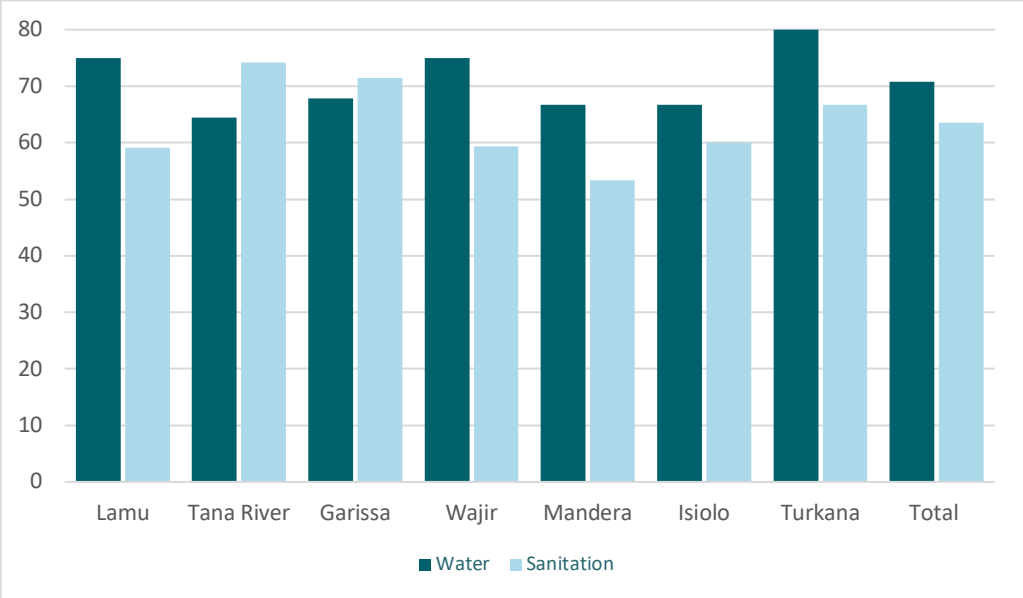
Output Indicators		Target	End Term
Indicator 3.1	Increase in number of households with water services from WaterFund in this engagement in the eight ASAL countries.	At least 30,000 new households reached through at least 24 new projects	24,800 households have access to improved water services from 24 GGEP-supported water projects.
Indicator 3.2	Increase in number of households with sanitation services from WaterFund in this engagement in the eight ASAL countries.	At least 4,000 new households reached through at least 24 new projects	3,350 people (Approx. 620 households) have access to improved sanitation services including 2500 school children and more than 450 community members through mosques and public dispensaries
Indicator 3.3	Average Sustainability Index of the WaterFund supported investments in the 8 target counties:	70% of the funded investments are sustainable by 2020	The GGEP projects had an average sustainability index of 80%
Indicator 3.4	% Of facilities funded through the engagement that are climate proofed and mainstreaming green approaches.	80% of the total number of facilities funded through the engagement	All the projects implemented under GGEP are Climate Proofed and mainstream green approaches
Indicator 3.5	% Of targeted households in programme counties are expressing satisfaction with the water and/or sanitation services	80 % of those targeted with the services are expressing satisfaction with the services	78.5% expressed satisfaction with water services while slightly more than half, 56.6% are satisfied with sanitation services

Finding 7: GGEP greatly impacted access to water and sanitation by increasing the number of households accessing water and sanitation services across all the eight counties

GGEP Programme targeted community water projects prioritized under the County Integrated Development Plan (CIDP) to increase water service coverage targeting households and public institutions. The programme supported both rehabilitation and development of new boreholes, desalination plants, augmentation, and installation of reticulation systems. The programme aimed to increase access to adequate portable water, reduce distance and time spent to the nearest water point for both domestic use and livestock. Consequently, the GGEP implementation reached approximately 24,800 households with access to improved water services from 23 GGEP-supported water projects. Additionally, 1,788 households were reached with temporary emergency water supply under the DERP emergency programme through water trucking

Similarly, approximately 3,350 people representing about 620 households had access to improved sanitation services including 2500 school children and more than 450 community members. This was achieved through a combination of sanitation approaches targeting public institutions (Schools, Mosques, and Dispensaries) within the water project target location. The evaluation revealed that 70.8% of the households in the target areas had access to a safe water supply while 63.5% had access to sanitation.

All the counties had more than half of the respondents accessing clean water and sanitation. Access to sanitation however remained lower across all the counties



Piped water access has increased to 48% of which 11.9% are within the premises while 36.1% are from water kiosks or public taps. A good percentage 73.4% reported collecting enough water for their domestic use (20-25 liters per person per day- UNDP/ WHO). Of those who still do not collect enough water for domestic use in the project areas, their main reasons were, water shortage 48% , limitation of the volume of water that one can collect at a water point in a day 28% and lack of enough storage containers 25.6%. In the project areas, the respondents reported that currently their main sources of water for livestock and other farm use included water pan 54.5% and boreholes 37.7%. Among the respondents, 78.5% expressed satisfaction with water access. Sanitation was done majorly in the schools within the communities in which water supply projects were implemented. This, coupled with overall low sanitation coverage, can explain lower satisfaction levels with sanitation services 56.6%.

Table 7: Main Source of water for drinking and other household uses

Main Sources of water	Tana River	Lamu	Garissa	Wajir	Mandera	Isiolo	Turkana	Total
Public tap/ Standpipe	0	1 (2)	2 (7)	4 (13)	2 (13)	1 (3)	3 (20)	13 (7)
Handpumps/ Boreholes	8 (27)	21 (50)	28 (90)	15 (48)	3 (20)	2 (7)	2 (13)	79 (41)
Unprotected hand dug well	0	2 (5)	0	0	4 (27)	1 (3)	0	7 (4)
Water seller/ Kiosks	22 (73)	9 (21)	1 (3)	4 (13)	6 (40)	5 (17)	10 (67)	57 (29)
Piped connections to house/ Neighbor's house	0	6 (14)	0	7 (23)	0	10 (3)	0	23 (12)
Surface water (Lake, dam, river, pond)	0	1 (2)	0	1 (3)	0	11 (37)	0	13 (7)
Rainwater collection	0	2 (5)	0	0	0	0	0	2 (1)
N = 205	30	42	31	31	15	30	15	

The evaluation also revealed that 34% of respondents accessed water within a distance that met Sphere standards (Less than 500m), 29% fetched water within 1km radius, while 11% were still getting their water from more than 5km. Majority of those travelling more than 5km to fetch water were from Isiolo and Mandera, 48% and 20% respectively. The GGEP programme had significantly reduced the distance to water points which can be as high as 15km[5] in some ASAL areas. The reduced distance reflects shorter times spent on a round trip on water collection which is further channeled to more productive activities. It is noted that spending too much time fetching water may exacerbate water insecurity and be a barrier to sustainable development[6].

Table 8: Average distance to the nearest water source (N=200)

Distance to the nearest water point	Tana River	Lamu	Garissa	Wajir	Mandera	Isiolo	Turkana	Total
Available on premises	0	11 (28)	9 (29)	12 (38)	0	11 (38)	0	43 (23)
<500m	2 (7)	4 (11)	1 (3)	1 (3)	4 (27)	0	9 (60)	21 (11)
500m – 1km	12 (39)	14 (37)	5 (16)	11 (34)	5 (33)	4 (14)	6 (40)	57 (29)
1km – 5km	14 (47)	9 (24)	16 (52)	8 (25)	3 (20)	0	0	50 (26)
>5 km	2 (7)	0	0	0	3 (20)	14 (48)	0	19 (11)

[5] Mati, B. M. et al 2005. Assessing water availability under pastoral livestock systems in drought prone Isiolo District, Kenya. Working Paper 106. Colombo, Sri Lanka: International Water Management Institute (IWMI)

[6] Geere, J.-A. and Cortobius, M. 2017. Who carries the weight of water? Fetching water in rural and urban areas and the implications for water security. Water Alternatives 10(2): 513-540

A woman and girls collecting water from a Water Kiosk at Kipao Kheri, Tana River

A filled animal watering trough at Lokichar Water Project, Turkana County

Box 1: Kipao Village

Kipao village lies in the river Tana delta cut off from the mainland and without any bridge to access it across the river from the neighboring villages as the river keep on changing its course thus the village has become an "island". The village currently has over 1,000 households, a primary school, a secondary school, and a dispensary serving the village. According to the 2019 population census, Kipao village had a population of 4,724 persons with males being 2,373 and females 2,351 living in 958 households in an area of 56.8km^2 with a density of 83 persons per km^2.

Most of the previous water projects e.g. the Drought and Arid Land borehole to Galana women for water distribution to the village failed due to high cost of O&M as getting diesel fuel across to the village was un-sustainable due to cut off from normal access, the village was also cut off from water supply from Witu town and had to depend on either salty borehole waters or risk the crocodile attacks by fetching water directly from River Tana. Islam supported drilling of over 15 boreholes but almost all had salty water.

WaterFund then drilled a borehole with fresh water and through the GGEP installed it with solar pumping system, constructed an overhead elevated steel tank with 4 water kiosks across the village which now supplies water to the people limiting the risk of crocodile attacks, reducing distance travelled to access water with other homes even connecting water into their premises. This project was successfully implemented with materials and equipment being ferried across the river with canoes and still being completed within the timelines. Currently Kheri women group are managing the water project thus empowering the women with technical and management skills in addition to income from the 40% of the total water sales.

However, there is a Management problem of the Kipao water project by Kheri women group due to incitement from political and community elders. The 40% women, 40% TAWASCO and 20% Community revenue share agreement is not being honored. Also , the women cannot access the resources without going through the male elders thus limiting their ability to make own decisions.

Sustainability Index

Finding 8: GGEP projects had a high sustainability index. Projects implemented through the conservancies had a higher SI 85.3% as compared to WRUAs' 82.7% and water service providers 76.7%.

WaterFund and its development partners including DANIDA are increasingly emphasizing the need for sustainability. The objective of the Fund is to ensure that five years after commissioning, 95% of all infrastructure developed are still operational and in good technical and operational condition[7]. Sustainability index is a key quantitative performance measure to facilitate the assessment and monitoring of sustainability of investments to support progress evaluation over time and the development of appropriate response measures[8]. In this evaluation, sustainability is defined as the ability of an investment to realize the objectives within 5 years of its operation. This definition is entirely based on the outcomes and outputs of the investments.

The evaluation aggregated the average value based on the Functionality and Reliability of an investment, Revenue collection (ability to cover O&M), Age and Survival rate of an investment, and the Functionality of an investment. The GGEP projects had an average sustainability index of 80% with projects implemented through the conservancies showing higher sustainability Index 85.3% as compared to WRUAs' 82.7% and water service providers' 76.7%. (Annex 5_Sustainability Index).

Climate Proofing and Green Approaches

Finding 9: All GGEP investments were climate-proofed and mainstreamed green approaches

A sand dam at Buriya WRUA, Wajir County

Climate change is threatening development gains and intensifying global inequities. It is stressing water and sanitation services and resources. Droughts, floods, and storms can destroy water and sanitation infrastructure putting the livelihoods of ASAL communities at risk. Climate adaptation is integral to strengthening resilience and protecting years of investment and progress towards ending hunger, poverty and improving access to water and sanitation[9].

All the projects implemented under GGEP were Climate-Proofed and mainstreamed green approaches. This was achieved by increasing their capacity to withstand climate change shocks through a) proper siting to mitigate flood destruction b) use of appropriate technology on piping and solar power for pumping c) Innovations that prolong water storage such as lining of pans and shading of plastic storage tanks, increasing capacity of water pans to a minimum of 30,000m^3 and, d) environmental protection measures such as shading pans to reduce evapotranspiration and soil conservation practices such as construction of gabions to reduce siltation and control flooding.

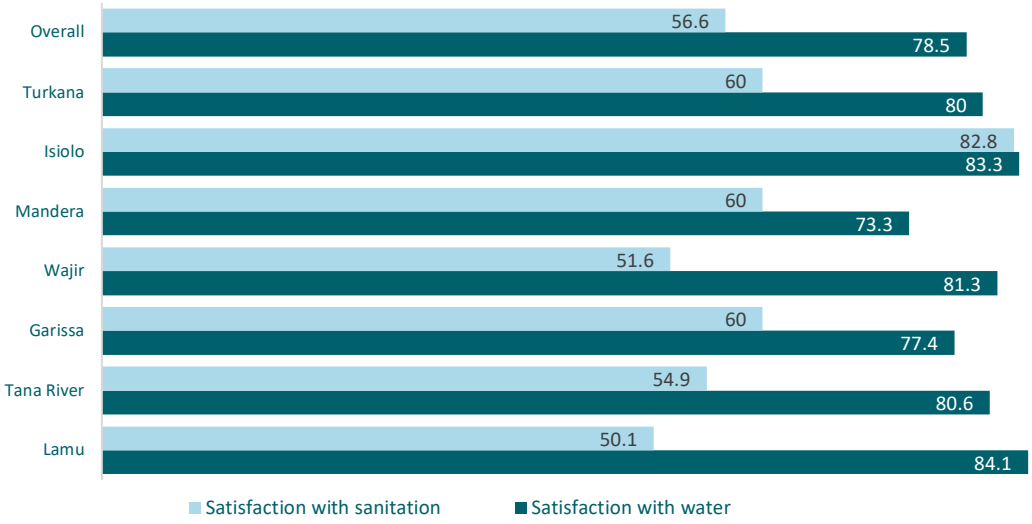
[7] Water Fund Annual Rural Harmonized Report, FY 2017/2018
[8] Joint Annual Operations Monitoring Exercise (JAOME, 2016)
[9] Climate Adaptation & Resilience for Food & Water Security, USAID

Satisfaction with Water and Sanitation Services

Finding 10: Satisfaction with water services was significantly higher than with sanitation.

In general, 79% of the respondents were satisfied with the water services offered across the eight counties. Lamu and Isiolo had the highest proportion of respondents satisfied with sanitation services, 84.1%, and 83.3% respectively. The majority of those not satisfied were from Mandera 26.7% and Garissa 22.6%. Overall, satisfaction with sanitation services was comparatively low, slightly more than half (56.6%) of respondents were satisfied

Across all the counties satisfaction with water is significantly higher than sanitation except in Isiolo



Achievement of planned results 3: Sustainable and community-based management of water resources and rangeland improved

Output Indicators		Target	End Term
Indicator 4.1	Increase in volume of total water storage capacity (No targets) from the WaterFund investments.	30% increase in water storage from improved CBNRM (as compared to situation before projects)	184,072m^3 of new water storage developed
Indicator 4.2	Increase in area with improved water resources management planning including SCMPs in WRUAs, range management in 8 ASAL counties, and catchment planning	7,000km^2 Increase in area with improved water resources management planning including SCMPs in WRUAs, range management in 8 ASAL counties, and catchment planning	2,010.83 km^2 of catchment put under improved water resources planning and management

Finding 11: GGEP has improved Sustainable and community-based management of water resources in the 8 ASAL Counties by significantly increasing water storage capacity and expanding the area under improved water resources planning

Water storage was significantly increased through rainwater harvesting and harvesting of surface run off water. Both strategies have proved effective in addressing water scarcity in ASAL areas for both domestic and livestock use and increasing the per capita annual availability of water.

An estimated 184,072m^3 water storage was successfully developed. This included installation of 27No. rainwater harvesting tanks each with a capacity of 10m^3 and 5No. djabias were constructed in Lamu County each with a capacity of 100m^3. On surface run off water harvesting, the programme successfully developed 2No. berkads each with a capacity of 100m^3, construction of 7No. sand dams and 5No. climate proofed water pans of various sizes ranging from 30,000 to 50,000m^3.

Dide waride Djabia (Hanshark Nyangoro Conservancy) in Lamu County

On water resources management planning, a total of 14 Community Based Resources Management consisting of 12 WRUA's (Ali Kune, Lagha Madha, Tawakal, Anaam, Kotile Korisa, Sharaha, Khansa Hosle, Gedilum, Lagha Togwene, Bubisa,Turbi, and Shurr) and 2 Conservancies (Kiunga and Pate Marine) catchment areas, covering 2,010.83 km^2 were planned through development of SCMPs and CDMP for coordinated management of the resources. Of this total area, 561 km^2 has been implemented through conservation activities including mangrove restoration which is critical in protecting coastal lines from erosion and supporting aquatic ecosystem, planting of indigenous trees and construction of water pans for aquifer recharging.

Table 9:New catchment under improved Water Resources Planning

County	WRUA/ Catchment Area	Key Activities	Area in Km^2
Lamu	Kiunga Community Conservancy Project, Pate Marine Community Conservancy Project,	Development of Conservancy Development Management Plan (CDMP), Construction of djabias, Mangrove restoration training, planting & establishment of mangrove tree nurseries, Training community beneficiaries on beekeeping	810.83 km^2
Garissa	Ali Kune WRUA, Lagha Madha WRUA, Tawakal WRUA, Anaam WRUA, Kotile Korisa WRUA, Sharaha WRUA, Khansa Hosle WRUA, Gedilum WRUA, Lagha Togwene WRUA,	Capacity building and SCMP development	900 km^2
Marsabit	Bubisa, Turbi and Shurr WRUAs	Capacity building and SCMP development	300 km^2
		Total	2,010.83 km^2

The programme further supported livelihood activities to improve economic status of communities and adaptive capacity to climate change and encourage participation in conservation activities . A significant number of community members benefited from beekeeping, planting of indigenous fruits and environmental conservation activities like energy saving jikos and biogas to reduce deforestation and increase energy efficiency

It was generally noted that WRUAs and Conservancies participated in activities aimed at soil, rangeland,

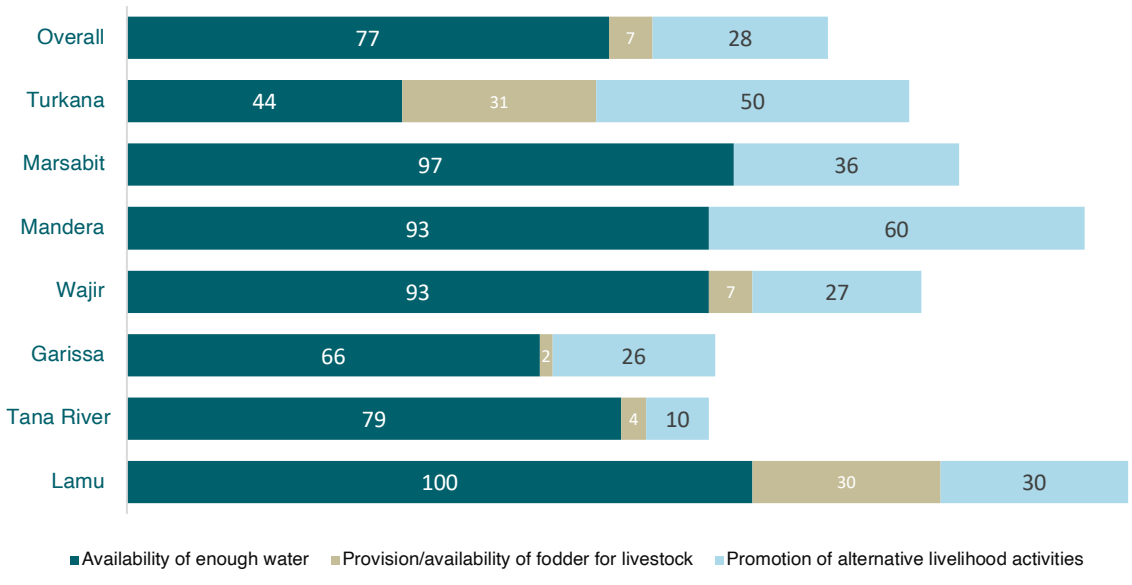
and water resource management within the community. The WRUA and Conservancies engaged in community sensitization and riverbank protection including fencing, riparian pegging, and tree planting, 89% and 71% respectively. Activities along sub-catchments to protect against illegal abstractions of water and other destructive practices were least practiced.

Table 10: Activities aimed at soil, rangeland and WRM within the community, N = 185

Activities	Tana River	Lamu	Garissa	Wajir	Mandera	Marsabit	Turkana	Total
Riverbank protection (fencing, riparian pegging, tree planting)	35 (73)	3 (21)	32 (68)	13 (87)	14 (93)	24 (80)	10 (63)	131 (71)
Construction of water storage and conservation infrastructure e.g., Sand dams and water pans	17 (35)	13 (93)	0	2 (13)	1 (7)	13 (43)	9 (56)	55 (30)
Regulation of water use and equitable distribution through bulk metering	0	0	0	0	0	0	0	0
Activities along sub-catchments to protect against illegal abstractions of water and other destructive practices	4 (8)	2 (14)	0	0	0	0	0	6 (3)
Community Sensitization	44 (92)	14 (100)	45 (96)	15 (100)	14 (93)	24 (80)	8 (50)	164 (89)

Majority of respondents believed that WRUAs and Conservancies activities aimed at soil, rangeland, and water resource management within the community had helped to reduce rangeland and water resource conflicts in the sub-basin through the availability of enough water (77%) and promotion of alternative livelihood activities (28%).

Lamu county WRUA/ Conservancies activities had the greatest impact on reducing rangeland and water resource conflicts in the sub-basin. Overall, the availability of enough water had the greatest impact



Achievement of planned results 4: Improved capacity and engagement by implementing agents (WRUAs, CBOs, Water Utilities, and Water Services Providers) for planning and efficient water service delivery.

Output Indicators		Target	End Term
Indicator 5.1	Number of WRUAs / CBNRM organizations that have successfully[10] implemented their WRUA projects under this engagement	27 WRUA/CBNRM organizations projects	32 Organizations (27 WRUAs and 5 Conservancies have successfully implemented their projects
Indicator 5.2	The number of WUs / WSPs that have successfully implemented all their county water and sanitation projects under this engagement (and number of projects).	24 WU/WSP projects	23 WUA have successfully implemented all their county water and sanitation projects
Indicator 5.3	Creditworthiness index of the projects funded by this engagement	An average of 70% credit worthiness of the supported WUs/WSPs	An average of 71% Creditworthiness for 7 of the supported projects sampled was achieved.

Finding 12: There is improved capacity and engagement by implementing agents (WRUAs, CBOs, Water Utilities, and Water Services Providers) for planning and efficient water service delivery.

WaterFund's engagement with the implementing agents included activities that build their capacities in key areas of project implementation. Each agent had its key staff trained on proposal development, financial management, procurement, and contract management in the initial stages of the implementation. This training was critical to ensure various projects adhere to good management practices and harmonize their reporting with WaterFund's requirements for financial, monitoring, and technical reporting standards.

Table 11: Capacity building of Implementing Agents

Training/support area	Components
Procurement	Public Procurement and Asset Disposal Act, 2015, tendering process including preparation of tenders and evaluation of bids,
Audit	Common audit issues with a view of offering preventive rather than curative approaches in audit
Technical	Review technical components of the tender documents and assist in the technical evaluation of bids, Project supervision
Management	Preparation of monthly monitoring and progress reports Operation and Maintenance: Governance, financial management – billing and revenue, tariff setting, Operation and Maintenance, Non-Revenue Water, ring-fencing of funds for O&M, NRW, and sustainability, and lastly sensitization and steering of county selection on the most appropriate rural water delivery option to ensure sustainability.

The programme also adopted benchmarking. Benchmarking has become a strategic tool for measuring performance, learning, and inducing improvements in service delivery. All the counties participated in a benchmarking tour, visiting three water utilities in Western Kenya. The benchmarking team comprised representatives of the counties' water departments, WSP technical staff, WaterFund, and Kenya Market

[10] Successfully implemented means completed projects to a satisfactory level as assessed by post project assessment

Trust. These training and capacity building of implementing agents contributed to effective and efficient implementation, 95% of all projects were implemented successfully

County	No. of implemented projects	Projects successfully completed	Projects not completed	94.8% of projects successfully completed
Tana River	*11*	*11*	*0*	
Lamu	*9*	*9*	*0*	
Garissa	*14*	*13*	*1*	
Wajir	*5*	*4*	*1*	
Mandera	*4*	*4*	*0*	
Marsabit	*4*	*4*	*0*	
Isiolo	*6*	*6*	*0*	
Turkana	*5*	*4*	*1*	

Table 12:Number of successful projects implemented

Effectiveness of Training Delivered

Finding 13: Capacity-building approaches were highly effective and contributed to successful implementation and improved service delivery

Kirkpatrick's model was used to evaluate the effectiveness of the training delivered to the Implementing Agents (WRUA, CBO, WU/WSP/Conservancies) and beneficiaries of the programme. It utilized the four levels: a) Reaction, the degree to which the training was relevant to the participants b) Learning, the degree to which the participants acquired knowledge, skills, attitude, and commitments based on their participation c) Behaviour, the degree to which participants apply what they learnt during the training in their lives, and d) Results, the extent to which the targeted outcome occurs because of training

Table 13: Kirkpatrick Training Assessment

Levels	Finding
Level 1: Reaction	There was a positive reaction to the training delivered, 76% of the respondents (N= 60) found the training relevant to their needs, 80% found them engaging, 78% were satisfied with what they learnt. While 75% said they would recommend the training to their colleagues.
Level 2: Learning	The methods were effective in knowledge transfer, 78% of the trainees admitted that they acquired the right knowledge and skills during the training to help with their work and livelihood
Level 3: Behavior	Project leaders (80%) reported improvement in the job performance and behavior change towards work by the trained team, 77% of the customers (primary beneficiaries) surveyed expressed satisfaction with the services. Also, more than half of implementing agents indicated improved efficiency in revenue collection, reducing non-revenue water, improved project supervision and monitoring
Level 4: Results	Improved capacity of implementing agents has contributed to a high success rate in the implementation of GGEP projects, Improved sustainability of the projects and improved service delivery as demonstrated by improved customer satisfaction

Creditworthiness Index

Finding 14: Seven sampled GGEP projects had an average of 71% CWI. Two of the seven projects had CWI below the GGEP target.

Creditworthiness Index combines annual financial and operational data into a quick reference metric to estimate a WSP's creditworthiness. This metric provides a snapshot of WSP's annual operational and financial performance[11]. It relies solely on data from the financial statements and operating statistics as reported by the WSPs. The index was calculated from 6 broad and weighted indicators (Table 14) that are tailored from the interviews with the WSPs and the county administration.

Ranges of norms were established for each indicator, with scores of 0-4 allocated to each norm to align the rating with the Kenya business credit risk universe. The Creditworthiness Index result is therefore aggregation of the weighted scoring with a maximum score of 100. A score of 85-100 would depict the highest credit quality.

The seven sampled water and sanitation projects (Nanighi, Kipao, Poromoko/ Pangani, Korija, Riba, Sabuli and Lokichar) had average CWI of 71%. According to WASREB, a creditworthiness index of between 70 to 85 Indicates 'Highly Creditworthy' i.e., denotes the lowest expectation of default risk, assigned only in cases of exceptionally strong capacity for payment of financial commitments and highly unlikely to be adversely affected by foreseeable events. Nanighi and Kipao had CWI of 53.5% and 57.5% respectively, below the GGEP target (Annex 6_Creditworthiness Index)

Achievement of planned results 5: Enhanced experience for promoting Public Private Community Partnerships in water provision in the ASALs

Output Indicators		Target	End Term
Indicator 6.1	Number of Public-Private-Community Partnership management approaches piloted in the target counties.	At least two models in at least two counties	One PPCP model is being implemented between Lamu County and Davis and Shirtliff Company for maintenance of the Reverse Osmosis plants in Lamu County
Indicator 6.2	% Of external finance leveraged by piloted PPCP models	At least 50% of funding leveraged from external sources	No leveraged funds were established

Finding 15: PPCP has not fully been leveraged in Water and Sanitation provision in ASAL despite capacity building

This output sort to pilot models for collaboration between the public sector and private sector actors in provision of water services and water resource management in the ASALs. Including CSR activities and green technology application in water provision in selected ASAL areas in one or two of the selected ASAL counties to produce lessons learnt on models for increased water service coverage and promote sustainable drylands productive opportunities.

The WASREB 2019 guidelines for water provision in rural and underserved urban areas provide various options for County governments in collaboration with WASH sector stakeholders to provide water services

[11] Kenya Water Service Provider Creditworthiness Index Report, World Bank-WASREB, 2015

with close monitoring by WASREB. Under this, Isiolo and Lamu counties have opted to allow new water service providers to manage rural water schemes. Lamu Water and Sewerage Company signed a service contract with Davis and Shirtliff to provide technical support through routine Operation and Maintenance of the two reverse osmosis plants installed in Kiunga and Kizingitini Islands. Isiolo County also has used the delegated approach to Water Utilities to ensure service delivery in the rural areas since the urban WSP does not have the capacity to cover rural water supply schemes. The evaluation however did not establish any funds leveraged from these two pilots.

Despite existing capacity within WaterFund on PPP for example, three WaterFund staff (Resource Mobilization Officer, two Programme staff supporting GGEP) were trained in Certified Public Private Partnership (PPP) Professional Foundation Course organized by the NEPAD Foundation (NBF) and USAID – funded Water, Sanitation and Hygiene Finance (WASH – FIN) programme.

This target was not achieved. The evaluation has established that PPP model was not feasible due to the high threshold (infrastructural projects of Ksh 250million and above) which was way above the GGEP investments. Further PPCP arrangements lacks proper legislative frameworks to thrive especially in ASAL where WSS provision is considered commercially not viable due to exacerbated challenges

Achievement of planned results 6: Strengthened institutional performance of WaterFund

Output Indicators		Baseline	Target	End Term
Indicator 6.1	Proportion of WaterFund-supported investments mapped and managed in an effective management information system	Baseline data on WaterFund implemented projects and some data on county coverage exist but no digital information or spatial data systems are available and used	100% of the WaterFund -supported investments in the target ASAL Counties are mapped and managed in a GIS-enabled management information system	All WaterFund -supported investments in the targeted ASAL counties have been mapped and georeferenced
Indicator 6.2	WaterFund capacity to support project identification, implementation support, and monitoring is improved.	WaterFund is constrained in aspects of project identification, implementation support, and monitoring	WaterFund reports improved capacity to undertake project identification, provide implementation support and do project monitoring	WaterFund staff have reported and demonstrated improved capacity to undertake project identification, provide implementation support, and do project monitoring
Indicator 6.3	Proportion of questioned costs funded through the DE against total investments	Zero (New investments)	Less than 10% of the total investments at the end of the programme period	0.75% of the investment cost was questioned

Finding 16: GGEP investment improved WaterFund institutional performance

The partnership with DANIDA improved WaterFunds' capacity to identify, implement, monitor, and sustain the funded projects. This was made possible through employing dedicated line managers and engaging full-time County Resident Monitors and Engineers across the project implementing areas. The Programme technical support was also boosted with the recruitment of a dedicated Programme Implementation Unit (PIU) as well as support from financial and technical advisors. The WaterFund Programme Management team consisting of Engineers, Sociologists, Project Management, Integrated Water Resource Management, M&E, Finance, and Audits carried out support. Everyone checks their section for concurrency and reporting by 10th of every month and does periodic ad hoc monitoring as when is needed.

Table 14: GGEP Questioned Costs[12]

County	Questioned costs
Tana River	144,723.00
Garissa	871,363.00
Wajir	14,300.00
Mandera	2,049,500.00
Isiolo	3,134,750.00
Turkana	330,200.00
Total	6,544,836.00
Spent amount	KSH.875,163,534.07 (DKK 54,258,464.88)
% Of questioned costs	0.75%

There used to be Joint Monitoring with the donors and partners annually while the Board of trustees also carried out monitoring bi-annually. This improved efficiency and transparency in project implementation are responsible for the high accountability and financial prudence observed, less than 1% of investment cost questioned. Some of the areas highlighted in the audit repor

t leading to questioned costs included a) inadequate supported documents, b) spending outside the budget, c) weaknesses in cash management, and d) payment of expenses in the wrong period (outside the contract period).

The evaluation also revealed that the Fund is in the process of developing an Integrated Project Management Information System, to map and manage supported investments. Currently, mapping is done under Joint Annual Operations Monitoring Exercise (JAOME).

3.5 Efficiency

Under efficiency, we assessed the extent to which GGEP delivered results in an economic and timely way and utilization of local/existing expertise a) economic refers to the conversion of inputs e.g., funds, expertise, natural resources, time into outputs, outcomes, and impacts, in the most cost-effective way possible, as compared to feasible alternatives in the context b) timely delivery is within the intended timeframe, or a timeframe reasonably adjusted to the demands of the evolving context. This included assessing operational efficiency.

Cost Effectiveness and timeliness

Finding 17: GGEP projects were implemented as cost-effective as budgeted, 94.8% of the GGEP projects were implemented within the scheduled time

The GGEP projects were implemented within the budgets without variations. This is demonstrated by no-cost extensions and achievement of all planned physical facilities, training, and administrative support to the Implementing Agents. Most projects were completed within the timelines 95%, few overlapped the timings, and an initial 6-month no-cost extension was approved to the end of 2021. A further additional 6-month extension was granted to aid in financial accounting. The evaluation established four

[12] WaterFund Report to Management for the Audit of the Rural Programme. Delloitte, June 2021

main challenges that may have contributed to the delays: a) The covid-19 pandemic affected the pace of implementation with Government restrictions on movements at the height of the pandemic b) Reallocation of resources to DERP at the early stages of implementation c) Delays in disbursements of programme funds from the National Treasury to WaterFund and, d) Cases of insecurity reported in some project areas e.g., Lamu, Garissa, Mandera and Tana River Counties.

Value for money and Utilization of existing/local expertise

Finding 18: GGEP projects implementation utilized the financial and local expertise resources more effectively

WaterFund has a robust financial management system with due diligence and approval processes in every step of the payment process. The payment to the contractors was based on deliverables and promptly done upon verification and certification of the works. Implementing Agents too received their disbursement upon accountability of the previous disbursement. Where there were some delays, the CRMs would make follow-ups and support the IPs in accounting and reporting.

> *"There were so many bidders for LAWASCO projects by WaterFund due to money availability as compared to other projects we advertise for bidding. Their projects have never frustrated their stakeholders."* LAWASCO MD

The project utilized local contractors and expertise within the specific counties where expertise was not locally available then from the neighbouring counties. At the County level, the projects relied on Water Utilities technical staff and County departmental staff to carry out project activities including supervision of works, community mobilization, engagement, and reporting.

Projects Governance and Management

Finding 19: WaterFund's internal structures and systems enhanced implementation of the projects hence achievement of the results while few external procedures created bottlenecks in implementation.

Signing of financing contracts with the Implementing Agents, capacity building them, working closely with the implementing agents through the County Resident Monitors and Engineers, and periodic monitoring and reporting helped in the implementation and achievement of results. All the projects delivered were constructed based on the original designs, and specifications and gave the desired outputs except Korija borehole in Wajir which the quality of water could not be used for drinking, the extension of water to Awarsitu from Godarupa (Isiolo) borehole was poorly done due to poor workmanship and challenges with the contractor hence by the time of evaluation, the project was still under rectification by the County, and pans in Mandera which are still awaiting rainfall. Riba water project lacks enough storage tanks because the project was NOT done to 100% completion. The 2nd elevated 50m^3 steel tank which collapsed was not rebuilt. Supply and installation of water meters were done without meter boxes. This is posing a major challenge as some of them have been damaged by donkeys & playing children. Members of the community who are capable have installed their own meter boxes. Damaged SMART water dispensing units cannot be replaced, because they are NOT available at the local market. Taps used were also NOT appropriate for the type of water. Water is saline corroding the metal taps thus causing blockage.

The external arrangement to work with WRUAs through Water Resources Authority

(WRA) had some hitches on institutional mandates and reporting processes affecting timelines and working relationships in the field. This was ironed out through partnership meetings and a review of partnership agreement is currently being looked at by the leadership of both institutions.

3.6 Impact

Improved Hygiene Practices

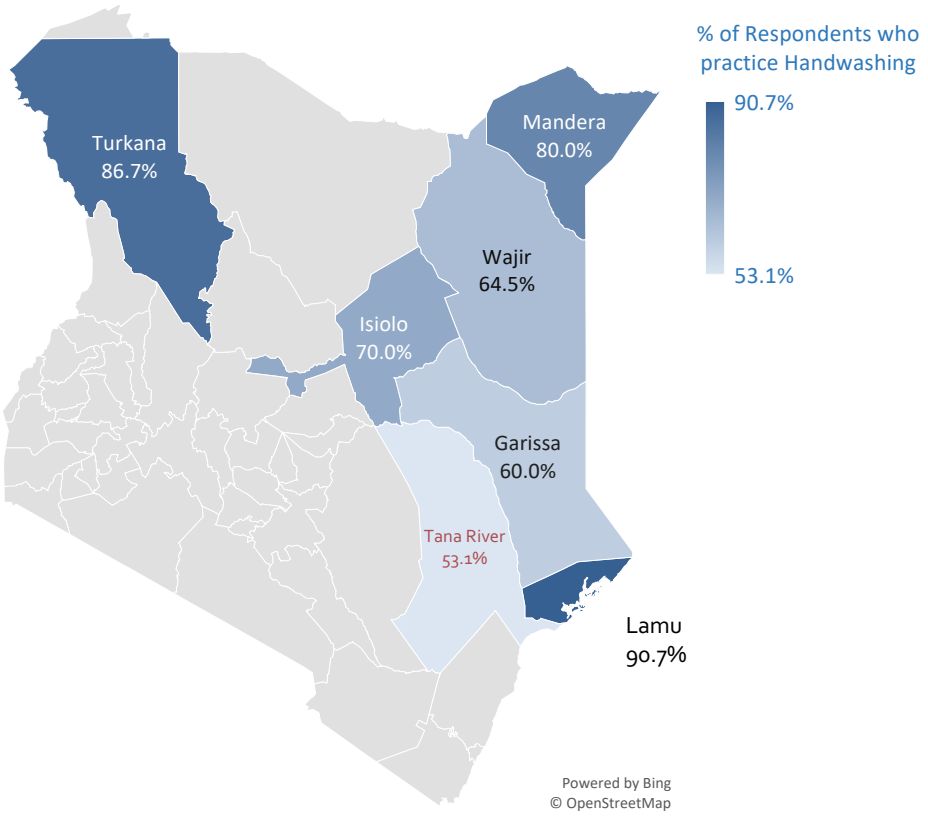
Finding 20: GGEP implementation contributed to the improved health status of the targeted households.

Access to safe water for domestic use by the beneficiaries in the eight counties has the potential to positively impact on the health of more than 24,800 households. Access to safe water directly helps the most vulnerable families prepare and protect themselves from illness and diseases. They experience improved health because with safe water they can practice good hygiene like handwashing and drinking safe water thus avoiding contamination and diarrheal diseases and they don't have to travel long distances to collect water thus improving the physical well-being of women and children. On average, GGEP has increased positive hygiene behaviours such as hand washing after defecation of which 72.1% of the respondents reported practicing currently.

Despite most respondents practicing handwashing due to GGEP projects, there is a need for more effort or interventions targeting behavior change. Majority of the respondents who did not practice handwashing did not see the need (41%).

Table 15: Reasons for NOT practicing Handwashing

	Tana River	Lamu	Garissa	Wajir	Mandera	Isiolo	Turkana	Total
No water available	8 (67)	3 (75)	0	0	0	2 (22)	0	13 (23)
No soap available	6 (20)	0	4 (33)	7 (64)	0	2 (22)	1 (50)	20 (36)
Did not see the need	1 (13)	1 (25)	8 (67)	4 (36)	3 (100)	5 (56)	1 (50)	23 (41)



Improved Resilience and Green Growth

Finding 21: GGEP implementation contributed to improved resilience and green growth within the targeted water catchments.

GGEP supported establishment of tree nurseries, planting of fruit and indigenous trees, restoration of mangrove forests, and rehabilitation of forests which have a lot of ecological value to the environment and ecosystem from being carbon sinks, soil quality enhancement, home to birds and insects' benefits. The Programme supported the planting of approximately 78,624 tree seedlings and 10,000 indigenous trees across Tana River and Lamu Counties.

The Godarupa water project has enabled the group to re-activate their farms and even greenhouse farming increasing availability of vegetables and financial income to the community. This was not part of the intended outcomes of the water project

Increased access to water for both household use and for agriculture i.e., crop and livestock provided alternative livelihood activities and reduced competition for pasture and natural resources. This in turn had potential for reducing intercommunal conflicts due to reduced migration of communities in search of water and pasture. Further, climate proofing infrastructure through mainstreaming of green approaches had contributed to infrastructure resilience to climate change shocks. This has the potential for reducing losses and operational and maintenance cost therefore contributing to sustainability.

Box 2: Carbon footprint impact:

For a very long time, ASAL Counties have relied on diesel generator pumping systems for the boreholes. Due to the demand for water in these areas for domestic and livestock consumption, most of the pumps were working full time and only rested during service or when broken down. This led to a high cost of sustainability and maintenance. The use of solar pumping systems in the GGEP boreholes has significantly reduced the use of fossil fuel and the cost of running the boreholes. Water trucking in these areas equally consumed a lot of fuel with trips of water boozers every day during drought and when the boreholes broke down. For example, Lamu County Government carried out water trucking using boats to Pate Island making many trips across the Island and consuming a lot of fuel. The Kiunga and Kizingitini projects used about 2,000 liters of fuel per hour on plants powered by diesel generators before changing to solar during GGEP.

Improved Socioeconomic Status

Finding 22: GGEP implementation contributed to improved economic status of the targeted households.

The GGEP project included some intended livelihood projects. The provision of beehives to Kiunga and Pate communities, Jikos and biogas to Lower Tana Delta conservancies, selling of water through community water points, employment to labourers during construction works, and those working for the water projects all have contributed or are contributing to income sources to the beneficiaries. This has the potential of impacting their lives positively enabling them to meet basic needs such as food, education, and general economic growth. For instance, 58% of all respondents (N=386) observed that their health had improved, 39% suggested they experienced increased household income, 54% experienced increased access to food, and 42% commended the new employment opportunities that arose. Information from Key informants showed that the GGEP programme improved water supply infrastructure and the addition of water sources system resulting in improved access to water and hygiene conditions in the served communities. This has in turn decreased cases of water-borne diseases reported. The communities using the improved jikos reported using less fuel as compared to before. Improved jikos reduce fuel consumption by half compared to traditional Kenya Ceramic Jiko stoves, reducing charcoal demand and deforestation associated with charcoal production.

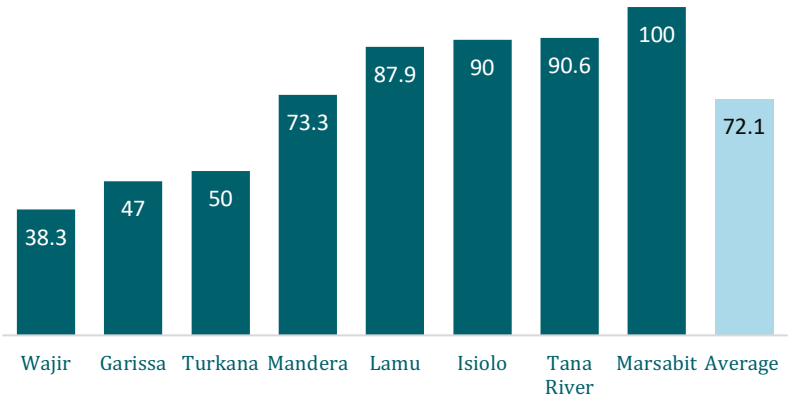
Table 16: Improvement in living standards, N=386

	Tana River	Lamu	Garissa	Wajir	Mandera	Marsabit	Isiolo	Turkana	Total
Increased household income	31 (39)	23 (40)	32 (38)	20 (42)	13 (43)	12 (41)	11 (38)	9 (31)	151 (39)
Increased access to education	14 (18)	10 (17)	17 (21)	8 (17)	5 (15)	6 (20)	5 (18)	7 (26)	72 (19)
Increased access to food	44 (55)	30 (52)	42 (50)	23 (49)	20 (67)	15 (50)	17 (57)	15 (54)	206 (54)
Better housing	18 (23)	14 (24)	31 (37)	8 (18)	8 (27)	6 (21)	6 (20)	6 (23)	97 (24)

	Tana River	Lamu	Garissa	Wajir	Mandera	Marsabit	Isiolo	Turkana	Total
Improved health	47 (59)	44 (76)	51 (61)	27 (57)	15 (51)	15 (49)	17 (56)	15 (55)	231 (58)
New employment opportunities	31 (39)	21 (37)	39 (47)	19 (40)	11 (38)	13 (42)	12 (41)	15 (52)	161 (42)

GGEP projects also significantly impacted agriculture in the ASAL, 72.1% of the households in the project areas reported engaging in agriculture because of water availability.

All counties had a significant proportion of beneficiaries practicing agriculture because of GGEP



Many households, 61.6% adopted new agricultural practices in crop and livestock production because of GGEP especially in improving water conservation and utilization. Other key areas of improvement included the establishment of a garden 30% and growing of new/ improved vegetables 38%.

Table 17: New agricultural practices adopted because of GGEP, N= 258

Agricultural practices	Tana River	Lamu	Garissa	Wajir	Mandera	Marsabit	Isiolo	Turkana	Total
No improvements	13 (22)	7 (14)	16 (34)	3 (17)	3 (14)	4 (13)	2 (7)	0	48 (17)
Improved water conservation and utilization	39 (67)	34 (67)	21 (45)	12 (67)	13 (59)	24 (80)	13 (48)	3 (60)	159 (62)
Improved on crop selection	17 (29)	12 (24)	12 (26)	4 (22)	3 (14)	5 (17)	4 (15)	0	57 (22)
Improved soil fertility	12 (21)	2 (4)	15 (32)	2 (11)	2 (9)	4 (13)	4 (15)	4 (80)	45 (17)
Established a garden	31 (53)	14 (28)	8 (17)	4 (22)	5 (23)	11 (37)	5 (19)	0	78 (30)
Improved animal selection	27 (47)	0	12 (26)	1 (6)	3 (14)	0	2 (7)	0	45 (17)
Improved housing for livestock	11 (19)	2 (4)	0	0	2 (9)	4 (13)	3 (11)	0	22 (9)
Improved quality of animal feeds and water	14 (24)	12 (24)	21 (45)	6 (33)	5 (23)	9 (30)	11 (41)	2 (30)	80 (31)
New/ improved vegetable	19 (33)	31 (61)	20 (43)	7 (39)	4 (18)	6 (20)	11 (41)	2 (40)	100 (39)

Training of beehives beneficiaries at Faza. Lamu County

Installed beehive at Faza village.

Human-Animal Conflict

The GGEP programme worked with WRUAs and Conservancies in addition to establishing water projects. The water committees at the community water points came up with schedules for watering animals with goats and camels having different timings, this reduced conflicts at water points. The construction of malkas; a corridor to the river for livestock watering has reduced conflicts between farmers and pastoralists while protection within the rivers kept the livestock safe from crocodile attacks. For example, in Tana Delta, the conservancy came up with by-laws that govern grazing lands and the movement of livestock accessing pastureland. This was done consultatively involving all the stakeholders and helped significantly reduce human-human conflict and human-animal conflicts.

Malkas in River Tana to protect animals and human from the infamaous Tana crocodiles

Better Learning Environment

Completed 4-door VIP latrine at Mikinduni primary school with handwashing point and hygiene promotion, Lamu County

Increased access to sanitation facilities in schools especially gender segregated sanitation contributed to a better learning environment and retention of girls in school. It also reduced cases of open defecation and sexual harassment and gives privacy and confidence to girls e.g., Kiunga Primary had few pit latrines forcing boys and girls to share some doors which caused possibilities of sexual harassment and discomfort to girls.

Increased access to sanitation facilities came with a hygiene component for the institutions' population including installation of rainwater harvesting tanks, hand washing facilities, awareness creation and hygiene promotion. This contributed to improved health by lowering diarrheal or sanitation related illnesses. Children's use of latrines in school influences behaviour change to also use toilets at home and reduce open defecation practices.

Box 3: Namoruakwan-Lokorkor water and sanitation project

This project is located at Lokorkor in Katilia Ward, Turkana East Sub-County. It covers the 5 villages of Lokorkor, Namoruakwan, Nayokori, Akatorong'ot and Kang'ibenyoi. The residents mostly relied on Kerio seasonal river for domestic and livestock use however, the quality of water is poor and during dry seasons the river dries up. This would lead to women and girls having to travel long distances, sometimes over 5km in search of water. This affected women and children mostly as they spent most of their productive time in search of water, which subsequently led to most households leaving out essential water usages. Children would often miss school as they had to help their parents in searching for water, affecting their performances at school.

Namoruakwan Lokorkor water and sanitation project was launched in January 2020 and completed in November 2020 and became operational in January 2021. The project operational model involves a management committee formed by the local community representatives from each village with the area Sub- County water office providing technical support. The project included access and distribution of water for domestic and animal use: construction of 1 block of 4 door VIP latrines for boys at Lokorkor primary school; 2 blocks of 2 door VIP latrines at Lokorkor dispensary; removing the broken down hand pump, equipping and solarization of Namoruakwan borehole; construction of one elevated steel tank with a capacity of 50m3 at Moruarengán hill, construction of 3no. Cattle troughs for animals; construction of 5no. Water kiosks; and construction of WUA office block. The project had savings which were used to buy buckets, washing soaps, bathing soaps and inner clothing for both schoolboys and girls and re-usable sanitary towels for school going girls. The project has so far benefited 550 households against a target of 400.

This water and sanitation project has been a great success. By the month of February 2021, the entire population in all the villages could access clean water from the water points within the villages. The area has also reported increased settlement due to availability of water for both humans and livestock, cases of animal theft occasioned by movement in search of water had greatly reduced and schools experienced increase in enrolment due to added settlements.

3.7 Sustainability

Finding 23: GGEP put robust mechanisms to ensure the sustainability of the investment.

Sustainability of rural water projects continues to remain a challenge for both donors and the County Governments with the value for the investment involved being hard to realize. Sustainability of water projects in ASALs has been a major concern for implementers and beneficiaries due to the pressure put on the facilities based on water demand for humans and livestock. It is always affected by factors such as community ownership of the projects, cultural practices, management skills, information systems, availability of spare parts and technical skills, willingness, and ability to pay for water services, and socio-political environment influence. The GGEP projects were implemented with sustainability challenges in mind and sustainability factors inbuilt as part of the project design. The key mechanisms put in place included:

- Ensuring community participation in the project design from proposal writing, appraisals, supervision of works, monitoring, and evaluation. This enhances ownership and both observation and practical learning of aspects of water project management.
- Training on Programme implementation, Governance and, Operation and Maintenance for water committees or attendants to equip them with skills to run and carry out minor repairs and daily operations of the water schemes.
- Linkage and partnership with County Governments by involving them in the whole process of project identification, appraisal, implementation, and monitoring and then handing over to them. This creates a deeper understanding of the areas, those involved in the management of the water projects, technical components, challenges, or gaps that the County government can then plan on how to support the water projects to remain functional as part of their projects and their achievement in the office.
- Green Growth approaches mainstreaming contributing to the reduction in O&M costs in addition to increased adaptation and mitigation of Climate Change impacts e.g., change from high-cost operation-based diesel genset run pumping system for boreholes to solar pumping system to reduce the cost of fuel and repairs to the pumps.
- GGEP adopted Rural Water Provision Service Delivery Models and guidelines developed by Water Service Regulatory Board (WASREB) in partnership with Caritas International, Gatsby Africa and WaterFund to ensure sustainability of the investment after handing over to respective County Governments as per the MoUs – The "Guidelines for provision of water and sanitation in rural and underserved areas" was embedded in the Water Act 2016 and published in December 2019 by WASREB

3.8 Cross-Cutting Issues

In water and sanitation, cross-cutting issues included Gender, Equality and Social Inclusion, Climate Change and Environment. In this evaluation, equity has been expanded to review a broader social differentiation (gender, ethnicity, socio-economic background, disability, youth, and other vulnerable groups). Gender, caste, ethnicity, age, and disability are some of the key causes for exclusion, which then results in a downward spiral of development and access to basic needs. Under GGEP implementation, WaterFund and the implementing agents put in place the following to mainstream the cross-cutting issues.

Adaptation to Programme Context

Finding 24: GGEP implementation context largely remained the same throughout the implementation period.

The GGEP programme addressed the aspects of climate change mitigation and sustainability after the drought emergency declaration in 2017. The green growth strategy agenda has been sold to the counties for them to adopt and influence how they think about water project development including water pumping systems and the size of projects in terms of capacity. The provisions were also used to create a niche in rural and water resource management where at least 30,000m^3 capacity for water pans was adopted to hold water for longer periods and avert the effects of drought. The project funds were even diverted to fund Drought Emergency Programme in 3 Counties that were greatly affected within the 8 targeted counties in 2018. Within the project implementation period, security risks were minimal to change the contextual approach. Covid-19 regulations that minimized movement and meetings contributed to delays, especially in the early stages of the implementation.

Mainstreaming GESI issues

Finding 25: Gender, Equality, and Social Inclusion have been integral in GGEP implementation.

On gender: during project identification, WaterFund and partners gave priority to projects with higher benefits or engagement of women and youths. The initial programme community meetings ensured that all aspects of age, ethnicity and class were represented in the participation in project activities. Both pastoralists, agro-pastoralists, farmers, elders, youth leaders, persons living with disability and women representatives were engaged in project discussions, assessments, and even implementation. Ensuring that women are included in the water committees' leadership with the 2/3 gender rule. During project activities, involving both men, women, youths, and persons living with disability in training, labour, and evaluation. Water points and sanitation facilities have rams for ease of access for persons living with physical disabilities. GESI component was guided by WaterFund's GESI Strategy on institutionalizing GESI mainstreaming in WaterFund investments.

Partnerships and Stakeholder Cooperation

Finding 26: Effective collaboration between partners contributed to the successful implementation of GGEP projects

Collaboration between stakeholders was demonstrated throughout the implementation. During Programme design, WaterFund collaborated with the County government's leadership to identify priority areas of target. During implementation, implementing agents worked closely with county-relevant departments e.g., Water, Health, and Natural Resources and Environment, WaterFund and other partners like NRT and WRA through joint project monitoring visits and supervision. This offered an opportunity to provide technical backstopping of the ongoing works as well as ensure the quality of works. Improved coordination between stakeholders and continuous monitoring and support by the WaterFund team contributed to the success of the projects. The collaboration between partners and stakeholders ensured that there was no duplication of projects.

Finding 27: There exist opportunities that can be exploited to mitigate ESG risks identified

ESG	Risk	Opportunity
Environmental	Climate shocks like prolonged rains leading to flooding, unprotected excavated shallow wells posing danger to both humans and livestock and loose soil around laghas exposing water pipes. Overgrazing results in a reduction of the economic potential of lands Increase in land fragmentation, range degradation and loss of key livestock habitats (dry season grazing, wetlands, and forests) and blockage of migratory routes.	Collaboration with Meteorological, agricultural and livestock departments
Social	Conflicting political interests among local administration, and inadequate technical knowledge among the local community affect their participation Erosion of indigenous knowledge on biodiversity/ Low capacity of management of some implementing agents/ communities Frequent conflicts among the pastoral communities and cross-border conflicts linked to the competition of resources Cultural norms on gender roles limit the participation of women in activities that would otherwise increase their climate resilience and income	Collaboration with county government departments to promote behaviour change, full community engagement from project design, and building the capacity of the locals to increase sustainability Regional and local planning, dialogue, and coordination.
Governance	Slow/ non-compliance with various government regulations such as NEMA, WRA, WASREB Actors on climate resilience support continue working in isolation, leading to duplication of efforts and waste of valuable resources Unplanned and uncoordinated development of water developments in the ASALs	Inter-governmental collaboration/ coordination

Innovation and Learning

Water supply and sanitation and water resources continue to face increasing pressures in Kenya especially due to the impacts of climate change, all water actors need to increase the sector's resilience and sustainability. Innovation and technology have a vital role to play in scarcity and safety, water efficiency, utility operations, monitoring, treatment, and data and analytics. GGEP implementation had the witnessing to test and adopt promising technologies: promoting the reduction of non-revenue water and improving water quality. Some of the key technological and implementation innovations included:

1. Installation of a Reverse Osmosis system in Kizingitini and Kiunga to desalinize the water and treat it making it fit for human consumption. Even though the technology is advanced, a partnership with *Davis and Shirtliff* a technological company in Kenya ensures support to the County for sustainability.
2. The adoption of solar pumps has been embraced by both the custodians and beneficiaries of the projects due to their low maintenance cost and green energy status.
3. The inclusion of Conservancies as an alternative for water catchment and resources management has paid off greatly, supported by Northern Rangeland Trust, the conservancies have working structures well trained in natural resources management and efficient in their implementation. Similar effects can be echoed in the use of INGOs in Turkana due to their systems and processes making implementation smoother and easier.

Chapter 4: Challenges and Lessons Learnt

4.1 Challenges

a) There was a lack of political goodwill in some counties to drive the process of enacting the water legislation which needs to go through the county assembly process making WaterFund drop this output and redirect the funds to other components of the GGEP

b) The Covid-19 pandemic slowed down activities with restrictions on movement in and out of some counties. This delayed part of some construction work for the water project, engagement with the communities, and carrying out physical project activities in 2020 and part of 2021.

c) The counties have vast areas and accessibility of most areas is still a challenge due to poor road network. The vastness of the county and basins make it difficult to adequately monitor the projects both by the implementing partners and the County Government. The nomadic lifestyle of the beneficiary communities may impact on sustainability and O&M of the projects financed

d) Governance challenges at county, partners, and communities. County Governments are still teething with some experiencing numerous turnovers in departmental staff or frequent changes of leadership at the water utilities.

e) A big challenge on progress reports. County Resident Monitors and Engineers as part of the recommendation of Midterm Review improved on quality of work and reporting but still experienced delays from the implementing agents, due to limited capacity in reporting and multiple projects overwhelmed or not well trained. Mitigated by undertaking training

f) Insecurity/ external threats within parts of the Counties i.e., Attacks from Pokots in Turkana, and Al-Shabaab threats in Garissa, Wajir and Mandera, inter-clan conflicts in Isiolo, limited the ability to carry out development or monitoring of water projects, for example, Kiungas' nearness to Somali made road transport nearly impossible

g) Risk analysis not being addressed in the project e.g. There was a stand-off during implementation in Lanqura Mandera due to land issue at one of the project sites, this was able to be solve through the area chief after a lot of consultations which delayed project implementation for some time. Similarly, in Tana River, a project site in Nanighi was changed due to inability to acquire the land from the owners.

4.2 Lessons learnt

WaterFund has a proven record of designing its programmes based on lessons learnt from previous interventions. The recruitment of County Resident Monitors/Engineers is a good example of improving efficiency and output. The GGEP implementation has a few lessons learnt by the implementers, WaterFund, and evaluators.

a) **Working with WSPs' has capacity gaps** since most of them are focused on major towns within the counties with inadequate resources to traverse the vast ASAL counties with poor road network, overstretched staff capacity, and lack of means for spreading to rural areas for effective supervision. WaterFund should still work with the County department of water and build their systems to work better, and aspects of Rural water management set up and see how the new companies' capacity can be built to manage the rural water schemes.

b) **Working with WRUAs has management and reporting challenges** because of the different setups between WRA, WaterFund, implementing agency and financier respectively. With WaterFund having direct expectations from the donor to meet in terms of technical and financial obligations, the arrangement to work through WRA derailed the efficiency and forced WaterFund most of the time to by-pass reporting structures within WRA and monitor WRUAs activities, get reports and support them directly through their CRM. Working with Conservancies was easier and more effective thus embracing this integrated approach will be key.

c) Project implementation under the GGEP had a **strong reliance on community engagement** from the design stages. The existing community management committees played a vital role in community engagement. Similarly, due to security challenges existing in the programme area, the local community proved to be indispensable by providing relevant security information and providing security services during project implementation. Engagement of pastoralists in siting projects using local knowledge is imperative to the successful implementation of project activities. Thus, reliance on the community as a resource facilitated good governance, financial management, and proper project implementation across the 8 counties.

d) **Sustained monitoring and follow-up of projects are essential ingredients to an effective and efficient implementation of activities and sustained infrastructure**. WaterFund maintained close communication with the implementing partners for technical support and guidance. This was coupled with the scheduled joint monitoring visits to project sites. Holding regular reviews kept the stakeholders in check for the sustained meeting of implementation milestones promptly. This was also key in reporting on implementation status and adaptive management of GGEP projects.

e) ASAL counties face frequent security challenges in form of inter-communal conflicts due to competition for natural resources and cultural values that negatively impact project implementation and sustainability. **Provision of water for domestic and livestock production, integrated water resources management, and rangeland management significantly reduce intra- and inter-communal conflicts.**

f) **The involvement of ASAL County governments is central to the success and sustainability of the investment**. Coordination of stakeholders at the county level coupled with participation in project design, proposal development and appraisal, joint M&E are integral in realizing the benefits of the projects. This will ensure alignment of activities with County Government priority areas for budgetary consideration and allocation, coordinated development of the county and efficient use of resources that avoids duplication of activities. Due to the devolution of functions especially for water, sanitation and catchment conservation, the completed projects are handed over to the county government for sustainability after their completion. Similarly, the County government maintains important data required for planning. GGEP targeted county priority projects as identified in each county CIDP

g) Implementation of activities at the County level demands a **well-established institutional arrangement**. In most ASAL counties, water service provision was undertaken by various providers with a bias toward urban centers, this can greatly affect enhanced water and sanitation services, especially to the disadvantaged rural communities.

h) **Investing in capacity building of Implementing agents and primary beneficiaries contributes to an efficient implementation** of ASAL projects and improves participation and local ownership.

Chapter 5: Recommendations and Conclusion

5.1 Recommendations

Evaluation offers an opportunity for cross-learning and giving credit where it is due from an independent perceptive. The GGEP final evaluation interacted with the project documents, collected primary and secondary data from a wide range of stakeholders in the field, and physically accessed the project sites for observation. Analysis and synthesis of these data and processes, therefore, give the evaluators confidence in giving the following pertinent recommendations.

5.1.1 Recommendations for WaterFund

As the fund's recipient, donor accountable institution and partnership builder, WaterFund had to be at the center of the success and failure of any component of the GGEP implementation. With the rapidly growing fields of climate-smart interventions, environmental peacebuilding, and water diplomacy in an inextricably interlinked concept, good management of natural resources, especially water, is key to strengthening local communities' resilience, and increasing access to safe water and reducing conflict risks. WaterFund, therefore, needs to consider the following areas for improvement or strengthening:

a) Capacity Building of Implementing Agents: Capacity building is a process and needs to be multi-dimensional. WaterFund performed well in key areas of training in finance and procurement and operation and maintenance. It is recommended that while working with Water Utilities, WRUAs and Conservancies, carry out an initial Capacity Assessment to identify all the capacity gaps in key areas of Governance, Policies Development, Human Resources, Project Implementation, Financial Management, Resource Mobilization, and Sustainability mechanisms before carrying out the capacity building to generate indicators that can be measured during evaluation and enable linkage to the overall performance of these partners.

b) Data capture and sharing: The world is going digital and technological monitoring and availability of data is key in development, especially for water and sanitation projects. The GGEP had a component of strengthening the Counties' capacity to use water data for planning and decision making. It is recommended that WaterFund build the capacity of Counties' departments to strengthen data and information management for enhanced planning in water and sanitation service provision i.e., to be able to capture data, validate, synthesize, disseminate, and effectively use the data for decision making.

c) Impact survey or research: WaterFund projects are built to offer ecological and economic impacts to the environment and the people. It is prudent that under the research component, WaterFund carries out research on carbon footprints for the Pate Island and Lower Tana Delta jiko/biogas projects to understand the economical savings in terms of fuel consumption, pollution, and health status of the beneficiaries and the County government.

d) Results Framework: WaterFund logframe has both outcome and output indicators but the indicators are not well defined to capture the real intended outcome to be measured. It is advisable to make all project indicators clear and have indicator definitions/reference sheet to facilitate data collection, analysis, and critical reflection.

e) Project designing: WaterFund's experience in rural Kenya is a strength and could inform better designing of projects in terms of timelines, practicability, and cost. Projects that include policy or

legislation influence or working with County Governments need to be timed with the political timelines in the country i.e., five-year scope to limit change of government and greater effects on management and sustainability of the projects. Major mobilizations and implementation should start within the first year in office of the existing County Government.

f) Emerging trends: Identifying emerging trends, such as how water scarcity generates new forms of exploitation is important. If people lose their livelihoods because there is no longer enough water to farm or herd cattle, local communities can fall prey to criminal gangs, terrorist groups, or local militias, especially in these ASAL Counties. WaterFund should invest in assessments to determine emerging trends affecting water resources in hard-to-reach areas.

g) Gender and Inclusion: It is essential to continue applying the Rights Based Approach and GESI, Women and girls are often responsible for providing water for the household, which means that they are especially vulnerable. At the same time, they are also important agents of change and often first responders on the ground. In ASAL Counties, women are not offered freedom to express themselves and contribute fully to development matters, WaterFund must devise ways of working within the cultural systems to empower women.

h) Clear Theory of change; There is need to improve programme design through developing clear ToC that indicates all the critical components; highlighting the programme logic, results pathway, causal link, interventions, and underlying assumptions. This is integral to give programme a clear overall vision of change and facilitates learning, adaptive management, accountability and monitoring and evaluation (M&E) through developing appropriate results and indicators for M&E and reporting purposes. For example, poor design was found to be the major reason why sanitation targets were not achieved. As sanitation indicators focused on households, GGEP sanitation approach was designed to target institutions such as schools, mosques, and dispensaries.

i) Broadening partnerships: Even though the evaluation revealed extensive stakeholder partnerships and collaboration, there is need to expand this aspect to bring on board other integral National Government institutions for effective implementation of climate change adaptation components. For example, partnering with Kenya Forestry Research Institute (KEFRI) in expanding forest cover like mangrove restoration along the coastline, partnering with Kenya Agricultural & Livestock Research Organization (KALRO) to improve on resilience components e.g., drought resistant crops and livestock

5.1.2 Recommendations for Implementing Agents

The Implementing agencies under GGEP included Water Utilities, Water Resources Users Associations, Community Groups (CBOs), and Conservancies. The following recommendations fit them based on their performance under this programme:

a) Work through partnerships: The Implementing Agents should embrace working with partners as an opportunity to learn and overcome limitations in addition to benchmarking on best practices

b) Leverage funding opportunities to build efficiency: Working systems attract partnerships easily. The IPs should self-develop using opportunities they have to be more attractive to donors and achieve more in their implementation. WRUAs should build their capacity to function as legal and capable institutions in areas of governance, project implementation, human resources, financial management, reporting and information management, and sustainability.

5.1.3 Recommendation for County Governments

a) Water Master Plan: The Counties are semi-autonomous and must project into the future of their constituents in terms of water resources and management. Each county should have detailed County Water Master Plans and budgets for funding. Implementation strategies include negotiation with counties where sources of rivers and streams that are transboundary are located.

b) Water Data: The County Department of Water needs a hub equipped with staff and a system for water sources, quality, access, and functionality for real-time information for sustainability. This will ease decision-making and development of water in the Counties and attract funding from donors

c) County budgets for water and sanitation: The counties should continue allocating resources for water and sanitation services provision and prioritize in the CIDP including training, technical assistance, O&M equipment, and monitoring. This will enable county staff to offer greater support to IPs and gain more experience in sharing and working with WaterFund.

d) Water Service Providers: Service provision should be sustainable and commercially sound. The Counties must put measures in place to enable Water Utilities to function like smart commercial private companies with results-driven staff well-motivated, well-funded with targets set as part of performance appraisal. The Counties should also have consistencies in human resources to develop capacities and retain institutional memory and for sustainability.

e) Transboundary water cooperation: The traditional approach to security often fails to assess and address threats linked to natural resources and human development. There is a strong need for Counties to work with experts from different fields to find solutions for climate-smart security. Transboundary water cooperation and water diplomacy offer two promising avenues for peace and conflict resolution.

5.1.4 Recommendation for DANIDA

a) Encourage growth through competition: Funding projects in Counties offer an opportunity to motivate through creative funds. The donor could set aside funds for replicating or upscaling innovative projects within the areas under the ongoing funding. A robust process will enable all partners to work creatively towards solutions that can attract further assured funding from the same donor.

b) Set aside funds for both impact and sustainability assessment 2 years after programme completion. Six months find when most projects are just starting to operate while others sometimes are yet to stabilize thus impact cannot be fully attributed to the projects unless done after a long time.

5.2 Conclusion

Climate change is increasingly becoming a real threat multiplier with far-reaching impacts on global security causing droughts and floods, which make access to water much more unpredictable. There is also increasing pressure on water resources from rapidly growing populations, rising demand, and unsustainable land use. All these factors have triggered water scarcity, hunger, and conflict. WaterFund's Green Growth Strategy is aligned with contributing to solutions to make water accessible to all in line with the SDGs and the Country's policies. It is therefore a major conclusion of this evaluation that the GGEP programme was successful and met expectations.

6.0 Annexure

Annex 1: GGEP Evaluation Design Matrix

Evaluation Criteria and Key Evaluation Questions	Sub-questions	Indicators	Tools & data sources
Relevance **How are the objectives of the intervention consistent with the beneficiary needs and Stakeholders' policies and priorities?**	1.1 Are the objectives and strategies of the intervention relevant to Water, Sanitation, and WRM needs/priorities of intended beneficiaries? 1.2 To what extent are the intervention objectives relevant to WaterFund, DANIDA, County, and National Government policies and strategic objectives?	• Strength of the link between results and the needs of primary stakeholders. • Existence of a clear relationship between the programme objectives and DANIDA/WaterFund/County priorities • Coherence with existing County and National legal framework	• Review of programme documents • Interview with primary stakeholders • Household surveys
Coherence **How compatible is the programme with other interventions within the counties?**	2.1 What are the synergies and interlinkages between the intervention and other interventions carried out by DANIDA/WaterFund 2.2 How consistent is the intervention with other actors' interventions in the same ASALs	• Harmonization between GGEP and other county-based interventions and previous programmes by DANIDA/WaterFund • Evidence of interlinkage within objective hierarchy (Programme logic)	• Document review (ToC, Results framework) • Interviews with Key WaterFund /DANIDA staff
Effectiveness **To what extent have the expected outputs of the intervention been achieved?**	Output 1: ASAL counties' capacity and engagement in integrated water, sanitation, and water resources-related planning improved. 3.1 Are counties effectively using water and sanitation data for planning and performing their regulatory functions? 3.2 Do counties have an effective water sector legislative and policy formulation framework to support planning and implementation? 3.3 To what extent are the counties involved in the planning and implementation of integrated water and natural resources management?	• Evidence of updated database on water and sanitation and data sources • Counties using the database for planning and regulatory functions • Evidence of effective county water sector policies and legislations • County effectively utilizing existing water sector policy and legislation to support planning and decision making • County capacity to engage in water and natural resources management	• Interview with county staff • Review county policies and planning documents • Review of programme documents e.g., Midterm and end of programme report
	Output 2: Water and sanitation access and deficit in the ASALs addressed?	• % Increase in number of households accessing water and sanitation services	• Household survey • Interview with implementing agents (IA)

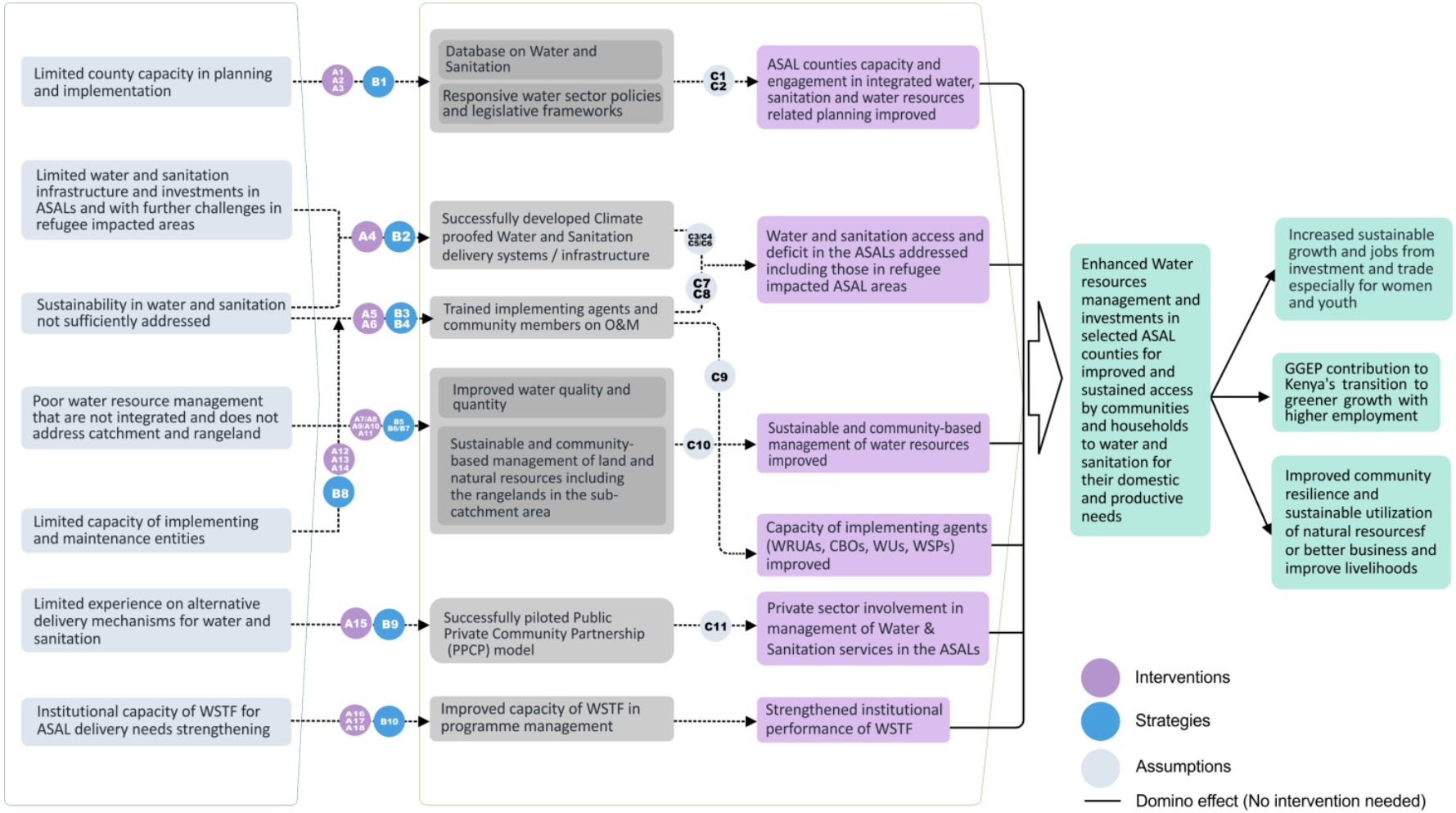
Evaluation Criteria and Key Evaluation Questions	Sub-questions	Indicators	Tools & data sources
	3.4 Has the number of households with access to water services increased? 3.5 Has the number of households with access to sanitation services increased? 3.6 Has the intervention improved water and sanitation services?	• % Of households reporting satisfaction with the water and/or sanitation services	• FGD with primary stakeholders • Observation
	Output 3: Sustainable and community-based management of water resources improved 3.7 Has the intervention improved Community-Based Natural Resource Management (CBNRM)	• Increase in geographic area with improved planning for water resources • Progress in implementation of sub-catchment or other management plans • New catchment protection activities implemented by CBNRM • % Increase in total water storage capacity	• Interview with CBNRM organizations and IA, WRA • Documentation Review • Observation
	Output 4: Capacity of Implementing Partners/ agents (WRUA, CBO and WU/WSP, CSO and NGO) improved 3.8 Has the capacity of implementing partners improved?	• Effectiveness of capacity building approaches • Number of successfully implemented projects • % Number of service agents reporting improved service provision • Credit worthiness index of the projects funded	• Kirkpatrick model • Interview with CBNRM/WUA/WSP/NGO organizations and other IP • HH Surveys • Documentation Review
	Output 5: Experience generated from Public Private Community Partnerships in water provision in the ASALs 3.9 Has the intervention led to new innovative PPCP funding and management approaches?	• Number of new PPCP funding and management approaches piloted • % Of external finance leveraged by the piloted PPCP models	• Interviews Key SH • Documents review
	Output 6: Strengthened Institutional Performance of WaterFund 3.10 How has the intervention impacted WaterFund Project management practice? 3.11 Has the intervention improved WaterFund efficiency?	• Effective use of MIS to map and manage water and sanitation supported investments • Improved capacity of WaterFund to identify, implement, and monitor projects • Proportion of questioned costs funded through the DED against total WaterFund investments	• Interviews with WaterFund • Review of financial documents

Evaluation Criteria and Key Evaluation Questions	Sub-questions	Indicators	Tools & data sources
Efficiency **How efficient was the programme implementation?**	4.1 Was project implementation as cost-effective and as timely as planned? 4.2 Could financial resources have been used more efficiently (Value-for- money)? 4.3 To what extent did the programme implementation utilize existing expertise 4.4 To what extent has the programme governance structure contributed to or hindered the achievement of outputs	• % Variation of planned vs actual project costs • Timeliness and adequacy of implementation • Existing and outsourced skills • Measures put in place to mitigate delays and cost overruns	• Analysis of management tools • Review of documents • Interview with project staff and implementing partners
Impact **How effective have the project strategies and approaches in contributing to DE Overall objective**	5.1 How has improving water access and water resources management in the ASALs contributed to improved resilience and green growth? 5.2 To what extent has improved access to water for human and livestock use as well as provision of sanitation improved socio-economic development of ASAL communities?	• New climate-proofed/ green technologies implemented. • Improvement in livestock productivity • Improved livelihood • Increased job opportunities from investment and trade esp. for women and youth • Better learning outcomes	• HH Survey • Interview with CBNRM organizations, implementing agents, schools • Documentation Review • Observation
Sustainability **What is the likelihood that results will continue once Programme funding and assistance ended?** **What is the likelihood that the programme can be replicated**	6.1 How sustainable are the intervention results (socio-political, climatic , economic, and institutional point of view) 6.2 Can the programme be up scaled or replicated?	• Existence of enabling conditions e.g., wide-spread stakeholder buy-in and local ownership • % Of facilities funded through the engagement that are climate proofed • Willingness of stakeholders (County Governments' and other partners) to continue support and investing in the projects • Effectiveness of the programme design/ implementation strategies and/or mechanisms to realize successful replication or up scaling	• Review of programme documents • Interviews with implementing agents • Interview key partners • Sustainability index analysis

Evaluation Criteria and Key Evaluation Questions	Sub-questions	Indicators	Tools & data sources
Cross-cutting issues **What are the key crosscutting issues that were considered in the programme?**	7.1 To what extent has the programme adapted to its **context?**	• Extent to which the programme context has changed: contextual risk (security and conflict, droughts), programmatic risks (uncoordinated developments, unclear devolution mandates) and institutional risks (capacity, planning and funding • Mechanisms in place to mitigate or respond to changing implementation context	• Interviews with Key SH Document review
	7.2 How has the **GESI** issue been considered throughout the programme?	The extent to which: • GESI is reflected in participation at formulation/design, implementation and distribution of costs and benefits • GESI issues are considered in programme management.	• Interviews with Key SH • Document review • FGD with primary stakeholders Observation
	7.3 To what extent did partnerships and stakeholder cooperation, affect the achievement of results?	• Evidence of quality collaboration between partners • The degree to which partners have been involved in planning and implementation.	• Interviews with partners
	7.4 What are some of the potential Environment, Social and Governance (ESG) risks and opportunities in GGEP investments?	• Environmental responsibility through compliance with all relevant environmental laws, standards, and regulations • Social responsibility through labour relations, human rights, diversity, and inclusion • Governance: compliance, ethics, controls, and procedures	• Interview with Key stakeholders • FGD with primary stakeholders Observation
	7.5 To what extent were the results of the intervention influenced by Monitoring, Evaluation, Reporting and Learning (MERL) mechanisms?	• Existence of MERL framework M&E information is used for decision making to improve programme performance	Interview with Key stakeholders

Evaluation Criteria and Key Evaluation Questions	Sub-questions	Indicators	Tools & data sources
	7.6 Does the intervention provide relevant lessons and experiences for other similar projects in the future? 7.7 Has the intervention identified a new way of working that could be shared with others?	• Lessons learned from project implementation • Novel methods/strategies identified	• Interview with WaterFund/DANIDA/County and Beneficiaries • FGD with primary stakeholders Case study (Document success stories)

Annex 2: GGEP Revised Theory of Change



Please refer to the accompanying narrative

Developed by ADI

Interventions		Strategies		Assumptions	
A1	Collaborate with counties to identify priority needs with focus on the CIDPs for water and sanitation	B1	Promote better and integrated ASAL water planning through data, capacity, and ASAL approaches	C1	Counties are effectively using water and sanitation data for water planning
A2	Assist counties in water point mapping and data collection	B2	Finance implementing agents including registered county entities, Water Utilities/Water Service Providers and CBOs to implement the water and sanitation schemes through oversight by WSTF County Resident Monitors, Programme Officers as well as the County.	C2	Data is regularly updated
A3	support the formulation of water sector policies and legislative frameworks	B3	Strengthen systems for delivery/ follow-up by building county capacities	C3	Risks are negotiated as described in risk management
A4	Support development of water and sanitation delivery systems	B4	Adoption of green technologies in water and sanitation infrastructure development	C4	Targeted communities are accessing water and sanitation, and are satisfied with the services
A5	Climate proofing of infrastructure and mainstreaming of green approaches	B5	Address water resource management in ways that are integrated and address the rangelands and do this through support to WRUAs and other CBOs and link to investments	C5	Water and sanitation services will be targeted at investments with highest impact on communities and households
A6	Capacity building implementing agents and communities on sustainability including O&M	B6	These activities will be implemented in collaboration with the Water Resources Authority (WRA), the counties, and/or Northern Rangelands Trust or other relevant organizations/authorities through MOUs.	C6	Effective and timely implementation of programme activities
A7	Promoting and improving the sustainable use of rangelands	B7	Monitor water resources for sustainable exploitation to meet demand	C7	Trained implementing agents are utilizing their skills in O&M
A8	Protection and conservation of water resources and riparian lands through fencing, riparian pegging, tree planting, etc.	B8	Strengthen implementing entities capacity in development and maintenance including ensuring more and better implementing agents involved	C8	There is widespread stakeholder buy-in and local ownership including willingness to pay for services
A9	Regulation of water use and equitable distribution through bulk metering; scout activities along sub-catchments to protect against illegal abstractions of water and other destructive practices	B9	Identifying alternative delivery mechanisms through partnerships and trials	C9	Capacity building approaches are effective

Interventions		Strategies		Assumptions	
A10	Construction of water storage and conservation infrastructure e.g., sand dams and water pans among other activities	B10	Strengthen WSTF capacity in ASALs through county presence and training and institutional support to WSTF	C10	There is smooth collaboration between intergovernmental and other collaborating partners
A11	Supporting small-scale water management investments and natural resources related livelihood activities linked to improved catchment and rangeland management			C11	PPCP model will leverage funding
A12	Training of implementing agents on issues such as Gender Equality and Social Inclusion (GESI), financial management, procurement, governance, oversight, operation, and maintenance among other				
A13	Exchange visits among the agents for lessons on best practice				
A14	Training on project management and sustainability				
A15	Pilot models for collaboration between public sector and private sector actors in provision of water services and water resource management in the ASALs				
A16	Posting of WSTF county resident monitors to support counties and communities				
A17	Training needs for programme and monitoring staff of WSTF where these are identified.				
A18	Technical assistance to WSTF may be provided to boost WSTF capacity to operate				

Annex 3: Terms of Reference

Final Evaluation of Green Growth and Employment Programme

1.0. Introduction

2.0. Water Sector Trust Fund

The Water Sector Trust Fund (WaterFund) is a Financing Institution established under the Water Act (2016) with the mandate to assist in financing the development and management of water services in marginalized areas or any area that is considered by the Board of Trustees to be underserved including:

a) Community level initiatives for the sustainable management of water resources.
b) Development of water services in rural areas considered not to be commercially viable for provision of water services by licensees.
c) Development of water services in the under-served poor urban areas; and
d) Research activities in water resources management and water services, sewerage, and sanitation

Water Sector Trust Fund has continued to invest in the implementation of Water, Sanitation Services and Water Resource Management activities through the following financing mechanisms:
Rural Investments- This is an approach applied towards financial support to Implementing Agents in the underserved rural areas to apply for, manage, implement, and maintain their own water and sanitation facilities. The main stakeholders are the Community Based Organizations, Water Utilities and Rural Water Services Providers in collaboration with the County Governments.
Urban Investments is an approach applied towards improvement of access to underserved Low-Income Areas in Urban Areas of Kenya. The key implementing partners in this approach are the Water Service Providers in collaboration with the County Governments.
Water Resources & Climate Change Investments: is a mechanism for supporting Water Resource Users Association (WRUAs), promoted by the Water Resources Authority, to manage their water resources within sub catchments.
Result Based Financing: This is a mechanism where Water Services Providers and Community Based Organizations obtain project loans from commercial banks against bankable proposals. WaterFund then subsidizes the implementer for the loan at an agreed percentage once deliverables are attained. WaterFund is responsible for ensuring that the fiduciary risks are minimized through effective operationalization of a compliance monitoring system. WaterFund engages in appraisal of proposals and ensuring that the investments are sound and sustainable in water supply, Water Resource Management and Sanitation activities.
Research and Innovation Financing: support towards financing of research and innovation initiatives within the sector. The outputs of these initiatives are geared towards generation of new knowledge in the sector, provision of innovative, practical, and cost-effective solutions in the realization of sustainable provision of water, sanitation, and sewerage services in addition to water resources management as well as addressing gaps through collaborations and adaption of innovative models for better service delivery.

3.0. Green Growth and Employment Programme Brief

Water Sector Trust Fund, under the support of the Governments of Kenya and Denmark has been implementing the Green Growth and Employment Programme (GGEP) to support access to and management of water resources in the Arid and Semi-Arid Lands. The operating framework of its implementation is detailed in the bilateral agreement between the Danish Ministry of Foreign Affairs and the Water Sector Trust Fund in a development engagement that entered into force on 1st July 2016. The programme implementation period is July 2016 to June 2021 with a further No Cost Extension up to December 2021.

Overall Objective and key outputs of the GGEP Programme

The GGEP Programme is implemented in the counties of Garissa, Isiolo, Lamu, Marsabit, Mandera, Tana River, Turkana and Wajir and aims to achieve its objectives through the following components:

Output 2: Water and sanitation access and deficit in the ASAL addressed
Output 2: Water and sanitation access and deficit in the ASAL addressed 46
Output 3: Sustainable and community-based management of water resources improved
Output 4: Improved capacity of and engagement by implementing agents (CBOs, Water Services Providers and WRUAs) for planning and efficient water service delivery
Output 5: Enhanced experience for promoting public private partnerships in water provision ASALs
Output 6: Strengthened institutional performance of WaterFund

2.0. Rationale, purpose, and objectives of the evaluation

The purpose of this final evaluation is to provide independent and objective evidence to WaterFund and DANIDA, the development arm of the Royal Danish Embassy for Foreign Affairs on achieved results in GGEP and WLP projects and their sustainability. The evaluation is also expected to provide lessons learnt and best practices related to the planning, design and implementation of water sector programme that might include similar elements in other countries and the establishment of similar funding mechanisms that WaterFund has in Kenya. These learning will be utilized to inform and strengthen the various approaches adopted by DANIDA and WaterFund in the implementation of projects through different implementation agents (Water Service Providers, Water Users Associations, Water Resources Users Associations, Community Based Organizations and Conservancies) and International Non-Governmental Organizations (INGOs). Further, it is expected that, the learning will be utilized by the Ministry of Water, Sanitation and Irrigation and other stakeholders in the Water Sector.
The evaluation will inform DANIDA and Government of Kenya inter alia on the extent to which the objectives of the programme were met in terms of provision of water and sanitation services access and water resources management in the counties of implementation in addition to the functionality and sustainability of funded water supply, sanitation and water resources management projects that are (or are in final steps of being) handed over to the duty bearers (County Governments, Water Service Providers, WRUAs, and Communities and institutions such as schools and hospitals in terms of sanitation projects).

The Specific objectives of this evaluation are to assess:

1. The extent to which the interventions have brought intended and unintended change to the beneficiary groups in line with the targets of the GGEP and WLP and how well they were achieved.
2. Functionality and sustainability of water supply, water resources management and sanitation projects and where funded projects are found to be non-functional, the reasons and challenges should be well documented.
3. Effectiveness of the established systems of engagement with Counties in water planning, implementation, and assessment of implementation capacities of implementing partners including adherence to the financing agreements and other contractual obligations.
4. Capacity building approaches effectiveness and efficiency in delivery of sustainable water supply and water resources management projects with focus on O&M training.
5. The programmes' level of influence in promoting Public Private Community Partnerships in water service provision in ASALs.
6. The outcomes and impact of the policy and institutional support structures to WaterFund and at county level (outputs 1 and 6 across the two programmes).

3.0. Scope of the evaluation

The evaluation will cover the full GGEP and WLP Programme implementation as detailed in the revised Development Engagement Documents. The recommendations made in the Programme Midterm Review of 2018 and their implementation are to be reviewed. The evaluation should focus on concrete and measurable results and as such, major part of the mission will be accomplished in the 8 programme target counties.
The fieldwork is expected to take place in selected projects in all eight counties as well as in Nairobi. In the

inception report of the evaluation, the evaluation team will present a two-tier plan (for GGEP and WLP) showing the sampled projects and the selection criteria. The selection should include at least two thirds of the water and sanitation projects and half of Water resources management projects implemented by WRUAs and Conservancies, and cover both functioning as well as projects showing operational difficulties and sustainability challenges. Drought Emergency Response (DERP) projects funded under GGEP should be well covered.
The stakeholders to be consulted include Royal Danish Embassy (DANIDA), Kenyan government officials (both at National and County level), Programme Technical Advisory team members, beneficiaries of the Programme, WaterFund staff (headquarter and county) and Management, WSPs, CBOs, Conservancies and WRUAs and Institutions involved in sanitation implementation. Specifically, for WLP, the top leadership of the International Non-Governmental Organizations (INGOs) and the programme implementation teams will be consulted in addition to UNHCR and other agencies active in implementation of projects in refugee and host communities. Other development partners active in the sector should also be consulted including, Finland, Sweden, EU, and IFAD.

4.0. Evaluation Criteria and Questions

The Evaluation will be based on the Organization of Economic Corporation and Development (OECD) Criteria of: Relevance, Effectiveness, Efficiency, Impact, Sustainability and Coherence. The details of each criterion and other detailed information is outlined in the OECD/DAC Evaluation Criteria (See Annex 1). The consultant will where possible use the latest criteria of the OECD and develop relevant evaluation questions corresponding to each Criteria. The evaluation questions will form part of the inception report which will be in two parts (for GGEP and WLP).

5.0. Methodology

An external consulting firm with evident expertise on water services, water resources management and sanitation will be competitively be procured to undertake the evaluation for the "Green Growth and Employment Programme to support access to and management of water resources in the Arid and Semi-Arid Lands" **(GGEP Programme)** and "Water and Livelihoods Programme aimed at Enhanced water resources management and investments in Turkana West and selected ASAL Counties, for improved and sustained access by communities and households to water and sanitation for their domestic and productive needs. In this regard, the firm shall provide WaterFund, and DANIDA with a team with clear reporting structure, an inception report, containing an overview of their understanding of the assignment, time schedule, planned activities, suggested methods and potential interviewees as well as any other parties they wish to engage to be approved by WaterFund and Partners.

To provide a comprehensive analysis, it is expected that the firm will use a balanced range of qualitative and quantitative methods which includes but not limited to the following.

- **Desk Review**: Review of existing secondary information and reports relevant to the programme and to the context of the two countries (Kenya and Denmark). This will provide an analysis and discussion of facts and data within the assignment context. The literature will include among others Development Engagement documents (Initial and Revised), Programme mid-term review reports, baseline survey reports, Programme' progress reports, Results Framework and M&E plan, contextual information, or other projects' information on counties where the programmes are being implemented.
- **Quantitative data collection**; Field visits in the implementation areas for sampling of beneficiaries for interviews/survey, data collection and observations; conduct structured household interviews with sampled programmes' beneficiaries using survey tools; using Participatory Rural Appraisal (PRA) tools, thematic area specialized tools etc.
- **Qualitative data collection**: This will include interviews with key informants and other stakeholders using informant's guides and interviews with field staff; Focus Group Discussions with sampled potential beneficiaries and non-beneficiaries (Randomized Control Trials).
- **Field observations and reflections**; for triangulations of information reflections and feedback sessions with the consortium team members.
- **Cost Benefit Analysis** (CBA) and resilience measurement approaches, to be undertaken by analyzing unique resilience capabilities at Community and individual level. The main aim of CBA analysis will be to help WaterFund, and its partners predict the ability of different households in coping with the changes

in climatic conditions (how resilient are the households?), how their participation in water conservation initiatives is influenced by livelihood activities. The extent to which greening of infrastructure has led to cost reduction in operation of water systems.

- **Assessment of the training interventions:** This would involve the use of Kirkpatrick's model and other applicable methods to assess the effectiveness of trainings delivered to direct and indirect beneficiaries of the programmes' interventions.
- **An assessment of the employment opportunities**; presented because of the GGEP programme.

Survey design

WaterFund will support the consultant in the formulation of participatory design where the main programmes' implementers will be involved to give their inputs and views in the evaluation design process, which is key in projects' intervention design. The data collection tools to be used should be able to capture-crosscutting issues particularly on gender, social inclusion, and accountability to the extent possible. The tools will be pre-tested to ensure that enumerators and the study population alike have the same understanding of the evaluation methodologies, topics and revised based on identified shortcomings. This also includes simplifying of the study tools where necessary to reduce interpersonal and other data bias in order ensure quality evaluation data and information.

Sampling plan

The evaluation samples will be done using the beneficiaries' database (WSPs/WUAs/CBOs/INGOs records) which contains all the information for all the beneficiaries reached in the eight counties. As highlighted previously, the qualitative study should use participatory assessment tools such as Focus Group Discussions (FGD's), Key Informant Interview guides (KII's) to both stakeholders and non-stakeholders.

Data collection and analysis

The data collection teams must have required technical and localized knowledge, experience and integrity and show how they will mitigate data collection abuses and make it reliable. This will give the exercise the credibility it requires for wider acceptance of the findings by the stakeholders. Enumerators will be contracted and trained by the consultant on data collect and recording. Analysis of the collected data needs to be done in line with each of the programme logic model. Further necessary statistical tests/analysis should be performed to determine relationships between various factors.
The consultant will decide which management of information system to use, what statistical software to use for data analysis and provide human resource to undertake the data analysis.

Presentation of findings

The consultant will be responsible for writing and presenting the evaluation report to both WaterFund and DANIDA.

Key deliverables/outputs

- Inception report
- Report/ documentation on the following per programme:
    I. The extent to which the programme has achieved its developmental impact goal as per the programme design and logical framework
    II. The test on theory of change results.
    III. The stakeholder's analysis
    IV. Learning in the programme
    V. Opportunities for up-scaling of the programme
    VI. Recommendations based on the findings for Green Growth Mainstreaming in projects and alternative approaches to water resource management in ASALs
- Raw data used for analysis
- Final evaluation summary version to be shared with project participants

WaterFund Responsibilities

- Manage the final evaluation contract on a day-to-day basis including processing funds for disbursement to the consulting firm.
- Support in provision of required secondary data source(s) to the consultant
- Support in facilitating field activities as arranged by the consultant through liaison with key stakeholders.
- Facilitation in provision of operational support in terms of technical inputs necessary and approval where required in consultation with DANIDA.

DANIDA

- Facilitate necessary approval for Funds utilization
- Facilitation in providing operational support in terms of technical inputs and necessary approval where required.
- In liaison with WaterFund support the consultant in acquiring necessary accreditations and access to information in relation to the Programme

6.0. Reporting

The Consultancy firm shall submit 4 colored bound hard copies and soft copies in portable storage (flash disc) with briefing reports for each phase of the assignment, based on the below indicative schedule:

- **Inception Report** (maximum 25 pages). The Inception Report should be produced after 2 weeks from the contract signing date. The Inception Report should outline the evaluation criteria, the approach, scope, detailed methodology, work plan, work tasks within the evaluation teams and plan for site visits and meetings. The report should also highlight initial findings and conclusions of the desk study per programme including brief highlights of the documents reviewed in preparation for the evaluation.
- **Draft Final Report.** The draft report shall be submitted 3 weeks after the field work. The report which combines the desk study, and the field findings should be submitted to WaterFund, DANIDA and other key stakeholders through PowerPoint presentations and submission of draft final report for comments before final submission.
- **Final Report** (Max of 60 pages excluding annexes). The final report shall be submitted to the WaterFund, DANIDA and other key stakeholders in 2 weeks after receiving the comments on the draft final report. The structure of the contents of the reports shall be agreed during the debriefing meeting.
- **Presentation on the evaluation findings:** The consultant is expected to make PowerPoint presentations to WaterFund, DANIDA and other key stakeholders.

Each deliverable is subjected to specific approval. The evaluation team can move to the next phase only after receiving a written statement of acceptance by the WaterFund.
Language
All reports shall be written in English and should be in clear and concise language. The Consultancy Firm will need to be able to have staff that can communicate with the local population in the project communities.

8.0. Duration and Location

Starting Period : The tentative starting date of the assignment is from **April 2022**

Expected Duration : The Consultancy Firm will need to provide the Services requested including final reporting within 3 calendar months from the starting date (including period for submission of comments on reports by WaterFund and DANIDA). As part of the inception report, the Consultant should furnish the WaterFund with a team of experts with clear reporting structure, a clear work plan for the entire exercise.

Foreseen finishing date of the contract is to be determined.

Location of Assignment : The geographical intervention area is Nairobi, Mandera, Wajir, Marsabit, Garissa, Tana River, Lamu, Isiolo, and Turkana counties.

Annex 4: Sampling Procedure

Sampling for projects

The consultant utilized a two-stage sampling process. First, projects were sampled in each county considering specific parameters for evaluation. Secondly, study participants were sampled from the selected projects within each county.

The selection of projects observed the following requirements.

iv. The selection included at least two-thirds of the water and sanitation projects and half of Water resources management projects implemented by WRUAs and Conservancies
v. Drought Emergency Response (DERP) projects funded under GGEP were well covered.
vi. Projects selected for the field study were randomly sampled from each category (i) with points (i) and (ii) above considered.

Table showing classification of projects

No.	County	Water and Sanitation Projects	WRM Projects
1	Tana River	Rehabilitation of Ndura (1), Ndura(2), Handaraku and Marava Shallow wells, Rehabilitation of Geresa, Lakole, Bulto Mulitu water pans, Nanighi and Kipao water and sanitation projects	Madogo, Kigaruni and Lagha Tula WRUAs, Ndera and Lower Tana Delta Conservancies
2	Lamu	Poromoko, Mkunumbi phase 2, Pangani phase 2, Kiunga phase 2 and Kizingitini Water and Sanitation Project	Amu Island WRUA Project Kiunga, Pate Marine and Hanshak Nyongoro Community Conservancy Projects
3	Garissa	Harajab, Libahlow and Shebta-aad Water and Sanitation Projects	Ali Kune , Lagha Madha, Tawakal, Anaam, Kotile Korisa, Sharaha, Khansa Hosle Gedilum, Lagha Togwene, Kasha and Habarow WRUAs
4	Wajir	Adadi Jule , Korija, Riba, Sabuli Water and Sanitation Projects	Buriya WRUA
5	Mandera	Lanqura , Sake Community Rural Water Supply Projects	Mujtama, Dahan WRUAs
6	Marsabit	o	Bubisa, Shurr, Turbi and Wama WRUA
7	Isiolo	Godarupa, Mogore and Awarsitu Pipeline Extension Water Project	Kipsing, Kuro Bisan Owo and Garfasa WRUA
8	Turkana	Namoru Akwar Lokorkor, Kangirisae and Lokichar Water & Sanitation Extension Project	Lorugum and Kochodin WRUA
Total		**26**	**32**

Projects selection process

a) Considering point (i) above, the following model was applied to establish the sample size

$2/3\ x + 1/2\ y\ \leq n$

Where:
X= total number of water and sanitation projects
Y= Total number of Water resources management project.
N=Sample size

b) The sample size above was thereafter distributed proportionately between water/sanitation projects and water resources management projects.
c) After determining the sample size for each county, consideration was taken to ensure both WRUA and conservancy implemented projects were proportionately sampled and a good number of DERP projects included.

Distribution of sample size per type of project

County	Water and Sanitation Projects		WRM Projects			
			WRUA Projects		Conservancy Projects	
	Total Projects	Sample Size	Total Projects	Sample Size	Total Projects	Sample Size
Tana River	6	4	3	2	2	1
Lamu	5	3	1	1	3	1
Garissa	3	3	11	3	0	0
Wajir	4	3	1	1	0	0
Mandera	2	1	2	1	0	0
Marsabit	0	0	4	2	0	0
Isiolo	3	2	3	1	0	0
Turkana	3	2	2	1	0	0
Total	**26**	**18**	**27**	**12**	**5**	**2**

Sampled projects

County	Water and Sanitation Projects	WRM Projects	Projects/ County
	Project Selected	Project Selected	
Tana River	Rehabilitation of Geresa water pan, Nanighi and Kipao water and sanitation project	Kigaruni, Lagha Tula WRUA and Lower Tana Conservancy	6
Lamu	Poromoko, Pangani Phase 2 and Mkunumbi phase 2 water projects	Pate Marine and Hanshak Nyongoro Community Conservancy Projects	5
Garissa	Harajab, Libahlow and Shebta-aad Water and Sanitation Projects	Habarow, Tawakal and Kasha WRUAs	6
Wajir	Korija, Riba and Sabuli Water and Sanitation Projects	Buriya WRUA	4
Mandera	Lanqura Community Rural Water Supply Project	Mujtama WRUA	2
Marsabit	0	Bubisa and Turbi WRUAs	2
Isiolo	Godarupa and Awarsitu Pipeline Extension Water Project	Kuro Bisan Owo WRUA	3
Turkana	Namoru Akwar Lokorkor and Lokichar Water & Sanitation Extension Project	Lorugum WRUA	3
Total	**17**	**14**	**31**

Sampling for Household Survey

We sampled a total of 422 households for quantitative data collection. The quantitative sample size was calculated using the Cochran Israel formula with an adjustment of 10% to take care of any possible design effect.

$n \geq (Z^2.p.q)/d^2$

$n \geq ([1.96] ^2 x0.5x0.5)/ [0.05] ^2$ =384.16

Adding 10% for design effect: n = 384+ (384x10/100) = 384+38 = 422

Where:

n= desired sample size
z= standard normal deviation at the required confidence level
p= proportion of the target population or the estimated characteristics being measured
q= the maximum prevalent error for the prevalent estimate ±0.05
d= the marginal error allowed (d=0.05 since confidence limit is 95%)

The sample was allocated proportionately across counties using number of funded projects. Consequently, every project had approximately 15 household surveys. Households were sampled using stratified simple random sampling. The head of the household was surveyed.

Annex 5: Sustainability Index

As defined by WaterFund, sustainability index is a key quantitative performance measure to facilitate the assessment and monitoring of sustainability of investments in the Counties to support progress evaluation over time and the development of appropriate response measures. For the purposes of this assessment, sustainability was defined as the ability of an investment to realize the objectives within 5 years of its operation. This definition is purely based on outcomes and outputs of the investments.

Methodology

The projects were assessed and aggregated by counties. The assessment is based on the guideline created by WaterFund in 2016. The sustainability Index comprises four categories- the Functionality and Reliability of an investment, Revenue collection (ability to cover O&M), Age and Survival rate of an investment and the Functionality of an investment.

The function is specified as:	Where:
SI=f (FR, RC, AS, GC)	SI is the Sustainability Index FR is the Functionality of the investment RC is the Revenue Collection (ability to cover O&M) AS is the Age and Survival (and operational) rate of an investment GC is whether the investment is in Good Condition (and operational)

Criteria for scoring

a) Revenue collection (ability to cover O&M) = (50%), the highest weight was given with the idea that without revenue collection, the investment does not have long term sustainability. However, considering the nature of GGEP investments, this criterion will focus on capability to cover O&M cost

b) Functionality, i.e., the operational status, is a key attribute to describe the status of the services and is given the weight of 25%.

c) The age and survival rate of the investment is given a weight of 15%.

d) The condition of an investment is given a smaller weight (10%) since the condition is, while important, not essential for the usability and sustainability of the facility.

Decision Criteria

The Sustainability Index score is between 0 - 100%, with 100% depicting a high sustainability rate of the investments.

Sustainability Index Calculations

County	Project	Functionality	Ability to Cover O&M	Age and Survival Rate	Good Condition	Total	County Average
Turkana	Namoru Akwar Lokorkor	22	43	11	8	84	82.3
	Lokichar Watsan Extension Project	20	44	7	7	78	
	Lorugum WRUA	19	45	12	9	85	
Garissa	Harajab WatSan Project	12	31	7	5	55	74
	Libahlow Water and Sanitation Project	17	39	10	9	75	
	Shebta-aad Water and Sanitation Project	18	38	8	7	71	
	Habarow WRUA	20	43	10	9	82	
	Tawakal WRUA	19	43	9	9	80	
	Kasha WRUA	20	43	9	9	81	
Wajir	Korija Water and Sanitation Project	22	40	9	8	79	79
	Riba Water and Sanitation Project	20	39	10	8	77	
	Sabuli Water and Sanitation Project	21	42	10	8	81	
Mandera	Lanqura Community Rural Water Supply Project	19	37	8	7	71	76.5
	Mujtama WRUA	21	43	10	8	82	
Tana River	Rehabilitation of Geresa water pan	21	44	11	8	84	83.8
	Nanighi water and sanitation project	22	43	10	7	82	
	Kipao water and sanitation project	22	44	10	8	84	
	Kigaruni WRUA	20	45	13	8	86	
	Lagha Tula WRUA	21	46	10	9	86	
	Lower Tana Conservancy	22	42	9	8	81	
Lamu	Poromoko Water and Sanitation project	22	40	10	7	79	78.8
	Pangani Water Project Phase 2	17	36	8	7	68	
	Mkunumbi water project phase 2	19	38	8	7	72	
	Pate Marine Community Conservancy Project	23	46	12	8	89	
	Hanshak Nyongoro Community Conservancy Project	21	46	11	8	86	
Isiolo	Godarupa Water & Sanitation Extension Project	23	46	11	8	88	82
	Awarsitu Pipeline Extension Water Project	19	41	9	7	76	
	Kuro Bisan Owo WRUA	22	42	10	8	82	
Marsabit	Wama	20	42	10	8	80	80

Annex 6: Creditworthiness Index

Creditworthiness Index combines annual financial and operational data into a snapshot metric to estimate a WSP's creditworthiness[13].

Methodology

The Creditworthiness Index methodology used to calculate the individual ratings was adjusted from the initial WSP/WASREB shadow rating methodology previously used. It relies solely on data from the financial statements and operating statistics as reported by the WSPs. Qualitative inputs (Management capacity, Human resources, Stakeholder support, Governance issues, Legislative & regulatory framework, and Strength of the economic Base) cannot be automated and are therefore not included in the Creditworthiness Index results. The index is calculated from 6 broad and weighted indicators that are tailored from the interviews with the WSPs and the county administration.
The scores were adopted from "African Water Utilities Regional Comparative Utility Creditworthiness Assessment Report: Individual credit assessment reports for seven African water utilities"

Scoring

Ranges of norms were established for each indicator, with scores of 0-4 allocated to each norm to align the rating with the Kenya business credit risk universe[14]. The Creditworthiness Index result is therefore an aggregation of the weighted scoring with a maximum score of 100. A score of 85-100 would depict a highest credit quality.

Decision Criteria

Score	Indicative Creditworthiness Level	Description
41 to 50	Low-Creditworthy	Indicates an elevated vulnerability to default risk, particularly in the event of adverse changes in business or economic conditions over time; however, business, or financial flexibility exists which supports the servicing of financial commitments. In a credit rating this definition is equivalent to a BB rating.
51 to 60	Creditworthy	Indicates that expectations of default risk are currently low. Capacity for payment of financial commitments is considered adequate but adverse business or economic conditions are more likely to impair this capacity. In a credit rating this definition is equivalent to a BBB rating.
61 to 70	Creditworthy	Denotes expectations of low default risk. Capacity for payment of financial commitments is considered strong. Capacity may, nevertheless, be more vulnerable to adverse business or economic conditions than is the case for higher ratings. In a credit rating this definition is equivalent to an A rating.
70 to 85	Highly Creditworthy	Denotes expectations of very low default risk. Very strong capacity for payment of financial commitments. Not significantly vulnerable to foreseeable events. In a credit rating this definition is equivalent to an AA rating.
>80	Very High creditworthy	Denotes the lowest expectation of default risk. Assigned only in cases of exceptionally strong capacity for payment of financial commitments. Highly unlikely to be adversely affected by foreseeable events. In a credit rating this definition is equivalent to an AAA rating.

[13] Creditworthiness Index Report, 2015
[14] 2015 WASREB/World Bank

Creditworthiness Indicators and Scoring

Indicator	Definition	Reason for inclusion	Weighting in index (%)	Scoring of Indicators
Cost	% Of Maintenance costs of total O&M costs	Indicates whether utility spends sufficiently on maintaining infrastructure	10	4: >8% | 3: 6-8% | 2: 6-4% | 1: 0-4% | 0: 0
	% Of energy costs of total O&M costs	Indicates whether is susceptible to changes in energy cost	10	4: <10% | 3: 10-15% | 2: 15-20% | 1: 20-25% | 0: >20%
	% Of staff costs of total O&M costs	Indicator of efficiency	10	4: <25% | 3: 25-30% | 2: 30-35% | 1: 35-40% | 0: >40%
Revenue	% Difference between collected Revenue and expected Rev.	Efficiency	10	4: >80% | 3: 60-80% | 2: 60-40% | 1: 0-40% | 0: 0
	O&M Coverage (%Revenue of O&M Cost)	Creditworthiness	10	4: >130% | 3: 120-130% | 2: 110-120% | 1: 100-110% | 0: <100%
Technical	% Of people with water supply/population of the area	Indicates size of future challenges	4	4: 100 | 3: 90-100 | 2: 80-90 | 1: 70-80 | 0: <70
	% Estimation of NRW	Efficiency and credit quality	4	4: <20% | 3: 20-30% | 2: 30-40% | 1: 40-50% | 0: >50%
	Number of staff/ 1000 people served	Efficiency	4	4: <5 | 3: 6 | 2: 7 | 1: 8 | 0: >8
Governance	Availability of Management committee	Accountability	4	4: Yes | 0: No
	Diversity of Management Committee (Gender, Youth, PWD)	Inclusion	4	4: Diversified | 2: Not Diversified
Systems	Availability of Management systems e.g., Consumer records, financial management, HR, Stores & Investment plan	Efficiency	10	4: All 5 systems | 3: 4 | 2: 3 | 1: 2 | 0: 1 or none
Liability	% Total debt/ Revenue Collected	Determine debt service ability of the utility	10	4: <25% | 3: 25-30% | 2: 30-35% | 1: 35-40% | 0: >40%
	Grant Dependency Proportion of O&M cost financed through grants	Indicator of utility's' ability to cater for its costs and remain solvent without External assistance	10	4: 0 | 3: 0-10% | 2: 10-15% | 1: 15-20% | 0: >20

Creditworthiness Index Data

Indicators		Poromoko / Pangani	Nanighi	Kipao	Korija	Riba	Sabuli	Lokichar
Annual Cost	Total O&M Cost	212,875	250,000	430,000	2,320,000	2,640,000	2,900,000	2,015,640
	Maintenance Cost	69,000	10,000	10,000	300,000	360,000	375,000	334,200
	Energy Cost	0	0	0	1,300,000	1,560,000	1,625,000	600,000
	Staff Cost	143,875	240,000	420,000	720,000	720,000	900,000	1,081,440
Annual Revenue	Expected Revenue	628,000	420,000	540,000	5,559,000	6,670,800	6,948,750	4,512,960
	Collected Revenue	532,626	200,000	300,000	3,239,000	4,030,800	4,048,750	3,604,800
Technical	Population in coverage area	10,500	1,100	7,000	2,000	5,000	5,000	33,153
	Population served	5,500	1,100	7,000	500	1,200	1,800	25,700
	Estimation of NRW	6	10	10	40	30	30	
	No. of staff	2	15	20	6	8	8	
Governance	Availability of management Committee	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Composition of Management Comm. Yes/No and Diversified	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Systems	Availability of management systems (Financial, Consumer records)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Liabilities	Debts	45,160	-	-	-	-	-	115,700

Indicator weighted scores and CWI

Indicator		Cost			Revenue		Technical			Governance		Systems	Liability		
Project		% Of Maintenance costs of total O&M costs	% Of energy costs of total O&M costs	% Of staff costs of total O&M costs	% Difference between collected Revenue and expected Rev.	O&M Coverage (%Revenue of O&M Cost)	% Of people with water supply/population of the area	% Estimation of NRW	Number of staff/ 1000 people served	Availability of Management committee	Diversity of Management Committee (Gender, Youth, PWD)	Availability of Management systems e.g., Consumer records, financial management, HR, Stores & Investment plan	% Total debt/ Revenue Collected	Grant Dependency, Proportion of O&M cost financed through grants	CWI
	Weight	10	10	10	10	10	4	4	4	4	4	10	10	10	
Poromoko/ Pangani WatSan Project		32.4	0	67.6	15.2	250.0	52.4	6	0.4	Y	Y	Y	8.5	0	
	Score	4	4	0	4	4	0	4	4	4	4	4	4	4	
	Weighted score	10	10	0	10	10	0	4	4	4	4	10	10	10	86.0
Nanighi WatSan project		4	0	96	47.6	80	100	10	13.6	Y	Y	Y	-	20.0	
	Score	1	4	0	2	0	4	4	0	4	4	4	4	0	
	Weighted score	2.5	10	0	5	0	4	4	0	4	4	4	10	0	53.5
Kipao WatSan project		2.4	0	97.6	55.6	69.8	100	10	2.8	Y	Y	Y	0	30.2	
	Score	1	4	0	2	0	4	4	4	4	4	4	4	0	
	Weighted score	2.5	10	0	5	0	4	4	4	4	4	10	10	0	57.5
Korija WaterSan Project		12.9	56.0	31.1	58.0	139.6	25	40	12	Y	Y	Y	0	0	
	Score	4	0	2	2	4	0	1	0	4	4	4	4	4	
	Weighted score	10	0	5	5	10	0	1	0	4	4	10	10	10	69.0
Riba WatSan Project		13.6	59.1	27.4	60.4	152.7	24	30	6.7	Y	Y	Y	0	0	
	Score	4	0	4	3	4	0	3	3	4	4	4	4	4	
	Weighted score	10	0	10	7.5	10	0	3	3	4	4	10	10	10	81.5
Sabuli WatSan Project		12.9	56.0	31.1	58.3	139.6	36	30	4.4	Y	Y	Y	0	0	
	Score	4	0	2	2	4	0	3	4	4	4	4	4	4	
	Weighted score	10	0	5	5	10	0	3	4	4	4	10	10	10	75.0
Lokichar WatSan Project		16.6	29.8	53.6	79.9	178.8	77.5	15	0.4	Y	Y	Y	3.2	0	
	Score	4	0	0	3	4	1	4	4	4	4	4	4	4	
	Weighted score	10	0	0	7.5	10	1	4	4	4	4	10	10	10	74.5

Annex 7: List of Documents Reviewed

1. Addendum to Development Engagement Document - Access to and Management of Water Resources (Water Sector Trust Fund – WaterFund)
2. Annual Rural Harmonised Report; WaterFund, 2017/2018
3. Draft Mid-Term Review Report, December 17th, 2018
4. End of Project Report– Water and Livelihood Programme – Kenya, Water Sector Trust Fund.
5. Garissa County Integrated Development Plan (CIDP), 2018 – 2022
6. Geere, J.-A. and Cortobius, M. 2017. Who carries the weight of water? Fetching water in rural and urban areas and the implications for water security. Water Alternatives 10(2): 513-540
7. Inception Support to Water Sector Trust Fund – Water and Livelihood Programme – Kenya. Inception Report
8. Isiolo County Integrated Development Plan (CIDP), 2018 – 2022
9. Kenya Vision 2030
10. Kalobeyei Integrated Socio-Economic Development Plan (KISEDP), 2018 – 2022
11. Kenya Water Service Provider: Creditworthiness Index Report. A publication of the Water Services Regulatory Board in collaboration with the World Bank Water Practice, November 2015
12. Kenya Country Programme 2016–2020 Green Growth and Employment Thematic Programme — Access to and Management of Water Resources in the Arid and Semi-Arid Lands Development Engagement Document
13. Kenya National Housing and Population Census, KNBS,2019
14. Kirkpatrick's Four Levels of Evaluation, Susan Croes
15. Kirk Patrick and Beyond: A review of Models of Training Evaluation, P Tamkin, J Yarnall and M Kerrin, 2002
16. Lamu County Integrated Development Plan (CIDP), 2018 – 2022
17. Mandera County Integrated Development Plan (CIDP), 2018 – 2022
18. Marsabit County Integrated Development Plan (CIDP), 2018 – 2022
19. The Constitution of Kenya, 2010
20. The National Water Master Plan 2030
21. The N'gor Declaration on Sanitation and Hygiene, 2015
22. Mati, B. M.; Muchiri, J. M.; Njenga, K.; Penning de Vries, F.; Merrey, D. J. 2005. Assessing water availability under pastoral livestock systems in drought prone Isiolo District, Kenya. Working Paper 106. Colombo, Sri Lanka: International Water Management Institute (IWMI)
23. OECD/DAC Network on Development Evaluation: Revised Evaluation Criteria Definitions and Principles for Use, 2019
24. Program Evaluation through Kirkpatrick's Framework, Omer Gokhan Ulum, July 2015
25. Sustainability Assessment of Rural Water Service Delivery Models: Findings of a multi-Country Review. The World Bank, August 2017
26. Tana River County Integrated Development Plan (CIDP), 2018 – 2022
27. The Water Act 2016
28. Turkana County Integrated Development Plan (CIDP), 2018 – 2022
29. Turkana County Water, Sanitation Services Sector Strategic Plan, 2017 – 2021
30. United Nations High Commission for Refugees (UNHCR) Kenya Fact Sheet, August 2017
31. Wajir County Integrated Development Plan (CIDP), 2018 – 2022
32. Water Sector Trust: Fund Strategic Plan 2018 – 2022
33. Water Sector Trust Fund: County Engagement Strategy

Annex 8: List of Key Evaluation Participants

No.	Name	Designation	Organization
1.	Nancy Njenga	Water Programmes	DANIDA
2.	Willis Ombai	Ag. Chief Executive Officer	WaterFund
3.	Eng. Rose Nyikuri	Manager, Water Resources and Climate Change	WaterFund
4.	Peter Koech	Manager, Water and Sanitation	WaterFund
5.	Elly Ochere	Ag. Manager, P, R, M&E	WaterFund
6.	George Muhia	Programmes' Technical Advisor	WaterFund
7.	Violet Mucheni	GGEP Programme Team Leader	WaterFund
8.	Nicodemus Onunga	WLP Programme Coordinator	WaterFund
9.	Angeline Were	Principal Finance Officer	WaterFund
10.	Jackson Mwangi	Snr. Community Engagement Officer	WRA
11.	Wathome Stephen	Programme Manager, Agriculture, Job creation and Resilience	Delegation of the EU to Kenya
12.	Lisa Andersson	Snr. Programme Manager, Environment and Climate Change	Embassy of Sweden
13.	Hassan Yussuf Hassan	Regional Director	NRT- Coast
14.	Abdikarim Garat Hassan	Resident Engineer	WaterFund, Tana River
15.	Fredrick Thuva Kimera	Ag. Commercial Manager	TAWASCO
16.	Salim Juma Makorani	Technical Manager	TAWASCO
17.	Athman Ali Bureya	Area Chief	Mpeketoni
18.	Hussein Roba	Ward Administrator	Mkumbini –Lamu West
19.	Benson Kariuki	Chairman- LAKWA	Lake Kenyatta Water Company
20.	William Wairegi	Manager –LAKWA	Lake Kenyatta Water Company
21.	Mwanahamisi Hadulo Jillo	Manager	Tana Delta Conservancy
22.	Hamadi Dala Hiyesa	Treasurer	Tana Delta Conservancy
23.	Hussein Wayu	Warden	Tana Delta Conservancy
24.	Kenneth Wandugu	Resident Engineer	WaterFund, Lamu
25.	Abarufa Dido Abarufa	Director Water Services	Lamu County Government
26.	Athman Dumila	County Public Health Officer	Lamu County Government
27.	Jacob Muweye Chidzipha	Technical Manager	LAWASCO
28.	Amina Abdalla	Officer-	WRA- Lamu
29.	Galamo S. Golo	Area Chief, Kipao	Lamu
30.	Zainab Gure	Resident Engineer	WaterFund, Garissa
31.	Erick Odoyo	CDO	WRA, Garissa
32.	Salma Hassan	CDA	WRA, Garissa
33.	Fartum Noor	CDA	WRA, Garissa
34.	Omar Hassan	Technical Manager	Garissa Water and Sewerage Company
35.	Steven Mbogo	Accountant	Garissa Water and Sewerage Company
36.	Farah Tube	Resident Engineer	WaterFund, Wajir
37.	Diyad Hujale	CEC Water	County Government of Wajir
38.	Ahmed Omar	Technical Manager	Wajir Water and Sewerage Company
39.	Siyad Adow	Finance Manager	Wajir Water and Sewerage Company
40.	Mohamed Hassan	Resident Engineer	WaterFund, Mandera
41.	Hussein Mohamed Alio	County Drought Coordinator	NDMA, Mandera
42.	Abdi Adan Abdile	Deputy Director, Water Services	County Government of Mandera
43.	Abdikheir A. Suraw	Assistant Director, Water Services	County Government of Mandera

44.	Hassan Ali	PHO	County Government of Mandera
45.	Aliyare Mohamed	Technical Service Manager	Mandera Water and Sewerage Company
46.	Abdirashid Bashey	Area Chief, Lanqura	Mandera
47.	Ibrahim Ugas	Area Chief, Kamor	Mandera
48.	Ibrahim Hassan Yusuf	Chairman	Lanqura Community Rural Water Project
49.	Mohamed Adan Billow	Chairman	Mujtama WRUA
50.	Abdilahi Huka Sama	Resident Engineer	WaterFund, Marsabit/Isiolo
51.	Parkolwa, H Mustafa	County Drought Coordinator	NDMA, Marsabit
52.	Benard Simba	Licensing Officer	WRA, Marsabit
53.	Dickson K. Maitho	Principal Superintendent of Water Engineering	County Government of Marsabit
54.	Roba Golicha	PHO	County Government of Marsabit
55.	Julius Kariju Ikirima	Hydrogeologist/Operational Manager	County Government of Marsabit
56.	Yatani Barille	Chairman	Bubisa WRUA
57.	Juma Amin	Chairman	Turbi, WRUA
58.	Lordman Lekalkuli	County Drought Coordinator	NDMA –Isiolo County
59.	Bashir Jillo	County Director-Water	County Govt. Isiolo
60.	Victor Adaka	Water Officer -Rural	County Government of Isiolo
61.	Geoffrey Manene	Head Of Planning & Design	County Govt. Isiolo
62.	Diba Duba	Sub-County Water Officer	County Govt. Isiolo
63.	Abdullah Sora	Managing Director	Isiolo Water and Sewerage Company
64.	Nura Banaya	Finance Manager	Isiolo Water and Sewerage Company
65.	Catherine Mwendwa	HR Manager	Isiolo Water and Sewerage Company
66.	Jirm Diba	Area Chief, Bubisa	Marsabit
67.	Herman Kiruaye	Sub-Basin Area Coordinator	WRA, Lodwar
68.	Moses Natome	CEO Water	County Government of Turkana
69.	Tito Ochieng	Director Water	County Government of Turkana
70.	Maiyo Elphas	SCPHO	County Government of Turkana, Turkana West
71.	Reuben Kibiego	CWASH Coordinator	County Government of Turkana
72.	Peter Mitunda	PHO	County Government of Turkana, Turkana Central
73.	Patrick Eyapan Naboikut	Resident Monitor	WaterFund, Turkana
74.	Grishon Muhoro Ngige	Resident Engineer	WaterFund, Turkana
75.	Philemon Erot	Finance Officer	Lokichar Water and Sewerage Company
76.	Emmanuel Nachunen Epuur	Managing Director	Lokichar Water and Sewerage Company
77.	Michael Etoot Lokuryan	Chairman	Lorogum WRUA
78.	Josephat Jarso Roba	Chairman	Godarupa WATSAN project
79.	Galana M. Babusa	Chairman	Kiraguni WRUA

Annex 9: Data Collection Tools

Household Survey

Section A: Socio-demographic characteristics

S/No	Questions	Category	Mark Response
1	Sex of respondent (Observation)	Male	
		Female	
2	How old were you on your last birthday?	18-35	
		36-50	
		51 and above	
3	What is the highest level of school you completed?	None	
		Primary	
		Secondary	
		Post-secondary/Tertiary	
		College/university	

Section B: Access to Water

S/No	Questions	Category	Mark Response
1	What is the **main** source of domestic drinking water for members of your household?	Public tap/standpipe	
		Handpumps/boreholes	
		Unprotected hand-dug well	
		Water seller/kiosks	
		Piped connection to house (or neighbour's house)	
		Surface water (lake, pond, dam, river)	
		Rainwater collection	
		Other (please specify):	
2	What is the average distance to your nearest water source?	In Kilometres	
		Water is available on premises	
3	How long does it take to fetch water?	Specify Number of Minutes	
		Water is available on premises	
4	Do you collect enough water to meet all your households' needs – **NOT** for animal use, agriculture, gardening, etc.?	Yes **(If yes skip to Question 6)**	
		No	
5	If not, why?	There are water shortages	
		Water is too far	
		It is too dangerous to get water	
		Can't afford to buy enough	
		Waiting time at the water point is too long	
		Don't have enough storage containers	
		limitation of volume of water that can be collected at water point	
		Don't know	
		Other (Specify)	
6	Is water supply from the Main source constantly/always available?	Yes	
		No	
7	Did you drink water directly from the river or canal (or any other source of surface water) within the last 7 days?	Yes	
		No	
		Don't know	

8	Do you pay for your drinking water?	Yes	
		No (**If no, skip to question 10)**	
		Don't know	
9	If yes, how much?	Per 20 Liter Jerrican	
10	Do you pay for water services for non-drinking and sanitation use?	Yes	
		No (**If no, skip to question 12)**	
		Don't know	
11	If yes, how much?	Per 20 Liter Jerrican	
12	Are you satisfied with your water situation?	Yes	
		No	
13	To what extent do you feel the Project has addressed your water needs?	Larger extent	
		Less extent	
		Not responsible	

Section C: Sanitation and Hygiene

S/No	Questions	Category	Mark Response
1	Where do you and your household members (excluding children under 5) usually go to defecate?	Household latrine	
		Communal latrine	
		Open defecation	
		Plastic bag	
		Bucket Toilet	
		Other, Specify	
2	How do you dispose infants waste (children under-5)?	No infant in the household	
		Child used toilet/latrine	
		Put/rinsed into toilet or latrine	
		Put/rinsed into drain or ditch	
		Thrown into garbage/ shamba/bush	
		Buried	
		Left in the open	
		Other, Specify	
4	If communal latrine, how many households, including this one, share this facility?	State Number	
5	Does this latrine provide adequate privacy for you and your household members? (Mark all correct answers)	Yes	
		No	
		No latrine	
		Don't know	
6	If not, why?	Infrastructure/door is poor or damaged	
		Lock missing/not working	
		Too close to the house	
		Others, specify	
7	How satisfied are you with the place where your family defecate?	Very unsatisfied	
		Somewhat unsatisfied	
		No opinion	
		Somewhat satisfied	
		Very satisfied	
8	Can you use this facility at all hours of the day and night?	Yes	
		No	
		No latrine	
		Don't know	
10		Very frequent	
		Less frequent	

	How frequent are diarrhoea cases among children less than 5 years of age?	Rare	
11	How frequent are diarrhoea cases among persons above 5 years of age?	Very frequent	
		Less frequent	
		Rare	
12	Was it possible to wash your hands with soap after the last time you went to the toilet at/near home?	YES	
		NO	
13	If NO, why?	No water available	
		No soap available	
		Don't see the need	
14	To what extent do you feel the Project has addressed your sanitation and hygiene needs?	Larger extent	
		Less extent	
		Not responsible	

Section D: Livelihoods

S/No	Questions	Category	Mark Response
1	Is your household engaged in agriculture (crops production, small animals, or livestock)?	Yes	
		No	
		Don't know	
2	Do you or your household actively grow food for commercial or consumption purposes? (Select one)	Yes, for commercial purposes only	
		Yes, for consumption purposes only	
		Yes, for both consumption and commercial purposes	
		Other, specify	
3	What are the primary crops you grow? (**Select all that apply**)	Maize	
		Legumes	
		Cassava	
		Sweet potato	
		Potato	
		Cereals	
		Fruits	
		Vegetables	
		Forage crops	
		Banana/plantain	
		Others, specify	
4	What is the source of water for your farming?	Rainwater	
		Water pan	
		Dug well	
		Borehole	
		Piped water potable supply system	
		River	
		Sand dam	
		Irrigation canal	
		Other, specify	
5	Do you undertake any activities to protect your water source?	Yes	
		No (skip to question 11)	
		Don't know	
6	If YES, which ones?	Provide names	
7	What new agricultural practices	I have not made any improvements	

	have you adopted in crop and livestock production in the last 5 years? **(Select all that apply)**	I have improved water conservation and utilization	
		I have improved on crop selection	
		I have improved soil fertility	
		I have established a garden	
		I have improved on selection of animals	
		I have improved housing for my livestock	
		I have improved on the quality of animal feed and water	
		New / improved vegetable	
		Other, specify	
8	What is the source(s) of water for watering your livestock? (Select all that apply)	Rainwater	
		Dug well	
		Water pan	
		Borehole	
		Piped water potable supply system	
		River	
		Sand dam	
		Irrigation canal	
		Other, specify	
9	How reliable is the water supply for your animals?	Very reliable	
		Reliable	
		Fai	
		Unreliable	
		Very unreliable	
10	What is your primary problem or challenge that you face when raising livestock? (Select one)	Water	
		Grazing land/Fodder	
		Disease	
		Lack of skills / training (herding, husbandry, etc.)	
		Access to Market / No Market	
		Access to Inputs (vet support, etc)	
		Access to finance	
		Other, specify	
11	Looking at the last 5 years, has your farm produce increased. (Both crops and livestock)	Yes	
		No	
		Same	
		Don't know	
12	If YES, to what extent do you think the project is responsible	Greater extent	
		Little extent	
		Non	
13	How has the programme improved your living standards? **(Multiple response)**	Increased Household income	
		Increased access to education	
		Increased access to food	
		Better housing	
		Improved heath	
		New employment Opportunities	
		Others specify	

Section E: Sustainable and Community-based Management of Water Resources

S/No	Questions	Category	Mark Response
1	Do you belong to a Water Resources Users Association (WRUA)?	Yes	
		No	
2	For how many years have you been a member of the WRUA?	Less than 1 year	
		2-3 years	

		3-5 years	
		Over 5 years	
3	Does the WRUA carry out community sensitization meetings to create awareness on soil, rangeland conservation and water resources management?	Yes	
		No	
4	If yes, how many have been done within the last 1 year?	Number of times	
5	Has the WRUA done or participated in activities aimed at soil, rangeland, and water conservation within the community?	Yes	
		No	
6	If yes, which ones?	Riverbank protection (fencing, riparian pegging, tree planting)	
		Construction of water storage and conservation infrastructure e.g., sand dams and water pans among other activities	
		Regulation of water use and equitable distribution through bulk metering	
		Activities along sub-catchments to protect against illegal abstractions of water and other destructive practices	
		Others, specify	
7	How have these activities helped to reduce rangeland and water resource conflicts in the sub basin?	Availability of enough water	
		Provision of fodders for livestock	
		Promotion of alternatives livelihood activities	
		Others, specify	

Key Informant Interview Guides

1. How is the Water situation in terms of Water coverage, Water quality and households' access?
2. How is the Sanitation situation in terms of access to improved sanitation, OD, CLTS?
3. What are the major priorities/mandate of the organization? Is water, sanitation, and water resources management among them? (Prob program relevance to these priorities)
4. What data or statistics on water or sanitation or hygiene does the institution have and how does it use it? (How frequent is this data collected, validated, disseminated, and effective use of MIS)
5. Which county legislations exists that govern water, sanitation, and hygiene issues in the County? and how are they enforced? (Probe if and how it enables private sector involvement)
6. Are there County annual public financial commitments to water commensurate with meeting needs/ targets?
7. What is spent per capita on water separately and sanitation separately by the County – Capex (3-year average)? Capex only e.g., on toilet/latrines development, CLTS, wastewater treatment works, water infrastructure, water treatment, advocacy, and hygiene promotion.
8. Are there procedures and processes applied on a regular basis to monitor water and sanitation access and WRM and the quality of services in the county and is the information disseminated?
9. Does the County have plans for expanding water or sanitation services? What are the county plans?
10. Was your department involved in the design and implementation of the GGEP/WLP project? If yes, (Probe involvement of department and beneficiaries and community needs at the design stage)
11. How did the intervention address the County/community needs? (Probe gaps existing after implementation)

12. Who are the WASH actors/WRA partners in the county and how does the county collaborate with them?
13. Which other interventions related to water, sanitation and environment were being carried out in the same area by the County Government or other development partners? (Probe for coherence between GGEP/WLP and these interventions in terms of interlinkage, complementarity, harmonization)
14. How did WaterFund's intervention relate in terms of coordination and reporting/sharing lessons with other interventions?
15. What are the major achievements of the GGEP/WLP project? (Probe positive and negative impacts including unintended)
16. How was the coordination of partners during this project? How would you have liked the coordination to be done better?
17. Are the results accomplished by the GGEP and WLP programs likely to be sustainable? (Probe local ownership and likelihood for continued operation or benefits)
18. How did the program incorporate Environment, Social and Governance (ESG) issues? Probe a) Environmental responsibility through compliance with all relevant environmental laws and regulations b) Social responsibility through labor relations, human rights, diversity, and inclusion and, c) Governance: compliance, ethics, controls, and procedures
19. Have you piloted a new water and sanitation PPCP funded project within the last 5 years? (Probe finance leveraged by the piloted PPCP models and lessons learned), **See below**
20. What could concretely be recommended to ensure sustainability of the action and linkages with other programs?
21. What would have been done better during the implementation of the project to make it more beneficial or sustainable? Probe about involvement of the most vulnerable and persons with disabilities.
22. How were the beneficiaries' engaged in the design and implementation of the project? (Probe on youths, women, pastoralists, refugees, opinion leaders, and marginalized groups' involvement)
23. Which activities showed greater relevance for the different groups of beneficiaries? Why?
24. Have the programs efficiently used resources e.g., local expertise, time, and funds? Is or was there potential for resources to be used more efficiently?
25. How well did the financial systems work to support project delivery?
26. Did your organization receive any specific trainings? (Probe for type of training, relevance, and satisfaction)
27. Has your organization demonstrated improved capacity and organizational performance? Explain. (To what extent is this attributed to the training above)
28. What unforeseen outcomes were caused by or contributed to by the intervention, and why did these occur? How were these addressed?
29. Do partners (WRUAs/WUAs/CBOs) have the financial capacity to maintain the program and/or its outputs/outcomes after program termination? (Probe for capacity, skills, revenue, and expenditure)
30. How has the program context changed throughout the implementation of GGEP/WLP programs? (Probe a) contextual risk (security and conflict, droughts), b) programmatic risks (Uncoordinated developments, unclear devolution mandates) and c) institutional risks (capacity, planning and funding) and adaptation
31. Was the program innovative and/or what are the main lessons learned?
32. How was the green growth characteristics of resilience (adaptation and mitigation) mainstreamed in the projects?
33. How was the green growth characteristics of resource efficiency using the 7Rs namely: reduce, reuse, recycle, rethink, redesign, refuse and recreate mainstreamed in the projects
34. What are the key activities carried out under water and sanitation provision? What is the role of the organization in WASH in the County?
35. What are the Key innovations or improvement of the technology introduced in the County in terms of water and sanitation provision?

36. What are the key opportunities in this area in terms of water and sanitation investment, management in these counties?
37. What are the challenges experienced in water and sanitation/WRM in the County and mitigating strategies?
38. What are the future WASH expansion plans and strategies?
39. What was the overall approach and how is it related to the theory of change?
40. How does WaterFund shift to strategic partnership and collaboration with NGO's and private sector to design and finance bigger projects enhanced the success of the program?
41. How has the partnership with DANIDA in GGEP/WLP improved your capacity in program management (Identification, implementation, and monitoring)?
42. What was the project's overall impact and how does this compare with what was expected?
43. To what extent have the relevant National Ministries and County Departments been involved in the information sharing and value adding?
44. To what extent have measures been taken during planning and implementation to ensure efficient utilization of funding, staff, time, and other resources without compromising on the attainment of quality results? Are measures in place to ensure resources are used appropriately?
45. Did program activities overlap and duplicate other similar interventions if any?
46. How well did the partnership and management arrangements work and how did they develop over time?
47. How were local implementing partners involved in project management and how effective was this and what have the benefits or difficulties been with this involvement? Input delivery, synergy among stakeholders etc.
48. Has the program identified a new way of working that could be shared with others? If so, how was the program innovative and/or what are the main lessons learned.
49. Has the project supported partners in their ability/capacity and engagement in water related planning and advocacy initiatives with Government, INGOs and donors?
50. How are the WRUAs registered, supported, regulated, and monitored? Probe on how many exists especially in the 8 counties.
51. Which are the key areas of interest that DANIDA has funded WaterFund in ASAL program?
52. Why did DANIDA decide to fund the GGEP/WLP program? What were the donor's expectations?
53. Why did the donor agree to re-allocation of funds meant for building capacity of the counties to enact water and sanitation legislation and how will this affect sustainability of the GGEP/WLP project gains?
54. What is the major achievement of the private sector in the county in terms of research, development and improving access to water and sanitation in the County?

Focus Group Discussion Guides

1. What kind of livelihood activities do men and women carry out in this area to provide them with income?
2. Where do households get water that they use from and how far away are these points? What is the cost of water in the area?
3. How frequent is water available from each source during the day or days in a week?
4. What do you think are the key challenges faced in water and sanitation access in these areas?
5. What roles do women play or need to play in ensuring access to safe water and adequate sanitation?
6. What are the common Hygiene practices exhibited in this area? (Probe on use of toilets, hand washing, personal and environmental hygiene, menstrual hygiene, and OD)
7. Which organizations and institutions are involved in provision of water, sanitation, and hygiene education in the area?

8. Do you know about GGEP/WLP projects in the area? How were the locals involved in the project? (Probe GESI)
9. How has the project benefitted the locals? (Probe for increased access to sanitation, water, livelihood, and employment opportunities)
10. Which communication platform do communities access information on water, sanitation, hygiene promotion and WRM?
11. What are the challenges and Barriers to participating in key decision making in relation to WASH facilities and services? (Probe by gender, disability, youth, and other vulnerable groups)
12. What could be done better and by who to improve water and sanitation access and WRM to the people in this area?
13. When was the WRUAs/WUAs/CBOs/Conservancies established? How many members are registered and how many are active?
14. What is the name and area of the catchment area the WRUA oversees?
15. Who are the water resource users, riparian landowners, and other stakeholders in your sub-catchment area?
16. Does the WRUA have an updated SCMP? What are your functions as a WRUAs/WUAs/CBOs/Conservancies?
17. How long has the Sub-Catchment Management Plan been implemented? What has been the achievements so far?
18. How was the WRUAs/WUAs/CBOs/Conservancies selected for GGEP/WLP project?
19. What are the achievements of the WRUAs/WUAs/CBOs/Conservancies based on the implementation of the WaterFund GGEP/WLP project?
20. What were the glaring needs of the communities that were being addressed by this program?
21. To what extent is there a sense of local ownership of the program?
22. To what extent was the overall approach adopted by WaterFund to address the identified needs in the intervention areas for both the WRUAs/WUAs/CBOs/Conservancies and the communities achieved?
23. Which activities showed greater relevance for the different groups of beneficiaries? Why?

Annex 10: Evaluation Team

The following five consultants participated in the Evaluation as shown below.

	Consultants Name	Position	Key roles in the evaluation
K-1	Benard Oronje	Lead Expert (Programme Design, Monitoring and Evaluation Specialist)	Lead designing the evaluation plan including conceptualizing the study, literature review, training of research assistants, and preparation of reports and, overall management of the assignment
K-2	Francis Wadegu	Environmentalist	Lead the designing of data collection instruments and data collection of water, sanitation and climate change resilience and adaptation components of the evaluation including analysis and reporting
K-3	Lilian Omondi (PhD)	Sociologist	Conducting socio-economic analysis including formulation of evaluation questions, data collection tools and conducting FGD
K-3	Denis Masika (PhD)	Water Resources Management Expert	Lead assessment of integrated water resources management and planning including livelihood and climate proofing
K-4	Joyce Nyaboga	Governance Expert	Lead the integration of governance considerations into the evaluation e.g., compliance, administrative support, institutional structures, legal frameworks, relevant policies, management and water sanitation and resources management
N-1	Nelson Nyunja	Field coordinator	Mobilization of field study participants, field study planning, data collection and data analysis

ADVANCE DEVELOPMENT INITIATIVE

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