THE REPUBLIC OF UGANDA

MINISTRY OF WATER AND ENVIRONMENT

WATER AND ENVIRONMENT SECTOR RESPONSE PLAN FOR REFUGEES AND HOST COMMUNITIES IN UGANDA

NOVEMBER 2019

FOREWORD

Over the last 36 months (since early 2016), the number of refugees hosted in Uganda has dramatically increased. To date, about 1.3 million refugees reside in 13 settlements across 12 districts including Kampala, living alongside their Ugandan hosts. Uganda's approach to refugee protection and management provides exemplary prospects for dignity and self-reliance and creates a conducive environment for development-oriented approaches. However, the hosting of refugees places pressure on the country and its resources, and in particular the districts and communities that host them. Refugee-hosting districts face one of the fastest population growths in Uganda, if not in Africa.

The Government included refugee management and protection in its second National Development Plan (NDP II) through the Settlement Transformative Agenda (STA), shifting the focus from a solely humanitarian approach to recognizing the nexus between humanitarian and development. Recommitting to maintain its open border policy and to sustain the STA in the face of influx, in 2016, Uganda joined the New York Declaration and in 2017, the Government of Uganda launched the Comprehensive Refugee Response Framework (CRRF) in the country, which fosters stronger cooperation among a broad array of stakeholders.

Despite Uganda's favourable refugee policy, the refugee influx in Uganda comes along with human activities such as agriculture, settlement which negatively impact on the environment if not well planned and managed. The sudden build-up of large populations of refugees in settlements results into uncontrolled exploitation of the environment and natural resources. This erodes the capacity of its ecosystems in which they are settled to support them; hence massive degradation of these systems and other related environmental problems. As such, the most significant problems associated with refugee-affected areas are: deforestation, soil erosion, poor waste management, depletion and pollution of water resources, among others. Forests in particular have been degraded for agriculture, firewood, charcoal burning and collection of building materials among others.

In view of the above, there is need for sustainable use of the Water, Environment and Natural Resources through coordinated interventions involving all stakeholders for restoration, preservation and conservation actions to promote a peaceful co-existence of refugees and host community.

The Office of the Prime Minister coordinates development of capacities for prevention, preparedness and response to natural and human induced disasters and refugees. UNHCR coordinates humanitarians and development actors operating in the refugee settlements. The Office of the Prime Minister (OPM) and UNHCR officially launched the Comprehensive Refugee Response Framework (CRRF) on March 24th March 3017, adopting the principles and objectives set out in the New York Declaration for Refugees and Migrants to the Uganda context. The CRRF approach links humanitarian response with long term development. As the sector lead institution, the Ministry of Water and Environment, is responsible for planning and coordinating the sectors' response to address challenges related to the refugees' influx which can only be achieved by formulation of a Comprehensive Refugee Response Plan that will guide the MWE's efforts in coordinating all interventions falling within its mandate.

The Water and Environment Sector Refugee Response Plan does not replace the earlier Water Supply and sanitation infrastructure development plan. The response plan is the first step, covering the entire sector's summary costing the refugees and host communities' micro-catchment areas in the coming three years whereas the infrastructure development plan will be one of the next phases after the response plan has been concluded.

The Water and Environment Sector Refugee Response Plan (WESRRP) is designed to provide a comprehensive planning for both refugees and host communities within the context of Water and Environment Sector. The WESRRP is aligned with the upcoming National Development Plan III (NDPIII) for the period 2020/21-2025/26. The plan is guided by a number of Government Policies, Plans and Frameworks with linkages to several international and regional commitments.

It is our sincere hope that Uganda will be supported by Partners to ensure that there is improved utilization of water and environment resources for peaceful co-existence of refugees and host communities through **restoration, conservation and protection of the environment and natural resources in Uganda.**

I call upon all humanitarian and development partners to mobilize additional resources to align their operations to the new paradigm and a common plan – Uganda's Water and Environment Sector Refugee Response Plan. It is a call for complementary utilization of water and environment resources for peaceful co-existence of refugees and host communities

For God and My Country

Hon. Cheptoris Sam
Minister of Water and Environment

ACKNOWLEDGEMENT

The development of this Water and Environment Sector Refugee Response Plan for Refugees (WESRRP) and Host Communities in Uganda was Government-led and followed participatory consultative and transparent processes at settlement, District, Regional and National level. It took time, effort and dedication of a strong multidisciplinary team that worked diligently from conceptualizing the plan to the related literature searches, and continuous consultations with a wide range of stakeholders' engagement that helped shape the WESRRP.

This plan operationalizes the provisions for refugees in the Constitution of the Republic of Uganda 1995, the Refugee Act 2006 and the Refugee Regulations 2010. The plan is the first pragmatic step by the Ministry of Water and Environment (MWE) in providing technical leadership in aligning the Water and Environment Strategic Sector Investment Plan (SSIP) 2018 - 2030 for Improved Utilization of Water and Environment Resources for peaceful co-existence of refugees & host communities.

I am privileged to appreciate members of the Refugee Response Plan Steering Committee, Task Team Members, staff, and Senior Top Management Teams of the MWE for time spent on developing this plan; OPM and CRRF Secretariat staff for continuous guidance on CRRF principles; and the political leadership of refugee-hosting districts for welcoming and hosting refugees.

In an exceptional way, I would like to thank the United Nations Agencies – the United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), United Nations High Commissioner for Refugees (UNHCR) and Development Partners for their technical and financial support.

I would like to express gratitude to implementing and operating partners, all District technical and Political leaderships in refugee-hosting districts for their valuable inputs during the consultative process.

I look forward to a successful execution of the **Water and Environment Sector Refugee Response Plan for Refugees and Host Communities** to meet our desired goal for the *Improved Utilization of Water and Environment Resources for peaceful co-existence of refugees and host communities.*

Okot Okidi Alfred
Permanent Secretary,
Ministry of Water and Environment

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

BOQs	Bill of Quantities
DSS	Decision Support System
CAPEX	Capital Investments
CMOs	Catchment Management Organizations
CMPs	Catchment Management Plans
CRRF	Comprehensive Refugee Response Framework
CTC	Catchment Technical Committee
DEA	Directorate of Environmental Affairs
UNGA	United Nations General Assembly
DLGs	District Local Governments
DRDIP	Development Response to Displacement Impact Project
DWD	Water Development
DWRM	Directorate of Water Resources Management
EAPs	Environment Action Plans
ENR	Environment and Natural Resources
ENRCC	Environment, Natural Resource and Climate Change
ESIA	Environment and Social Impact Assessment
FS	Faecal Sludge
FSM	Faecal Sludge Management FSTP
Faecal Sludge Treatment Plant GIS	
Geographical Information System GoU	
Government of Uganda	
GW	Ground Water
IEC	Information, Education & Communication
IPs	Implementing Partners
IWMDP	Integrated Water Management Development Project
Lpcpd	Litres per capita per day
KABP	Knowledge, Attitude, Behaviour & Practice
KPI	Key Performance Indicators
KRA	Key Results Area
MAAIF	Ministry of Agriculture, Fisheries and Animal Industry
MCMPs	Micro Catchment Management Plans
MEMD	Ministry of Energy and Mineral Development
MLH&UD	Ministry of Lands, Housing and Urban Development
MoES	Ministry of Education and Sports
MoFPED	Ministry of Finance, Planning and Economic Development
MoGLSD	Ministry of Gender, Labour and Social Development
MoH	Ministry of Health
MoLG	Ministry of Local Government

MSNA	Multi-sectorial Needs Assessment
MWE	Ministry of Water and Environment
NDP	National Development Plan
NEMA	National Environment Management Authority
NFA	National Forestry Authority
NFMS	National Forest Monitoring System
NGOs	Non-Government Organizations
INGOs	International Non-Government Organizations
NWSC	National Water and Sewerage Corporation
O&M	Operation and Maintenance
OPEX	Operational Expenditure
OPM	Office of the Prime Minister
OPs	Operating Partners
PPM	Planned Preventive Maintenance
PSPs	Public Stand-Posts
RRSWG	Refugee Response Sector Working Group
RWC	Refugee Welfare Council
SDP	Sector Development Plan
SEA	Strategic Environment Assessment
STA	Settlement Transformative Agenda
SWAP	Sector-Wide Approach to Planning
TOR	Terms of Reference
TSU	Technical Support Units
TWG	Technical Working Group
UAs	Umbrella Authorities
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNMA	Uganda National Meteorological Authority
URRP	Uganda Refugee Response Plan
UWSSD	Urban Water and Sewerage Services Department
WASH	Water Sanitation and Hygiene
WESRRP	Water and Environment Sector Refugee Response Plan
WESWG	Water and Environment Sector Working Group
WfP	Water for Production
WMZs	Water Management Zones
WRM	Water Resources Management
WSDF	Water and Sanitation Development Facilities
WSSIDP	Water Supply & Sanitation Infrastructure Development Plan
WTP	Water Treatment Plant

EXECUTIVE SUMMARY

Since 2016, the number of refugees hosted in Uganda has significantly increased. By the end of August 2019, following the conclusion of a biometric verification exercise, the country has been hosting 1,313,802 million refugees, equalling around 3.3% of the country's total population and the majority coming from South Sudan (63.8%), the Democratic Republic of Congo (27.8%), Burundi (3.2%), Somalia (2.5%) and Rwanda (1.2%). Refugees are primarily living in rural settlements and are dependent on environment and natural resources across 11 refugee-hosting districts (92%) as well as in Kampala. This has inordinate pressure and overwhelming demands on already stretched capacities and resources of the State and host communities. It has further exacerbated a range of ongoing environmental impacts and associated challenges. The environment is heavily impacted by over-reliance on groundwater without monitoring behaviour of benevolent aquifers in most refugee-hosting districts, absence of deliberate catchment conservation and rehabilitation initiatives. Indeed, the demands on ecosystem services from rapid refugee influxes outpace planning and implementation of remedial measures. It is noted that about 90% of the water supplied at refugee settlements level is done via sustainable piped water systems which are being implemented through several donors, including humanitarian organization and GoU. The main challenges of these established water systems are ensuring proper governance including Operation and Maintenance (O&M). In addition, there is a lack of integrated water resource management, with developments in settlements often failing to consider the larger catchment area for planning and programming as settlements are yet to be integrated in Catchment Management Plans (CMPs).

It's against this background, that the Water and Environment Sector Response Plan (WESRP) is designed to provide a comprehensive planning for both refugees and host communities within the context of Water and Environment Sector Development Plan. The WESRP is aligned with the upcoming National Development Plan III (NDPIII) for the period 2020/21-2025/26. The plan is guided by a number of Government policies, Plans and Frameworks with linkages to several international and regional commitments.

It is noted that Uganda's population is heavily reliant on natural resources to meet basic needs and has seen its forest cover diminish from over 24% in 1994 to less than 9% today (2019); wetland cover diminish from over 15% in 1994 to less than 8% today (2019), this has also affected water resources/ aquifers and major pressure coming from degradation due to unsustainable harvesting of biomass for energy, agriculture and forestry products, land-use change, quarrying, among others which all have environmental impacts and causing reduction to ground water re-change and supply. The key environmental and water resources degradation causes in the refugee hosting districts include; lack of model/tools in choosing areas to establish refugee settlements, lack of strategic environmental assessment (SEA) and Environmental and Social Impact Assessment (ESIA), over exploitation of forest resources, degradation of wetland resources, lack of logistics and budgetary allocations to carry out mandated roles at local, regional and national levels, absence of Catchment Management Plans and Micro Catchment Management Plans, dwindling underground water resources and low adherence to water resources guidelines.

|Based on this plan, some of the expected outputs for the Environment and Natural Resources (ENR) initiatives are: raising of 18 million seedlings and growing the trees, ENR decision support tool for establishment of refugee settlements, development of ESIAs and issuance of certificates, provision of alternative and renewable energy for cooking and/or fuel wood from licensed providers. The expected output for the water resources include; paradigm shift in Water Resources Management (WRM) from centralized to Catchment/Basin based management, encouraging de-concentration of services and activities to the lowest appropriate level. Although water resources management is a central level function, it was realized that effective planning and management of water resources needs to be carried out at the lowest appropriate level and based on hydrological catchments or basins, rather than administrative boundaries, assessment of water availability vs demand, enforcement to obtain abstraction permits, regulation and monitoring.

The effects of environment and water resources degradation has affected water supply in the refugee hosting communities. Currently water supply coverage within the settlements is 83.5% which is overall 16.7Lpcpd whereas water access in the host communities is at 71%. The key challenges for water supply include; new technologies e.g. hybrids-solar/generator which do not have spare parts that are locally available, unavailability of quality building materials within the project area of implementation, landlords' interference, investments following refugees that have been settled already, thus influence rational decision making hence working in an emergency mode, mismatch between the feasibility study, designs and implementation due to insufficient funding.

Currently, the average sanitation coverage within the refuge hosting districts in Uganda is 82% for latrine coverage and hand washing facilities at 45.5%, whereas that of refugee Settlements is 68.2% for latrine coverage for the month of March 2019 and decreased to 63.8% as of the month of June 2019. Kiryandongo has the highest latrine coverage at 94.8% and Koboko district at 72% has the lowest. In refugee settlements, unavailability of materials for construction of family latrines coupled with low levels of community participation have delayed shift from communal to family latrines in refugee settlements in West Nile. Instances of hard ground conditions and waterlogged areas in pockets of settlements in refugee settlements in Mid-West and South-West has exacerbated the problem of family latrine coverage, including for vulnerable families. Due to limitations on construction materials support, structures of the latrines are poor and serve for a shorter duration than optimal as compared to properly constructed latrines. Other identified challenges include; inadequate logistical support to Environmental Health staff to expedite their roles and responsibilities.

Gaps identified include but not limited to:

(i) inadequate coordination between refugee hosting District and/or Sub counties with IPs/Ops engaged in sanitation and hygiene service provision in Refugee settlements,
(ii) low community involvement and little behaviour change,
(iii) inadequate planning for emergency, humanitarian, integration, and repatriation phases,

(iv) low sanitation coverage especially FSM handling, collection, transportation and treatment.

In order to mitigate and implement a number of activities to overcome various gaps in reference to institutional weaknesses and inter-sectoral co-ordination mechanisms, water, environmental & natural resources challenges, and inadequate water supply and sanitation service delivery in the refugee hosting districts, Table 0-1 below, provides a summarised budget line for the WESRRP for a period of 3 years.

Table 0-1: Summary Costs for the Key Result Areas (Outcomes)

Water and Environmental Refugee Response Plan 2019 - 2022						
Ref	**Result/Outcome**	**Responsible Entity**	**Amount, US$ - 915,582,608**			
			Year 1	**Year 2**	**Year 3**	**Total, US$**
IMPACT: Improved Utilization of Water and Environment Recourses for peaceful co-existence of refugees and host communities		**All**	**248,858,882**	**370,672,790**	**296,050,936**	**915,582,608**
1	**Strengthened system for effective service delivery**	**Various**	**21,579,975**	**19,657,172**	**19,657,172**	**60,894,320**
2	**Existing degraded Environment and Natural Resources is restored, conserved and protected**	**Various**	**155,266,736**	**220,824,461**	**229,582,130**	**605,673,329**
2A	Environment and Natural Resources Sub - Budget	MWE & Others	148,598,736	211,250,623	226,472,130	586,321,491
2B	Water Resources Sub - Budget	MWE & Others	6,668,000	9,573,838	3,110,000	19,351,838
3	**Improved equitable and sustainable access and utilization of Water and Sanitation Services**	**Various**	**72,012,170**	**130,191,157**	**46,811,633**	**249,014,960**
3A	WATER SUPPLY SUB-BUDGET	MWE & Others	25,171,737	57,415,723	41,646,800	124,234,260
3B	SANITATION SUB-BUDGET	MWE & Others	46,840,433	72,775,433	5,164,833	124,780,700

About 30.65% of WESRRP budget, Table 0-2, is intended for the environment and natural resources restoration, conservation and protection to reverse the impact in the11 Districts. The activities include but not limited to restoration of close to 10Ha of forests cover and 22Ha of the first four degraded wetlands in the coming three tears. Almost 26% is for Capital investments which include 26 new medium and small water supply systems, their integration with existing 148 stand-alone water production wells, improvement in metering and meter installation, 13 new faecal sludge treatment facilities in each of the settlements/ and micro-catchments, 13 honey-suckers (vacuum pump cesspool emptier trucks), tricycle gulpers to access and empty households, improving sanitation facilities at household and institutions, among others. 2.5 % is allowed for technical assistance and support to the 11 districts, and 03 Water Management Zones (WMZs).

A third of WESRRP budget (35%) is running costs in the provision and delivery of services. The bulk of this amount is for cooking fuel in the next three years until an alternative energy source is sought. Presently, nature provides close to 1.7kg and 2.1 kg of wood fuel per day for a refugee and hosts respectively. Dependency on wood fuel, sourced from the environment and neighbouring forestry reserves in some refugee settlements by both refugees and host communities is unsustainable and catastrophic which has led to massive environmental degradation and increasingly bringing to light climate change effects. There is thus an urgent need to address and dissolve this matter of fuel wood use and sources once and for good. The proposed intervention is in Year 1 – continue use of wood fuel but procured from ONLY licensed firms/individuals meanwhile introducing fuel saving stoves, and later in Year 2 swift completely to fuel source such as liquid gas, biogas, briquettes/charcoal using fuel saving stoves, etc. and finally in Year 3 continue with fuel-saving stoves along alternative clean and/or renewable energy i.e. photovoltaic solar, hydro-power electricity, etc. The Energy Refugee Response Plan, under development, would provide more details on alternative energy sources.

Last but not least, about 6% of the budget has been allowed to assist and improve the refugees' and host community livelihoods, to reduce the dependence syndrome, in a drive for the refugees and host communities to meet and pay for WATSAN services user fees. The table below gives a summary of the Cost Centre Budget for the WESRRP for Refugees and Host Communities.

Table 0-2: WESRRP – Cost Centre Budget

No.	Cost Centres	Total, US $ = 915,582,608				
		Outcome 1	Outcome 2	Outcome 3	Sub Total	Weights
1	Technical Support	4,016,840	17,231,000	1,614,000	22,861,840	2.50%
2	Running Costs	1,355,180	296,761,773	22,625,650	320,742,603	35.03%
3	Environ. & NR Conservation	0	280,593,663	0	280,593,663	30.65%
4	Capital Investments	1,161,500	11,086,892	224,775,310	237,023,702	25.89%
5	Others	54,360,800	0	0	54,360,800	5.94%
	Total	**60,894,320**	**605,673,328**	**249,014,960**	**915,582,608**	**100.00%**

The implementation of the WESRRP will be a collaborative responsibility between the Ministry of Water and Environment as lead agency and other stakeholders including Line Ministries, Local Governments, Development and Humanitarian Partners (UNHCR, IPs, OPs), the Private Sector, among others.

1. INTRODUCTION

1.1. Background

Uganda, hosts to over 1.3 million refugees as of June 2019 and Africa's largest refugee hosting country, is praised for its progressive refugee policy, which is built on an open-door and settlement approach. The 2006 Refugee Act and 2010 Regulations provide refugees an array of rights including the right to work and right to access basic social services such as water and sanitation services on par with Ugandan nationals to ensure their dignified stay until they feel safe to return to their countries of origin. Refugees are included into the National Development Plan (NDP) II (2015/16-2019/20) through the Settlement Transformative Agenda (STA) and many initiatives have been put in place to promote this integrated refugee management model such as the Government's 5-year Development Response to Displacement Impact Project (DRDIP) to improve access to services, expand economic opportunities and enhance environmental management for Ugandan nationals in refugee hosting areas.

These foundational building blocks predate the New York Declaration for Refugees and Migrants and its Comprehensive Refugee Response Framework (CRRF). But they also predate the unprecedented influx of South Sudanese that would flee to Uganda for safety. It is in this context that Uganda turned to the practical application of the CRRF, as one of the first countries worldwide, to sustain its model. This allowed space for the humanitarian coordination on life saving assistance, while engaging ministries and other key stakeholders in a longer-term perspective on key sectoral challenges underpinning the settlement model. The shift from a mainly humanitarian focus to development solutions is being operationalized through Government-led Sector Response Plans to address the needs of the over 1.3 million refugees and the more than 6 million Ugandans who are hosting them.

1.2. Objective of the Water and Environment Sector Refugee Response Plan

It is against this background, and in line with a CRRF Steering Group decision to focus on water and environment[1], that the Ministry of Water and Environment developed the Water and Environment Sector Refugee Response Plan for Refugees and Host Communities (Water and Environment Sector Refugee Response Plan) in accordance with its mandate to initiate legislation, policy formulation, setting standards, inspections, monitoring, coordination and technical back up support in relation to water and environment sub-sectors.

The Plan provides a framework for orderly and integrated planning and implementation of water and environment sector activities in refugee-hosting districts. It recognizes the comparative advantages of both humanitarian and development actors, aims to bridge humanitarian and development programming and reinforce an interdependent approach that addresses both an immediate humanitarian crisis-response as well as medium- and long-term investments towards recovery and development of refugee-hosting districts.

[1] 3rd CRRF Steering Group meeting, which took place in Kampala in April 2018.

1.3. WESRRP Design and Alignment

The Water and Environment Sector Refugee Response Plan (WESRRP) – one of the agreed undertakings from the Joint Sector Review in 2018 (undertaking #11) – is designed within the context of the Water and Environment Sector Development Plan (SDP) to further refugee inclusion into the Ministry's planning process and advance the Ministry's mission to "*promote and secure the rational and sustainable utilization and development and effective management of water and environment resources for social economic development*" in refugee-hosting districts. Further, refugee inclusion into the MWE's next SDP shall be pursued. The Plan is aligned with the upcoming National Development Plan (NDPIII) for the period 2020/21-2025/26. The period until June 2020 is considered year zero with the first full year of the Plan starting in line with Uganda's budget year and National Development Plan III in July 2020. The Plan is a rolling plan; with each year that passes, the achievements, lessons learned, and challenges are reviewed and if need be an additional year added to the planning cycle. Year zero (until June 2020) comprises both direct implementation of the priorities and activities set out in this Plan as well as preparatory work, analysis and studies to inform ongoing implementation in year 1 (July 2020-June 2021).

1.4. WESRRP Report Outline

The outline of this Report commences with a Foreword by the Honourable Minister of Water and Environment, an Acknowledgment by the PS-MWE, and an Executive Summary. In detail the report covers the following;

Chapter One - introduces the background on CRRF, the objective of the WESRRP, the Design and alignment of the response plan, and the outline of this report.

Chapter Two - discusses the rationale, policy and regulatory framework regarding the refugees in Uganda. Further, it details the policy and legal framework under which the CRRF operates and the Uganda's Refugee Model. It also describes the Water and Environment planning and policy framework.

Chapter Three - Outlines the need of Strengthening Systems, Capacity Building and Organization Support to the 11 Districts and 03 Water Management Zones.

Chapter Four - analyses the present Environmental and Natural Resources situation, gaps and associated impacts. Discusses the specific theory of changed related to ENR, and provides interventions, implementation & disbursement plan, and result framework on ENR.

Chapter Five - outlines the situation and gap analysis regarding the Water Resources management, theory of change, an implementation & disbursement plan, and a result framework on Water Resources.

Chapter Six - discusses the water supply situation and gaps in service delivery in refugee settlements and host communities, it provides interventions, an action plan with SMART activities, followed by an implementation and disbursement plan and a result framework on Water Supply.

Chapter Seven - same as Chapter Six but for the sanitation and hygiene management in refugee settlements and host communities.

Chapter Eight – Describes the management and coordination framework for the implementing the Sector Refugee Response Plan. It outlines the financing plan and committed financing streams so far realized.

Chapter Nine – The report concludes with an overall Theory of change and the budget.

A number of annexes are appended at the end of the report.

2. RATIONALE AND POLICY CONTEXT

2.1. Rationale

Over the past 36 months since early 2016, the number of refugees hosted in Uganda has significantly increased. By the end of August 2019, following the conclusion of a biometric verification exercise[2], the country has been hosting 1,313,802 million refugees, equalling around 3.3% of the country's total population[3], with the majority coming from South Sudan (63.8%), the Democratic Republic of Congo (27.8%), Burundi (3.2%), Somalia (2.5%) and Rwanda (1.2%). Refugees are primarily living in rural settlements across 11 refugee-hosting districts[4] (92%) as well as in Kampala. In some refugee-hosting districts the population has nearly doubled within the past two years, while at the same time they belong to some of the most remote and least developed districts in the country.

The presence of large numbers of refugees has placed inordinate pressure and overwhelming demands on already stretched capacities and resources of the State and host communities. It has further exacerbated a range of ongoing environmental impacts and associated challenges. While environmental degradation and deforestation are not new phenomena in Uganda, an increase of the population through the presence of refugees has added to the existing pressure on the environment, causing a high risk of degradation due to increased demand for wood as cooking fuel. The environment is heavily impacted by over-reliance on groundwater without monitoring behaviour of benevolent aquifers in most refugee-hosting districts, absence of deliberate catchment conservation and rehabilitation initiatives. Indeed, the demands on ecosystem services from rapid refugee influxes outpace planning and implementation of remedial measures.

According to the United Nations High Commissioner for Refugees (UNHCR) data, more than 90% of the water supplied at refugee settlements level is done via sustainable piped water systems which are being implemented through several donors, including humanitarian, and Government of Uganda (GoU). The main challenges of these established water systems include: ensuring proper governance especially on issues of Operation and Maintenance (O&M), and/or absence of long-term operating partners which is a key point for its sustainability. In addition, there is a lack of integrated water resource management, with developments in settlements often failing to consider the larger catchment area for planning and programming as settlements are yet to be integrated in Catchment Management Plans.

As durable solutions including voluntary repatriation will remain out of reach for the vast majority of refugees living in Uganda, at least in the medium term, refugee-hosting districts will continue to be faced with significant increased populations. In addition, further increasing refugee numbers have created a perpetual cycle of emergency response to urgent needs.

[2] See press release "OPM and UNHCR complete countrywide biometric refugee verification exercise": https://data2.unhcr.org/en/documents/details/66545.
[3] UBOS midyear projected population figures for 2019 equals 40,308,000. The last census was conducted in 2014; population numbers were at 34,634,650. See: https://www.ubos.org/explore-statistics/statistical-datasets/6133/.
[4] Adjumani, Arua, Isingiro, Kampala, Kamwenge, Kikuube, Kiryandongo, Koboko, Kyegegwa, Lamwo, Moyo and Yumbe.

It is against this background that the WESRP has been developed to set out a plan to bridge humanitarian and development programming and advocate for predictable and sustainable financing to increase access to safe and clean water and sanitation and hygiene services as well as functionality of water systems, moving towards sustainable piped water supply systems and the use of existing Government structures for catchment management and O&M in the medium and long term in refugee hosting districts to benefit more than 1.3 million refugees and over 6 million Ugandans that are hosting them. Based on the catchment-based approach, the Plan further aims to enhance integrated and sustainable management and use of natural resources and ecosystems to address environmental degradation and improve energy access. The Water Supply & Sanitation Infrastructure Development Plan (WSSIDP) for Host Communities and Refugee Settlements in the West Nile region, which is currently under development, will build on and form part of the Water and Environment Response Plan.

2.2. Legal, policy and regulatory framework

The implementation of the WESRP is guided by a number of Government policies, plans and frameworks including **Uganda's Vision 2040** and its **National Development Plan**, the **Water and Environment Sector Development Plan**, Sub-Sector Development and Investment Plans and inter-sectoral linkages as well as several international and regional commitments including the **Agenda 2030 on Sustainable Developmen**t and **Global Compact on Refugees and its Comprehensive Refugee Response Framework (CRRF)**.

2.2.1. Uganda's Refugee Model

In line with international instruments to which Uganda is a signatory (including the **1951 Refugee Convention and its Protocol**), the Government Uganda put in place the **2006 Refugee Act** and **2010 Refugee Regulations** that provide refugees with an array of rights, including the freedom of movement, right to work and right to access basic social services on par with nationals, to ensure their dignified stay until they feel safe to return to their countries of origin. Refugees are welcomed, registered[5], allocated land in village-like settlements within the hosting community and provided with documents. Leaving no one behind as envisioned in the **Agenda 2030 on Sustainable Development and the Sustainable Development Goals (SDG)**, the Government included refugees into the **National Development Plan II (2015/16-2019/20)** through the Settlement Transformative Agenda (STA).

These foundational building blocks predate and inspired the **New York Declaration for Refugees and Migrants (NY Declaration)** and its **Comprehensive Refugee Response Framework (CRRF)[6]**. But they also predate the unprecedented influx of South Sudanese that would flee to Uganda for safety. Indeed, the adoption of the NY Declaration 2016 and the agreement by the Government, as the first country worldwide, to pilot the CRRF coincided with the onset of what would become Uganda's single largest refugee influx in her history. It is in this context that

[5] As a signatory state to the OAU Convention Governing the Specific Aspects of Refugee Problems in Africa, Uganda grans *prima facie* refugee status to refugees fleeing from conflict.

[6] New York Declaration for Refugees and Migrants: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_71_1.pdf.

Uganda, as one of the first pilot countries worldwide, turned to the practical application of the CRRF. The CRRF, launched in March 2017, allowed space for both the humanitarian coordination on life saving assistance, while engaging line ministries and other key stakeholders in a longer-term perspective on key sectoral challenges underpinning the settlement model. To advance the shift from a mainly humanitarian focus to development solutions for the long term for both refugees and host communities, as outlined in **Uganda's National Action Plan on the Implementation of the Global Compact on Refugees and its CRRF** and in line with Uganda's commitments in the **Global Compact on Refugees**[7] to clearly articulate where additional resources are needed to meet the needs of refugees and host communities i.e. alternative source of energy for cooking will take place within three years of the plan implementation: i.e. Year 1 - continue with wood fuel from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, charcoal or recycled material, and Year 3 -a combination of fuel saving stoves, liquid/bio gas, solar and/or electricity is proposed. Government-led Sector Response Plans for Refugee and Host Communities are being put in place – such as this Plan for the Water and Environment Sector.

2.2.2. Uganda's Water and Environment Planning and Policy Framework

With the WESRP, the MWE is further enhancing its contribution towards the achievement of the **Sustainable Development Goals**, which highlight the centrality of the water and environment sector in the eradication of poverty and hunger and promotion of sustained and inclusive growth, namely:

> Goal 6: Ensure availability and sustainable management of water and sanitation for all.
>
> Goal 13: Take urgent action to compact climate change and its impacts.
>
> Goal 15: Protect, restore and promote sustainable use of terrestrial eco-systems, suitable manage forests, compact desertification, halt and reverse land degradation and halt biodiversity.

The WESRP also contributes to Uganda's commitment to progressively eliminate inequalities in access and achieve universal access to basic drinking water, sanitation and hygiene for all households, schools and health facilities (UNGA Resolution 64/292).[8]

As an addendum to the **Water and Environment Sector Development Plan (SDP)**, the WESRP is aligned with and contributes to the achievement of **Uganda's Vision 2040** and the **National Development Plan**. The SDP includes the provision of water and sanitation to settlements for poor communities as well as refugees and displaced persons, focusing on water and sanitation infrastructure development to increase access to safe water supply, sanitation and hygiene levels, increase functionality of water supply systems, implement water resources management and promote catchment-based integrated water resources management, as well as the sustainable utilization and management of environment and natural resources.

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[7] Global Compact on Refugees: https://www.unhcr.org/gcr/GCR_English.pdf.

[8] Other relevant international conventions and protocols to which Uganda is a signatory include the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement on Climate Change (COP).

Within the overall framework of the Constitution of Uganda (1995) the legal and policy framework for the management and development of the water and environment sector in Uganda is anchored in the following:

i) The **National Environment Act** (reviewed in 2019) is the principle law governing environmental management and conversation in Uganda and stipulates the establishment of Environment Committees to act as local regularity, monitoring and feedback mechanisms.
ii) The **Water Act** (1997).
iii) The **National Forestry and Tree Planting Act** (2003) supports tree planting by communities and private sector and encourages collaborative forest management as well as intensification of watershed management and soil conservation.
iv) The **National Environment Management Policy** (1994), currently under review, provide an enabling framework for related policies in the environment arena and a roadmap for management of environment resources in Uganda.
v) The **National Water Policy** (2012), which main objective is to manage and develop the water resources in an integrated and sustainable manner to secure/provide water of an acceptable quality and quantity for all social and economic needs, defines that, in rural areas, the basic service level for water supply means provision of 20 to 25 litres per capita per day from a public water point (protected spring, hand-pump equipped shallow well or borehole, or tap stand on gravity-fed scheme).
vi) The **National Climate Change Policy** (2014) provides the overarching objectives to ensure that all stakeholders harmoniously address climate change impacts and their causes through appropriate adaptation and mitigation measures, while promoting sustainable development and a patch to a green economy.
vii) The **Uganda National Forestry Policy** (2004) seeks to achieve sustainable increase in economic, social and environmental benefits from forests and trees by all, especially the poor and vulnerable.
viii) The **National Policy for the Conservation and Management of Wetland Resources** (1995) establishes the principles by which wetland resources can be optimally used now and in the future.

The regulations and standards that are in place to guide users include:

i) Water Resources Regulations (1998)
ii) Waste Discharge Regulations (1998)
iii) Water Supply Regulations (1999)
iv) Sewerage Regulations (1999)
v) Environmental Impact Assessment Regulations (1998)
vi) National Environment Waste Management Regulations (1999)
vii) National Environment Standards for Discharge of Effluent into Water or on Land Regulations (1999)

In addition, the WESRP is guided by a number of sub-sector development and investment plans: A vital plan in this regard is the **Strategic Investment Plan for the Water and Environment**

Sector (2018-2030) guides annual investments in the sector until 2030 and provides a bridge from policy to budgeting by identifying investment priorities that efficiently improve indicator achievements and are feasible given projected financing. The **Water Resources Strategy and Investment Plan** (2018-2030) guides the country in the sustainable development and management of its water resources. The strategy is anchored in a framework for catchment based integrated water resources management tailored to de-concentrate management of water resources to lower levels including Water Management Zones, catchments and governments.

Similarly, a **Water for Production (WfP) Strategy and Investment Plan** (2010-2035) emphasizes "a package approach" for water for production that not only includes construction and installation of water for production infrastructure, but also the software aspects detailing the mobilization, community-based planning and monitoring processes. It focuses on the link between planning for water infrastructure and productive use of the water, private sector back-up support, efficient water utilization, hygiene and sanitation, environmental awareness, gender responsiveness, and the requisite capacity building at use level for sustainable use and operation and maintenance (O&M) of the facilities. In addition, a **Forest Investment Plan** and **Wetlands Investment Plan** are in place. The **National Operation and Maintenance Framework for Rural Water Infrastructure in Uganda** was finalized in May 2019. Pertinent strategies further include the **Climate Change Operationalization Strategy** (2014), **Uganda's Green Growth Development Strategy** (2017-2031), **National Bamboo Development Strategy** (2019) and **Uganda's National REDD+ Strategy** (2017).

Other relevant policies/plans for the management of the Water and Environment Comprehensive Refugee Response Plan are the Local Government Act Cap 243 (1987), National Gender Policy (1999), National Health Policy, Health Sector Strategic Plan, the Health Sector Integrated Refugee Response Plan, Education Sector Strategic Plan, Education Response Plan for Refugees and Host Communities, Energy and Mineral Development Sector Plan and Jobs & Livelihoods Response Plan.

3. STRENGTHENING SYSTEMS AND INSTITUTIONAL SUPPORT

3.1. Introduction

Office of Prime Minister (OPM) is the overall in-charge of refugee welfare in the country, however WASH and Environmental sector activities are technically led by the Ministry of Water and Environment (MWE) and co-led by United Nations High Commissioner for Refugees (UNHCR) in partnership with IPs and OPs.

The MWE is responsible for setting WASH national polices and standards, managing and regulating water resources and determining priorities for water development and management. The Ministry supports construction of public sanitation facilities and promotion of household sanitation and hygiene through the District Water and Sanitation Development Conditional Grant and District Sanitation and Hygiene Conditional Grant, respectively. At Sector level, both development and humanitarian partners support household and institutional sanitation and hygiene (MWE, 2018). The MWE in partnership with the Local Government is currently implementing various projects such as re-afforestation for charcoal, sustainable charcoal production in Kiryandongo, Promotion of sustainable natural resource management, livelihood improvement and job creation in the Northern and Eastern regions in partnership with NEMA, Ministry of Energy and Mineral Development and DEA. The MWE has three directorates including; DWRM, DWD and DEA, and a number of semi-autonomous parastatals and agencies such as NEMA, NFA, NWSC, UNMA, Local Government and Umbrella Authorities as shown in the Figure 3-2 for which it provides oversight and guidance.

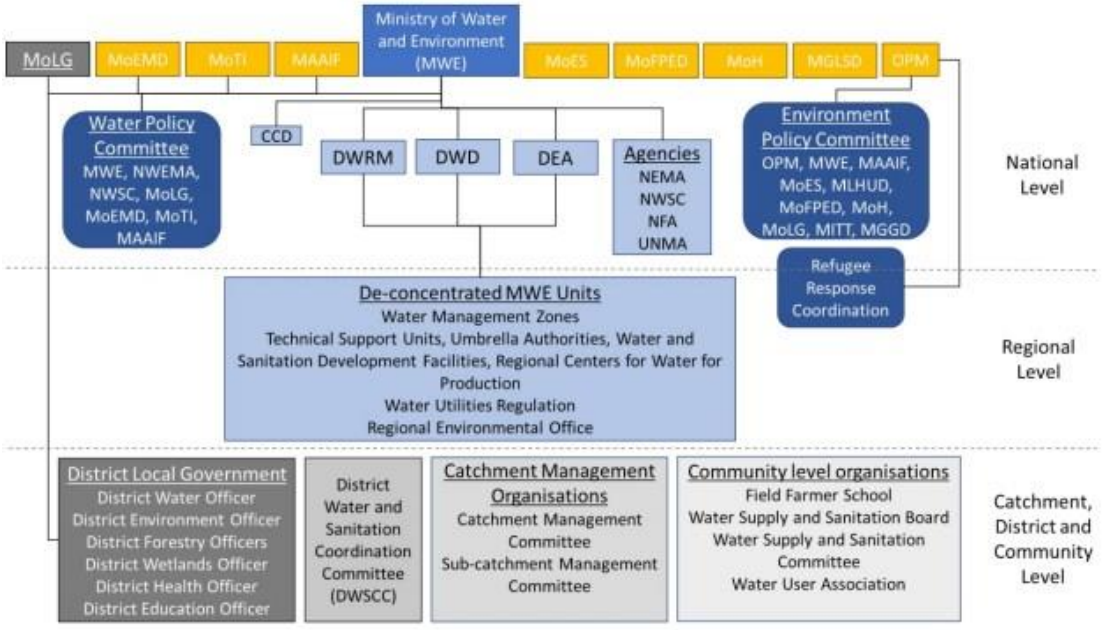

Figure 3-1: Water and Environment Sector Intuitional Framework (Source: MWE, 2018)

It is worth noting that hosting refugees has resulted into constraints on capacities to deliver Water, Sanitation and Hygiene (WASH) and environmental services in the refugee settlements. Most of the refugees are dependent on handouts for livelihood support which is not a sustainable mechanism and puts pressure on environment and implementing partners. However, this can be mitigated through the provision of livelihood support to reduce dependency syndrome and supplement their standards of living. Furthermore, Government agencies such as NEMA need a supplementary budget to conduct field operations. Other departments such as Local Government and Umbrella Authorities and Directorates including; DWRM, DWD and DEA under the MWE need to be capacitated in order to execute their mandates; this is through logistical support, provision of laboratory equipment, hiring and deployment of field staff, capacity building and vocational skills training of utilities enhanced and established, develop monitoring and evaluation framework, reviewing and updating existing manuals and guidelines. A budget line has been developed on each of the output as shown in Table 3-1

3.2. Theory of Change

The outcome of strengthening systems and institutional support is to strengthen water and environment service sector for effective service delivery

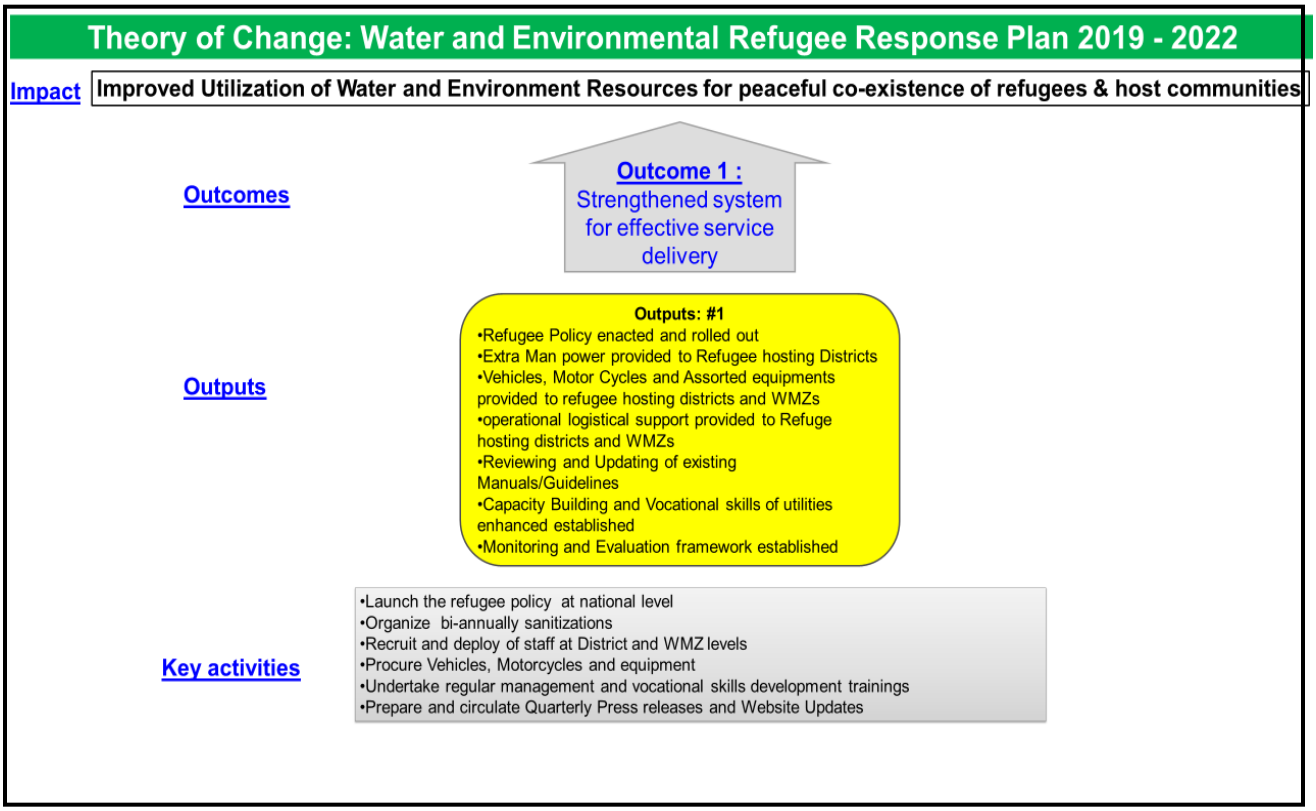

Figure 3-2: Theory of Change for Strengthening Systems and Institutional Support

3.3. Cost to Implement the Proposed Interventions

In order to successfully implement the aforementioned Outcomes i.e. Environment and Natural Resources (Outcome 2A), Water Resources (Outcome 2B), Water Supply (Outcome 3A), and

Sanitation (Outcome 3B) the following activities and their effective implementations are recommended, Table 3-1.

Table 3-1: Financing of the institutional support and strengthening – Outcome 1

Ref.	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
1	**Strengthened system for effective service delivery**	**Various**	**21,579,975**	**19,657,172**	**19,657,172**	**60,894,320**
1.1	**Refugee Policy enacted and rolled out**	**OPM**	**206,000**	**176,000**	**176,000**	**558,000**
1.1.2	Organizing parliamentary advocacy meetings	OPM	10,000	-	-	10,000
1.1.3	Launching the refugee policy at national level	OPM	20,000	-	-	20,000
1.1.4	Organizing bi-annually sensitization meeting in each of the 11 districts	OPM /UNHCR	176,000	176,000	176,000	528,000
1.2	**Extra Manpower provided to Refugee hosting Districts**	**MWE & DLG**	**281,700**	**300,600**	**300,600**	**882,900**
1.2.1	Recruiting and deploying 03 contract officers (1 Water resources engineer, 1 environmental management officer, & 1 social-economist) for three years in each of the 11 districts	MWE	158,400	158,400	158,400	475,200
1.2.2	Recruiting and deploying 11 (DLG) drivers (one for each District) for 27 months	Respective DLGs	4,950	19,800	19,800	44,550
1.2.3	Recruiting and deploying 3 (MWE-WMZ) drivers for the new acquired vehicles for 27 months	MWE - WMZ	1,350	5,400	5,400	12,150
1.2.4	Recruiting and deploying 5 forest guards from the both refugee and host communities for each settlements	OPM & UNHCR with support from MWE- DEA & NFA	117,000	117,000	117,000	351,000
1.3	**Vehicles, Motor Cycles and Assorted equipment provided to refugee hosting districts and WMZs**	**MWE**	**1,161,500**	**-**	**-**	**1,161,500**
1.3.1	Procuring 1 pickup per the refugee hosting district (11)	MWE	440,000	-	-	440,000
1.3.2	Procuring 1 motorcycle per the refugee hosting district (11)	MWE	16,500	-	-	16,500
1.3.3	Procuring assorted equipment as per the refugee hosting district (11)	MWE	165,000	-	-	165,000
1.3.4	Procuring (tax free) 3 pickups	MWE	120,000	-	-	120,000
1.3.3	Procuring, installing laboratory and mapping equipment	MWE	420,000	-	-	420,000

Ref.	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
1.4	**Operational/logistical support provided to Refuge hosting districts and WMZs**	**MWE & DLG**	**52,008**	**166,636**	**166,636**	**385,280**
1.4.1	Providing fuel Vehicles for 27 months (DLGs)	Respective DLGs	8,712	34,848	34,848	78,408
1.4.2	Providing fuel for motor cycle for 27 months (DLGs)	Respective DLGs	1,742	6,970	6,970	15,682
1.4.3	Vehicle maintenance for 2 years (DLGs)	Respective DLGs	-	11,000	11,000	22,000
1.4.4	Servicing and maintaining Motor cycle for 2 years (DLGs)	Respective DLGs	-	2,200	2,200	4,400
1.4.5	Servicing Laboratory equipment Consumables per hosting district (DLGs)	Respective DLGs	19,800	39,600	39,600	99,000
1.4.6	Providing fuel for Vehicles (WMZs)	MWE	2,376	9,504	9,504	21,384
1.4.7	Maintaining vehicles (WMZs)	MWE	-	3,000	3,000	6,000
1.4.8	Maintaining Lab/field equipment Consumables per WMZ	MWE	9,000	18,000	18,000	45,000
1.4.9	Conducting induction for recruited officers, and continue with capacity building & trainings for the project staff in 11 districts	MWE	10,378	41,514	41,514	93,406
1.5	**Reviewing and updating of existing Manuals/Guidelines**	**MWE & DLG**	**130,000**	**-**	**-**	**130,000**
1.5.1	Procuring Consultancy Services to review and update Design Manuals	MWE - UNHCR	50,000	-	-	50,000
1.5.2	Procure consultants for the develop guidelines on environmental conservation and protection in refugee settlements	MWE - UNHCR	80,000	-	=	80,000
1.6	**Capacity Building and Vocational skills of utilities enhanced established**	**MWE & Utility**	**170,000**	**120,000**	**120,000**	**410,000**
1.6.1	Carrying out a training needs assessment (TNA); developing and printing of capacity development and training plan (CD & TP).	MWE, UNHCR, Utility	50,000	-	-	50,000
1.6.2	Undertaking Regular Management and Vocational Skills Development Trainings (at least 25-30pax in each sub region (4) bi-annually)	MWE, Utility, VSDC-NWSC	120,000	120,000	120,000	360,000
1.7	**Monitoring and Evaluation Framework established**	**MWE, CRRF & DLG**	**39,000**	**24,000**	**24,000**	**87,000**
1.7.1	Procuring consultants for developing M&E framework	MWE	15,000	-	-	-15,000

Ref.	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
	Consultancy: with incentive Mechanism					
1.7.2	Conducting Quarterly Performance Review meetings	MWE	16,000	16,000	16,000	48,000
1.7.3	Preparing and circulating Quarterly Press releases and Website Updates	MWE	8,000	8,000	8,000	24,000
1.8	**Logistic Support to Sector Secretariat**	**MWE - RRP**	**671,167**	**211,337**	**211,337**	**1,093,841**
1.9	**Livelihood - support to HH**	**OPM &UNHCR**	**18,120,267**	**18,120,267**	**18,120,267**	**54,360,800**
1.10	**Logistic Support to NEMA**	**NEMA**	**748,333**	**538,333**	**538,333**	**1,824,999**

3.4 Implementation and Disbursement Plan – Strengthening Systems and Institutional Support – Component (Outcome 1)

Ref.	Result/Activity	Response Entity	Amount, US$				Year 1 (2020)				Year 2 (2021)				Year 3 (2022)			
			Year 1	Year 2	Year 3	Total, US$	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1	**Strengthened system for effective service delivery**	**Various**	**21,579,975**	**19,657,172**	**19,657,172**	**60,894,320**	**4,802,334**	**4,955,335**	**5,476,734**	**6,345,572**	**4,840,293**	**4,988,293**	**4,840,293**	**4,988,293**	**4,840,293**	**4,988,293**	**4,840,293**	**4,988,293**
1.1	**Refugee Policy enacted and rolled out**	**OPM**	**206,000**	**176,000**	**176,000**	**558,000**	**10000**	**88000**	**20000**	**88000**	**0**	**88000**	**0**	**88000**	**0**	**88000**	**0**	**88000**
1.1.2	Organising parliamentary advocacy meetings	OPM	10,000			10,000	10000											
1.1.3	Launching the refugee policy at national level	OPM	20,000			20,000			20000									
1.1.4	Organising bi-annually sentization meeting in each of the 11 districts	OPM/UNHCR	176,000	176,000	176,000	528,000		88000		88000		88000		88000		88000		88000
1.2	**Extra Manpower provided to Refugee hosting Districts**	**MWE & DLG**	**281,700**	**300,600**	**300,600**	**882,900**	**68850**	**68850**	**68850**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**
1.2.1	Recruiting and deploying 03 contract officers (1 Water resources engineer, 1 environmental management officer, & 1 social-economist) for three years in each of the 11 districts	MWE	158,400	158,400	158,400	475,200	39600	39600	39600	39600	39600	39600	39600	39600	39600	39600	39600	39600
1.2.2	Recruiting and deploying 11 (DLG) drivers (one for each District) for 27 months	Respective DLGs	4,950	19,800	19,800	44,550				4950	4950	4950	4950	4950	4950	4950	4950	4950
1.2.3	Recruiting and deploying 3 (MWE-WMZ) drivers for the new acquired vehicles for 27 months	MWE - WMZ	1,350	5,400	5,400	12,150				1350	1350	1350	1350	1350	1350	1350	1350	1350
1.2.4	Recruiting and deploying 5 forest guards from the both refugee and host communities for each settlements	OPM & UNHCR with support from MWE- DEA & NFA	117,000	117,000	117,000	351,000	29250	29250	29250	29250	29250	29250	29250	29250	29250	29250	29250	29250
1.3	**Vehicles, Motor Cycles and Assorted equipments provided to refugee hosting districts and WMZs**	**MWE**	**1,161,500**	**-**	**-**	**1,161,500**	**0**	**0**	**585000**	**576500**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1.3.1	Procuring 1 pickup per the refugee hosting district (11)	MWE	440,000			440,000				440000								
1.3.2	Procuring 1 motorcycle per the refugee hosting district (11)	MWE	16,500			16,500				16500								
1.3.3	Procuring assorted equipment as per the refugee hosting district (11)	MWE	165,000			165,000			165000									
1.3.4	Procuring (tax free) 3 pickups	MWE	120,000			120,000				120000								
1.3.3	Procuring, installing laboratory and mapping equipment	MWE	420,000			420,000			420000									
1.4	**operational logistical support provided to Refuge hosting districts and WMZs**	**MWE & DLG**	**52,008**	**166,636**	**166,636**	**385,280**	**0**	**0**	**14400**	**37608.4**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**
1.4.1	Providing fuel Vehicles for 27 months (DLGs)	Respective DLGs	8,712	34,848	34,848	78,408				8712	8712	8712	8712	8712	8712	8712	8712	8712
1.4.2	Providing fuel for motor cycle for 27 months (DLGs)	Respective DLGs	1,742	6,970	6,970	15,682				1742.4	1742.4	1742.4	1742.4	1742.4	1742.4	1742.4	1742.4	1742.4
1.4.3	Vehicle maintenance for 2 years (DLGs)	Respective DLGs		11,000	11,000	22,000					2750	2750	2750	2750	2750	2750	2750	2750
1.4.4	Servicing and maintaining Motor cycle for 2 years (DLGs)	Respective DLGs		2,200	2,200	4,400					550	550	550	550	550	550	550	550
1.4.5	Servicing Laboratory equipment Consumables per hosting district (DLGs)	Respective DLGs	19,800	39,600	39,600	99,000			9900	9900	9900	9900	9900	9900	9900	9900	9900	9900
1.4.6	Providing fuel for Vehicles (WMZs)	MWE	2,376	9,504	9,504	21,384				2376	2376	2376	2376	2376	2376	2376	2376	2376
1.4.7	Maintaining vehicles (WMZs)	MWE	-	3,000	3,000	6,000					750	750	750	750	750	750	750	750
1.4.8	Maintaining Lab/field equipment Consumables per WMZ	MWE	9,000	18,000	18,000	45,000			4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
1.4.9	Conducting induction for recruited officers, and continue with capacity building & trainings for the project staff in 11 districts	MWE	10,378	41,514	41,514	93,406				10378	1079	10379	10379	1079	10379	1079	10379	10379
1.5	**Reviewing and Updating of existing Manuals/Guidelines**	**MWE & DLG**	**130,000**	**-**	**-**	**130,000**	**0**	**0**	**40000**	**90000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1.5.1	Procuring Consultancy Services to review and update Design Manuals	MWE - UNHCR	50,000			50,000				50000								
1.5.2	Procure consultants for the develop guidelines on environmental conservation and protection in refugee settlements	MWE - UNHCR	80,000			80,000			40000	40000								
1.6	**Capacity Building and Vocational skills of utilities enhanced established**	**MWE & Utility**	**170,000**	**120,000**	**120,000**	**410,000**	**0**	**60000**	**25000**	**85000**	**0**	**60000**	**0**	**60000**	**0**	**60000**	**0**	**60000**
1.6.1	Carrying out a training needs assessment (TNA); developing and printing of capacity development and training plan (CD&TP).	MWE, UNHCR, Utility	50,000			50,000			25000	25000								
1.6.2	Undertaking Regular Management and Vocational Skills Development Trainings (at least 25-30pax in each sub region (4) bi-annually)	MWE, Utility, VSDC-NWSC	120,000	120,000	120,000	360,000		60000		60000		60000		60000		60000		60000
1.7	**Monitoring and Evaluation framework established**	**MWE, CRRF & DLG**	**39,000**	**24,000**	**24,000**	**87,000**	**6000**	**21000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**
1.7.1	Procuring consultants for developing M&E framework Consultancy: with incentive Mechanism	MWE	15,000			15,000		15000										
1.7.2	Conducting Quarterly Performance Review meetings	MWE	16,000	16,000	16,000	48,000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
1.7.3	Preparing and circulating Quarterly Press releases and Website Updates	MWE	8,000	8,000	8,000	24,000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
1.8	**Logistical Support to Sector Secretariat**	**MWE - RRP**	**671,167**	**211,337**	**211,337**	**1,093,841**	**52834**	**52834**	**52834**	**512664**	**52834**	**52834**	**52834**	**52834**	**52834**	**52834**	**52834**	**52834**
1.9	**Livelihood - support to HH**	**OPM &UNHCR**	**18,120,267**	**18,120,267**	**18,120,267**	**54,360,800**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**
1.10	**Logistic Support to NEMA**	**NEMA**	**748,333**	**338,333**	**338,333**	**1,824,999**	**134583**	**134584**	**134583**	**344583**	**134583**	**134583**	**134583**	**134583**	**134583**	**134583**	**134583**	**134583**

Figure 3-3: Implementation and Disbursement Plan for Strengthening Systems and Institutional Support – Outcome 1

4. ENVIRONMENT, NATURAL RESOURCES AND CLIMATE CHANGE

4.1. Introduction

Human settlements have social and environmental impacts with population, density, climate and affluence among the main drivers to the extent of their footprints and resulting demand for natural resources. Uganda has a growing population that is also heavily reliant on natural resources to meet basic needs and has seen its forest cover diminish from over 24% in 1994 to less than 9% today (2019); with major pressure coming from forest degradation due to unsustainable harvesting of biomass for energy and forestry products and ultimately deforestation due to land-use change with expansion of subsistence agriculture. It has also seen wetland cover diminish from over 15% in 1994 to less than 8% today (2019), again with pressure and degradation resulting from encroachment for agriculture.

Refugee and host populations living in rural communities, are similarly dependent on natural resources to meet their basic needs for example water for multi-purpose uses, biomass energy for cooking, grass and wood for shelter, land for agriculture, income generation from forest products, stone quarrying, sand mining, brick making and burning among others.

It is noted that environmental degradation and reduced ground water recharge and supply has contributed to climate vulnerability, sexual and gender-based violence for women and children during firewood collection, reduced food and nutrition security and depleted sources of cooking fuel. The health and pollution risks associated with exposure to unmanaged solid waste, proliferation of non-biodegradable plastic waste and the need for safe disposal of medical waste at health centres are key concerns in the refugee response. Competition over diminishing natural resources has caused tension and disrupt of peaceful co-existence between refugee and host communities thereby compromising the asylum space.

Given the similarity in environmental risks and issues in refugee and host communities, these issues are key humanitarian and development nexus for both refugees and host communities, where integration of longer-term planning and mitigation measures is both optimal and essential.

The Environment, Natural Resource and Climate Change (ENRCC) component of the WESRP, aim to:

- Provide analysis of the current situation and needs in the refugee response for environmental management, forestry, wetlands, and climate change including mainstreaming, both in refugee settlements and host communities,
- Identify the roles and responsibilities of stakeholders in the various sub-sectors (Annex I) and institutional capacities required to integrate refugee response into the sub-sector at district, catchment, regional and national levels,
- Provide guidance on strategic approaches, priorities and direction of the ENRCC aspects of plan,
- Provide a roadmap for phased implementation towards inclusion of refugee and host communities in Government service delivery and the next Sector Development Plan,
- Provide a results framework for projects and interventions in the sector,

- Provide strategic guidance to implementing partners on reporting requirements during implementation of the interventions, and
- Provide guidance to donors and development partners on required investments and coordination.

4.2. Situation Analysis

4.2.1. Forestry

The National REDD+ Strategy has identified that forest cover has declined from 4.9MHa (24%) of Uganda's land area in 1990 to 1.83MHa (9%) in 2018 and degradation and loss is an ongoing sustainable development and climate change issue.

The recent influx of refugees from the Democratic Republic of Congo (DRC) and South Sudan has placed additional pressure on forest resources, especially around Kyaka II and Kyangwali settlements and in the north, especially around settlements in Adjumani, Yumbe and Arua. Similar to the rest of rural Uganda, deforestation caused by land-use change from forest cover to agricultural use is prevalent as shown in Figure 4-1 to Figure 4-4. The extent of these changes is now readily monitored and evaluated using the recently developed National Forest Monitoring System (NFMS) housed at National Forestry Authority (NFA) and have also been assessed in recent studies.[9]

While re/afforestation efforts are underway, dedicated woodlots for fuel and agroforestry interventions are needed in all settlements at a larger scale, including increased access to planting materials, quality seed, and seedling species of interest to communities matched to selected sites as well as provision for incentives for management for at least three years to improve tree survival rates. A Geographical Information System (GIS)-based toolbox is being developed for intervening partners and districts to enable tracking of plantations and restoration activities including location, species and survival rates as well as inventory of tree nurseries to be input and disseminated via the NFMS.

[9] World Bank/FAO Rapid Diagnostic

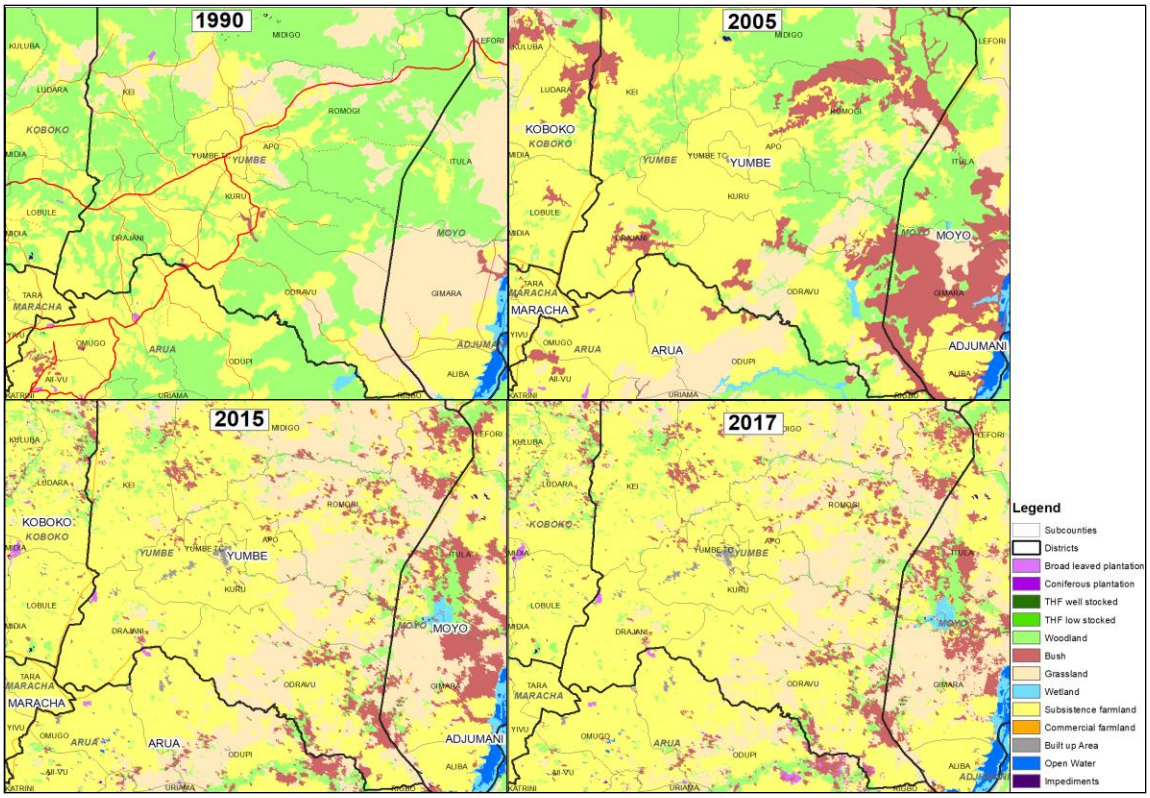

Figure 4-1: Vegetation Cover Change in Bidibidi settlement 1990-2017

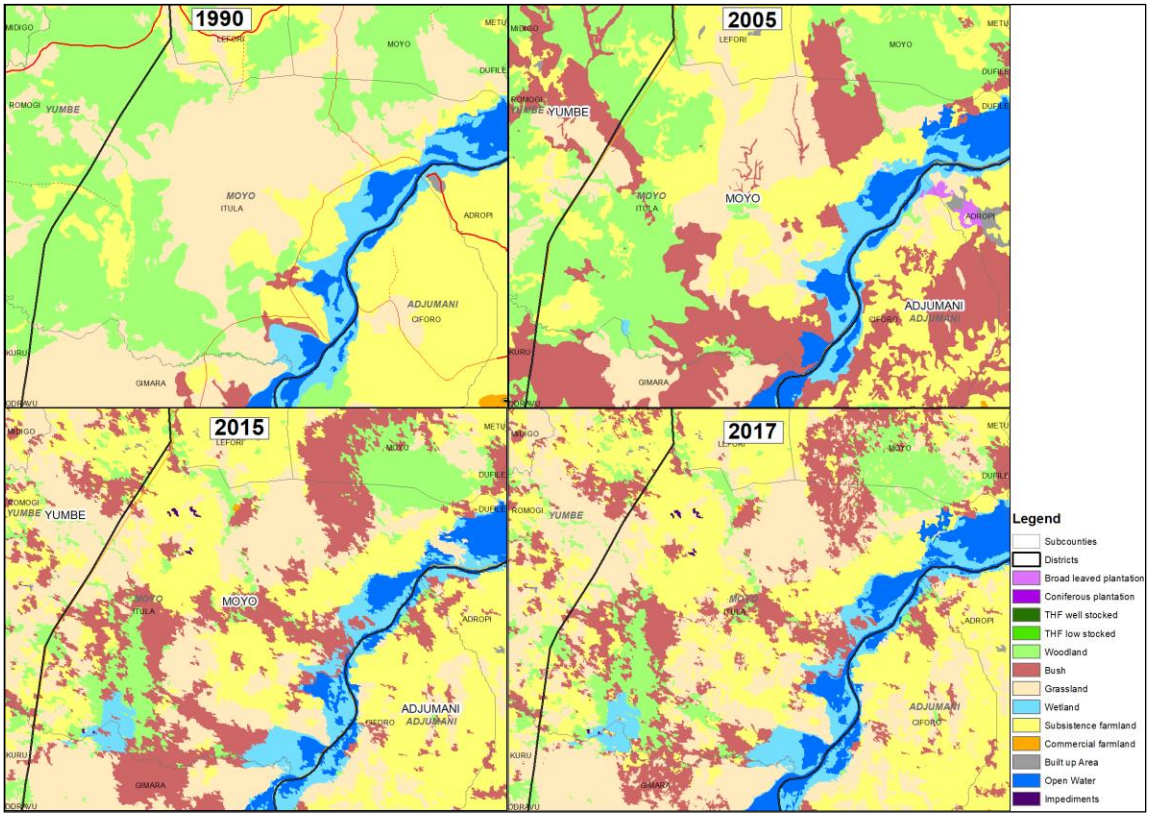

Figure 4-2: Vegetation Cover Change in Palorinya settlement 1990-201

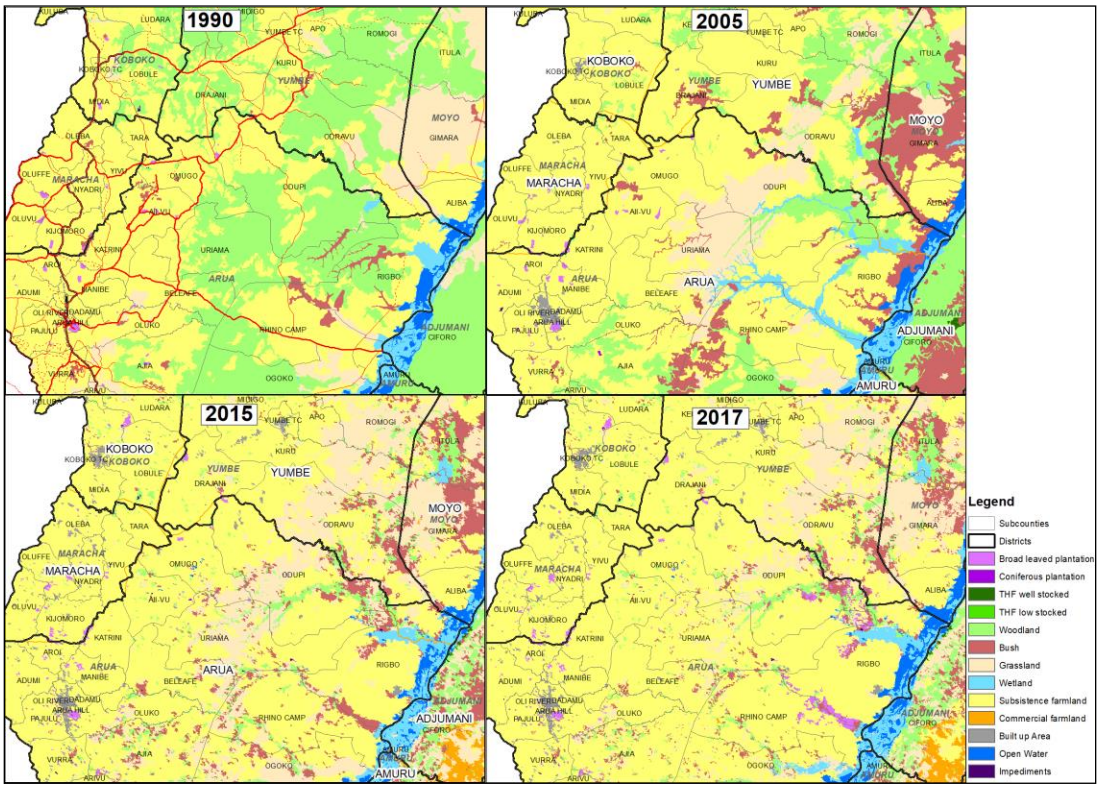

Figure 4-3: Vegetation Cover Change in Rhino Camp settlement 1990-2017

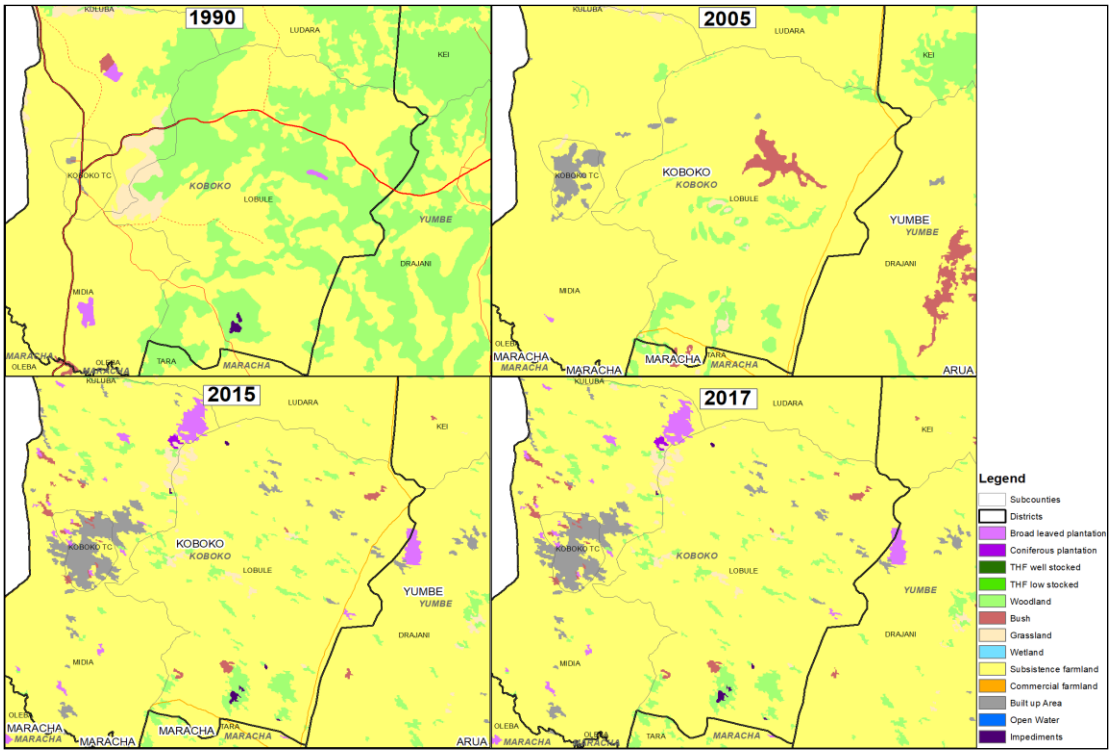

Figure 4-4: Vegetation Cover Change in Lobule settlement 1990-2017

Improvements in biomass demand were noted in a 2019 study that showed that the daily equivalent demand (1.7kg for refugees vs 2.1kg for host communities) for firewood among refugee in northern Uganda dropped by nearly half compared to a similar study in 2017 it averages between 1.8-4.5 kg per person per day, with host communities being on the higher end of that range. This implies that at least 850,000 tons of firewood or roughly 18,000 ha are needed every year to meet the needs of over 1.3 million refugees, equating to a yearly demand of nearly 15No. five-year-old fast-growing trees per refugee Per Year; and even higher rates for the majority of Ugandans. By mid-year 2019, partners had reported planting the equivalent of 2000 ha of various species of trees and efforts were ongoing to both maintain seedlings to survival and scale-up nurseries to increase planting tenfold in 2020.

4.2.2. Wetlands

Loss of wetlands and degradation of shorelines is also a major challenge in Uganda. The rapid decline in wetland cover from over 15% in 1994 to less than 8% today represents significant losses in process of recovery to be governed by the upcoming Wetlands Policy and Bill. Wetland encroachment in refugee and host communities has been due to search for land for agriculture and other livelihood needs as evident in Figure 4-5 to Figure 4-8 below showing wetlands diminished trends over 10 years (2009 – 2019). There is thus need to identify, map and demarcate all degraded wetlands in consultation with all communities (both refugees and host communities) and all stakeholders, sensitize/consult and resettle encroachers, provide alternative sources of livelihoods as well as undertaking wetland restoration activities within the degraded wetlands. This process will require a collective effort between Ministry of Water and Environment (MWE), Office of the Prime Minister (OPM), District Local Governments (DLGs), Local Governments (LGs), Local Councils (for host communities) and Refugee Welfare Committees (RWC) (for refugee settlements) as well as host communities and refugees.

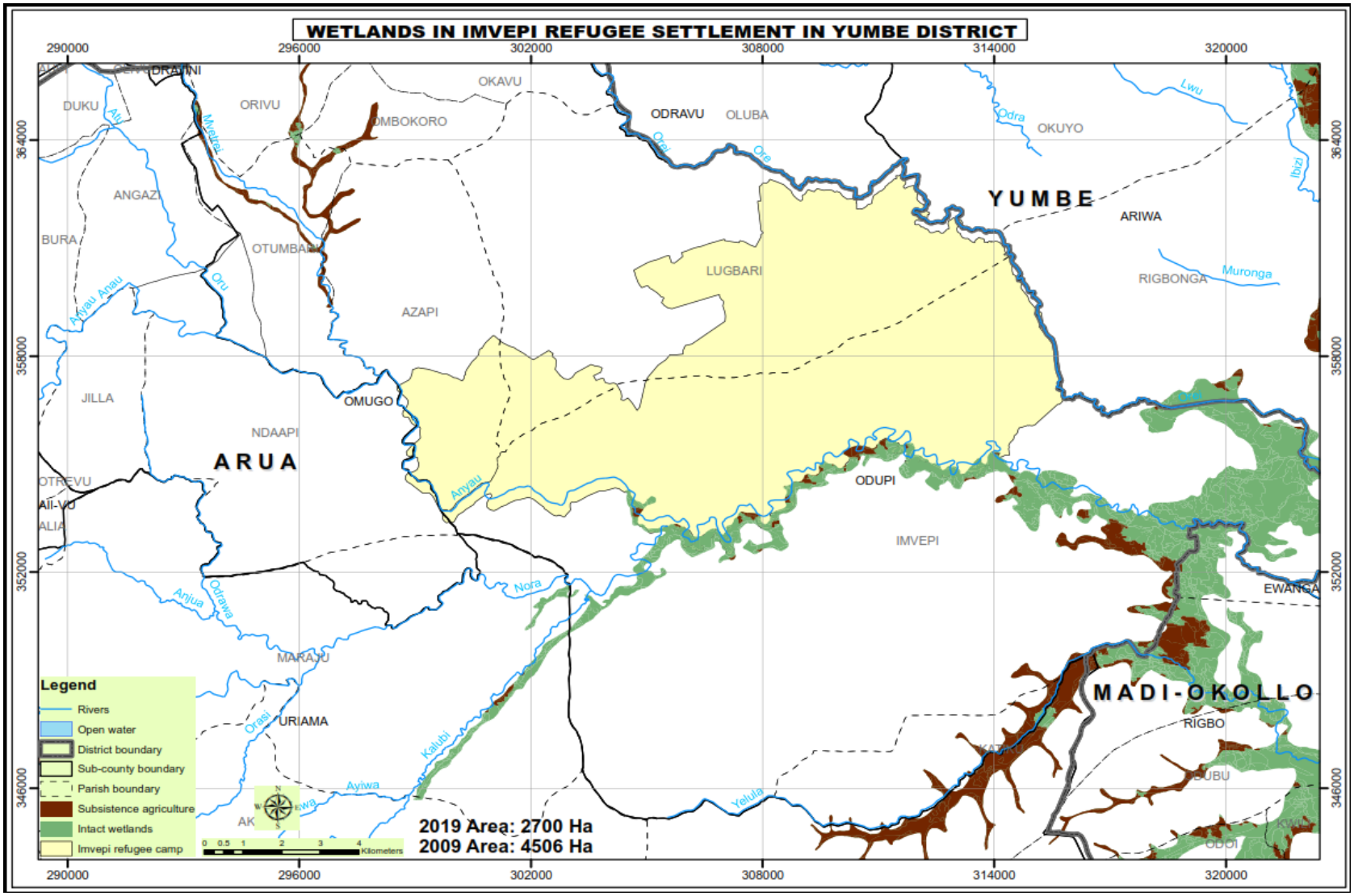

Figure 4-5: Wetland status in Imvepi settlement (2009-2019)

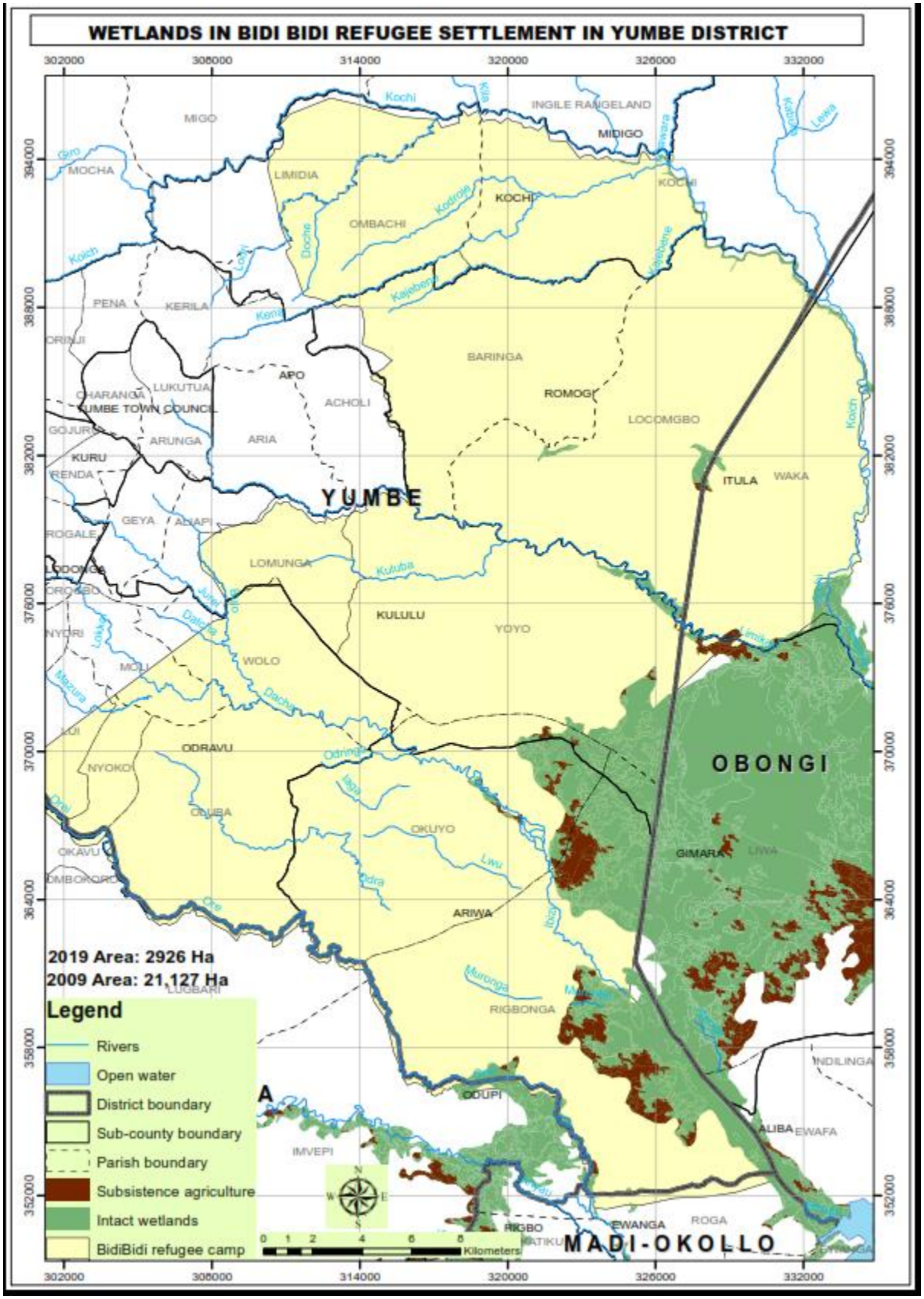

Figure 4-6: Wetland status in Bidibidi settlement (2009-2019)

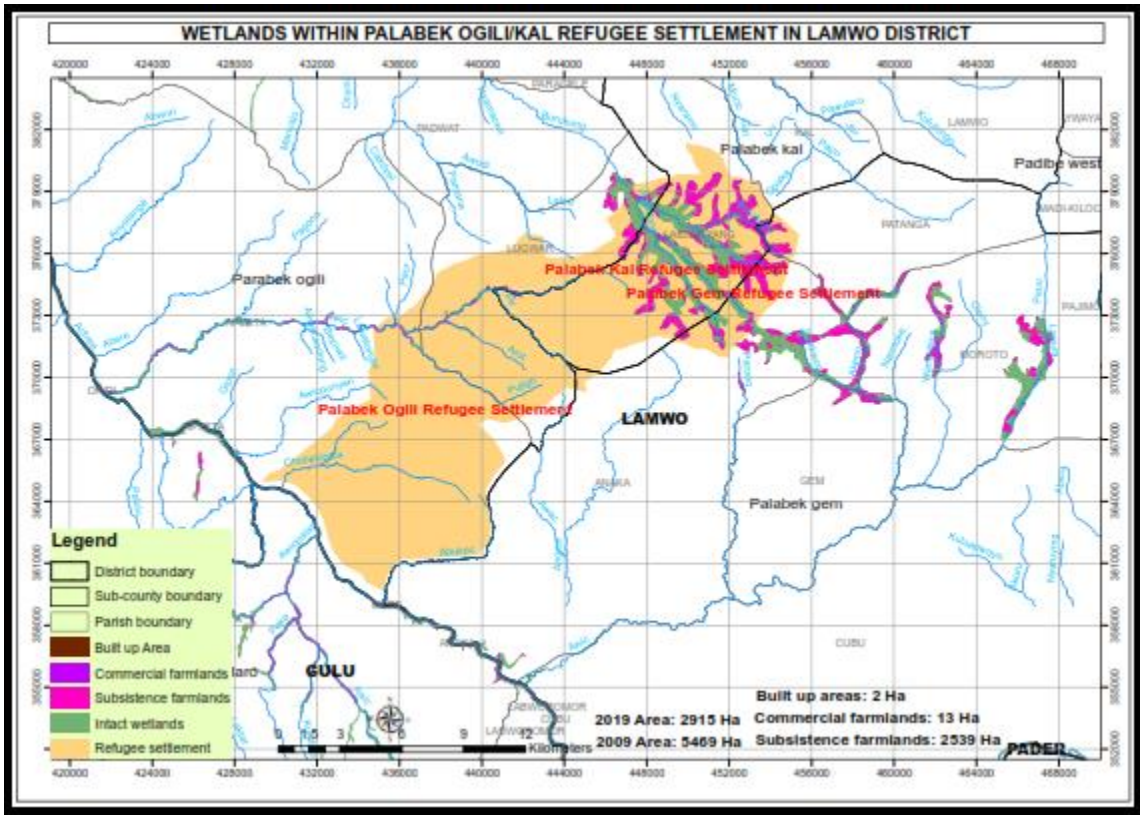

Figure 4-7: Wetland status in Palabek settlement (2009-2019)

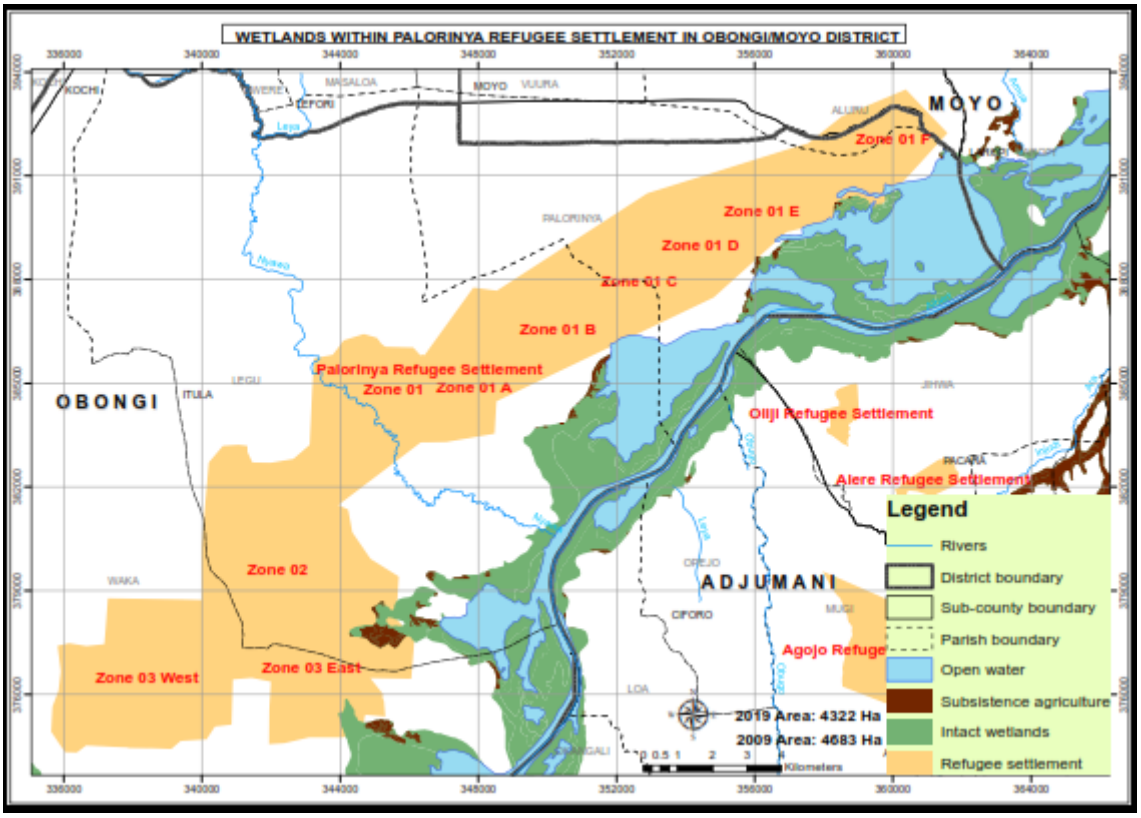

Figure 4-8: Wetland status in Palorinya settlement (2009-2019)

Currently, there are deliberate multi-stakeholder efforts to demarcate and support relocation of encroachers in Kyaka II (Kyegegwa) and to some extent around Lake Nakivale in Isingiro district. MWE, Wetlands department has also demarcated wetlands in Bidibidi, Imvepi, Palabek and Palorinya settlements as indicated in Figure 4-5 to Figure 4-8 above. It is noted that Wetland Management Plans need to be developed and implemented for each refugee-hosting sub- and micro-catchment.

4.2.3 Climate Change

The current and expected effects of climate change differ locally, nationally and regionally. The impacts of climate change effect livelihoods, food and water security, ecosystems, infrastructure etc. Uganda in general is a low GHG emission country, ranking 176 of 188 countries per capita emissions and contributing 0.07% to global GHG emissions. However, Uganda ranks 155 of 181 countries for climate vulnerability. Vulnerability measures the country's exposure, sensitivity, and ability to cope with the negative effects of climate change by considering vulnerability in six life-supporting sectors: food, water, ecosystem service, health, human habitat and infrastructure.

In comparison of records from 16 different climatic zones over two 30-year periods from 1951 to 1980 and from 1981 to 2010 the data overall indicate no clear changes in annual rainfall in Uganda (except for a modest decrease in the northern districts of Gulu, Kitgum, and Kotido, as well as Kasese in the west). However significant increase in temperature at a rate of 0.52°C per decade over the past 30 years have been identified. The magnitude of observed warming, especially since the early 1980s is large and unprecedented within the past 110 years, representing a large deviation from the climate norm. Between 1960 and 2003, the average number of hot days per years increased by over 20%; the average number of hot night per year increased by over 37%.

The warming trend is projected to continue with some models projecting an increase of more than 2 °C by 2030. A warming ranging between 1.4 °C and 4.2 °C is projected for the end of the century. The percentage of rainfall coming in the form of heavy precipitation events is anticipated to increase, which would escalate the risk of disasters such as floods and landslides. Water resources are likely to be increasingly strained in Uganda's future climate. While it is projected that precipitation will increase in some parts of East Africa, warmer temperatures will accelerate evapotranspiration, reducing the benefits of increased rainfall. With more frequent and severe droughts, countries in the region, such as Uganda, will likely experience negative impacts on water supply, biodiversity, and hydropower generation. A shift in rainfall patterns will decrease the recharge of rainwater into the soil, which will have a negative impact on groundwater resources and water tables in wells. Climate change may also affect the health of wetland and forest ecosystems, which provide critical ecosystem (and economic) services for communities. If temperatures rise and the frequency and intensity of extreme droughts and floods increase, it can reduce crop yields and cause a loss in livestock, which will have important implications for food security. The increase in rain during dry seasons could have a significant impact on livestock and agriculture especially on perennial crops and post-harvest activities such as drying and storage.

Due to Uganda's poverty, low rural incomes, lack of income diversity and heavy dependence on rain-fed-agriculture, the country and its people are very vulnerable to climate change. Agriculture is a critical part of Uganda's economy. It accounts for 25.8% of Gross Domestic Product (GDP),

employs 72% of the population and accounts for over 50% for the exports. Uganda developed and implements a number of national policies and strategies related to climate change. Its National Adaptation Programme of Action (NAPA), firstly, prioritized the following nine projects:

i) Community Tree Growing Project;
ii) Land Degradation Management Project;
iii) Strengthening Meteorological Services;
iv) Community Water and Sanitation Project;
v) Water for Production Project;
vi) Drought Adaptation Project;
vii) Vectors, Pests and Disease Control Project;
viii) Indigenous Knowledge and Natural Resource Management;
ix) Climate Change and Development Planning Project.

The implementation of the Climate Change Policy has been delayed due to the lack of progress in the preparation and submission to Parliament of a Climate Change Bill that would provide the legal and regulatory framework for the operationalization of the policy is still under a consultative process (Climate Change profile change, 2018).

The settlement of refugees Uganda has had an impact on the environment in four broad ways owing to various livelihood and other activities as shown in Figure 4-9. Deforestation and general loss of vegetation cover; Water pollution and depletion of ground water resources; Land degradation and; Air pollution. As illustrated in Figure 4-9 to Figure 4-11 the immediate needs of refugees arriving in the country will typically include shelter, cooking (fuel needs), agricultural production, and income generation. Meeting these needs necessarily impacts on the environment as households cut down trees to get firewood, construction poles; clear vegetation for agriculture, roofing materials; etc. (https://data2.unhcr.org/es/documents/download/64183).

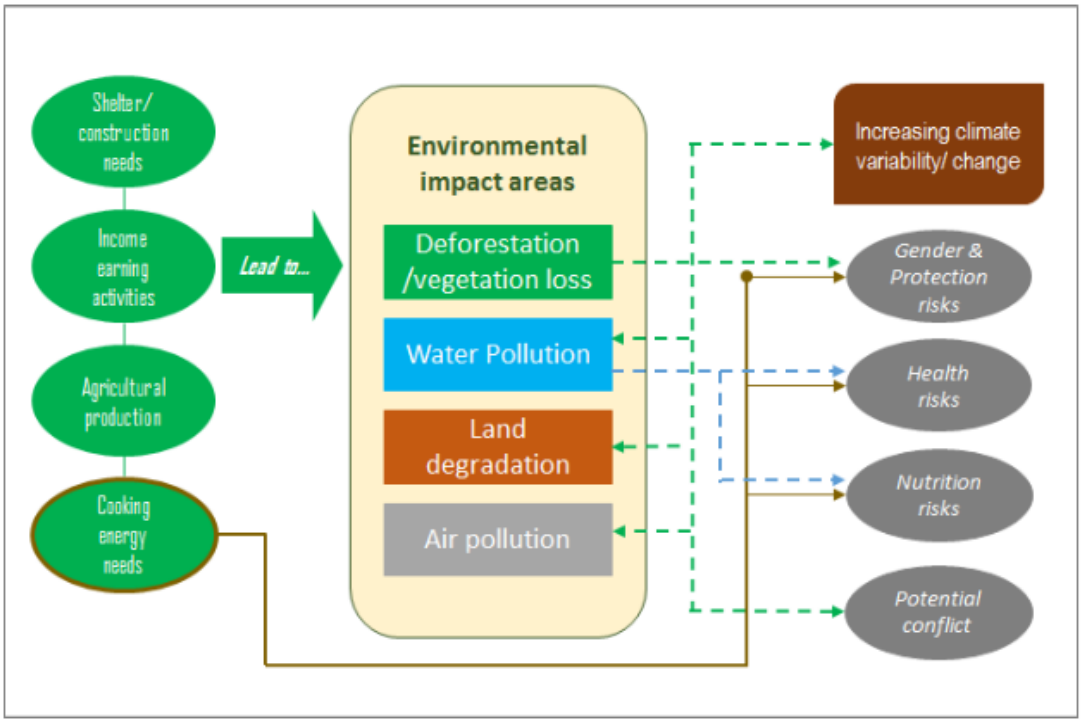

Figure 4-9: Activities that have impacted on the Environment increasing Climate Change Impacts

Figure 4-10: Firewood collection in Kyangwali Refugee settlement

Figure 4-11: Signs of Water Pollution (Washing in water stream in Kyangwali and Solid waste dumping in a wetland in Rwamwanja

4.2.4 Ongoing Projects

Currently, the majority of funding and activities of implementing partners intervening in environment in the refugee settlements are funded by UNHCR. There are however multiple, current and planned development projects in broader refugee-hosting communities. These require detailed mapping and regular reporting. Development partners should submit all ongoing and planned Terms of Reference as well as quarterly progress briefs to the Water and Environment Sector Working Group (WESWG), Refugee Response Sector Working group (RRSWG), and Secretariat before finalization to be merged with this plan. Some of these projects include but are not limited to:

- World Bank –DRDIP; IDA-18; Albertine-Graben Forest Landscapes
- FAO –SPGS III; Woodlots planned for Kyangwali and Rwamwanja
- FAO/SIDA Climate Resilient Livelihood Opportunities for Women Economic Empowerment in West Nile and Karamoja Regions of Uganda
- DANIDA - NURI – Northern Uganda Resilience Initiative
- UNCDF -DINU -Development Initiative for Northern Uganda
- GCF/UNDP -Building community resilience, wetlands ecosystems and associated catchments in Uganda
- African Development Bank –FIEFOC –Adjumani, Arua, Kiryandongo
- SIDA/Church of Sweden –multi-sectoral, multi-year programme in Kyangwali

4.3 Gap Analysis

4.3.3 Lack of Model/Tools in Choosing Areas to Establish Refugee Settlements.

Refugees are often settled in environmentally marginal locations with population densities up to ten times the national average. The demands on ecosystem services from rapid refugee influxes outpace planning and implementation of remedial measures. Whereas environmental screening has not been consistently integrated in settlement planning, this increases exposure to risks of environmental and social hazards such as flooding, conflicts over land use and resources, loss of vegetation, biodiversity, wetlands and degradation of watersheds. There is thus a need for a tool/model to aid stakeholders in decision making i.e. where to establish refugee settlements, where the resources are (e.g. water, fuel, etc.). This tool would also help in tracking changes in Environmental set ups and water resources hence providing timely interventions.

4.3.4 Lack of Strategic Environmental Assessment (SEA) and Environmental and Social Impact Assessment (ESIA)

While every settlement requires an Environmental and Social Impact Assessments (ESIA) as the basis for site-specific environmental management and site planning, ESIAs have only been undertaken in a few refugee settlements and even then, there is no evidence of approval by National Environment Management Authority (NEMA). Moreover, the implementation of the resulting management and Environment Action Plans (EAPs) as proposed in those ESIAs are lacking. The refugee settlements that ESIAs have been undertaken are Palabek, Imvepi, Rwamwanja and Omugo. SEAs are also not been undertaken in advance to ensure that, the proposed settlements won't cause severe impacts both to the environment and host communities. Going forward in this

WERSSP, SEAs and ESIAs will be carried out within the first phase of implementation of this plan for the refugee settlements with no SEAs and ESIAs and stipulated in the budget for ENR.

4.3.5 Over exploitation of forest resources

Forest resources are affected in refugee settlements and refugee hosting communities at large due to significant dependence on natural resources to sustain life such as accessing firewood for cooking and poles for construction. Demand for wood fuel is the main contributor of the forest deforestation within the refugee settlements and host communities.

Refugees are being provided with food but no fuel for cooking. Access to sustainable energy for sufficient and clean cooking, lighting and power also remain key challenges in the refugee settlements and in Uganda at large. The 2018 joint inter-agency MSNA (Multi-sectorial Needs Assessment) shows that 93 per cent of refugee and host community households depend on fuel wood energy for cooking, with only 45 per cent of refugee and 20 per cent of host community households reporting use of energy-saving stoves. On the other hand, poles for construction are being given out in small quantity at a range of four (4) to six (6) poles per household to construct both the house, kitchen and toilet/latrines. The number of poles provided are not sufficient which forces the refugees to harvest forest resource/poles for construction.

Six million trees are proposed to be planted yearly for the next 3 years of this plan. It is also proposed in this WERRSP almost 3,000 acres of land is identified close to refugee settlements i.e. at least an acre for every after 100 households where woodlots will be planted. These woodlots would provide construction materials in the future as well as firewood. It is evident that the refugee settlements and host communities may not have sufficient land to plant the Six (6) million trees every year, a pilot venture, hence Public Private Partnerships (PPP) are recommended where private land owners even outside the refugee hosting areas can allow partnerships with IPs and OPs to plant trees on a large scale. Such partnerships would be well documented with clear objectives, ownership and management of the planted woodlots. Other modes of acquiring land for tree planting would be land leases.

In the meantime, as efforts are being undertaken to plant trees and rejuvenate the lost vegetation cover, there is need to procure and supply alternative fuel, even renewable energy, to wood fuel to refugees within the 3 years to abate the current situation where vegetation and forest cover is being lost exponentially. Initially, wood fuel would be procured by IPs and OPs from licensed firms/individuals, and later swift to alternative fuel source such as liquid gas, biogas, briquettes/charcoal using fuel saving stoves, etc. Efforts would also be made to provide alternative clean and/or renewable energy i.e. photovoltaic solar, and hydro-power electricity. The Energy Refugee Response Plan, under development, would provide more details on alternative energy sources.

4.3.6 Degradation of wetland resources

Wetlands are being degraded mostly due to demand for fertile land and water for agriculture, construction materials by refugees and host communities. The encroachment and degradation of wetlands has had an impact on water resources including water quality. The degradation of wetlands has been exacerbated by lack of monitoring and regulation from the responsible agencies

i.e. NEMA, Wetlands Department due to lack of enough resources (financial and personnel) to carry out their mandate. Where efforts have been made to demarcate some wetlands in refugee settlements, no restoration are yet to be enforced.

This WERSSP therefore has incorporated interventions to demarcate and restore four critical wetlands and carryout the same in the next phase of the plan (i.e. after 3 years)

4.3.7 Lack of logistics and budgetary allocations to carry out mandated roles at local, regional and national levels

Local Governments and other Government agencies such as NEMA, NFA and Local Government Districts face challenges in implementing their roles and mandates due to lack of fund, resources and logistics. This has increasingly led to unchecked degradation of forest cover, wetlands and other natural resources e.g. stone quarrying, sand mining, brick making, etc. This is a serious gap that requires interventions hence this WERSSP has taken into consideration of needs/requirements by NEMA, NFA and Local Governments hosting refugees to enable them carryout their mandates as required for the next three years.

4.4 Theory of Change

Guided by Uganda's Comprehensive Refugee Response Framework (CRRF), the theory of change for the environment and natural resources describes the strategic inputs and activities, which if implemented holistically, will impact on **improved utilization of environment and natural resources for peaceful co-existence of refugees and host communities.** The plan recognizes the crucial role of strengthening systems for effective service delivery and close partnership with government bodies, under the leadership of the Ministry of Water and Environment. This will be achieved through, provision of extra manpower to refugee hosting districts, provision of vehicles, motor cycles and assorted equipment's to refugee hosting districts and WMZs, Offsets associated with Forest loss are established based on SEA and ESIAs , woodlots under settlements established, construction materials are given to refugees, wood fuel/alternative environmentally friendly fuel provided, all degraded and wetlands within refugee Hosting Districts restored resulting to **restored, conserved & protected environment and natural resources for existing and degraded situations** as an outcome.

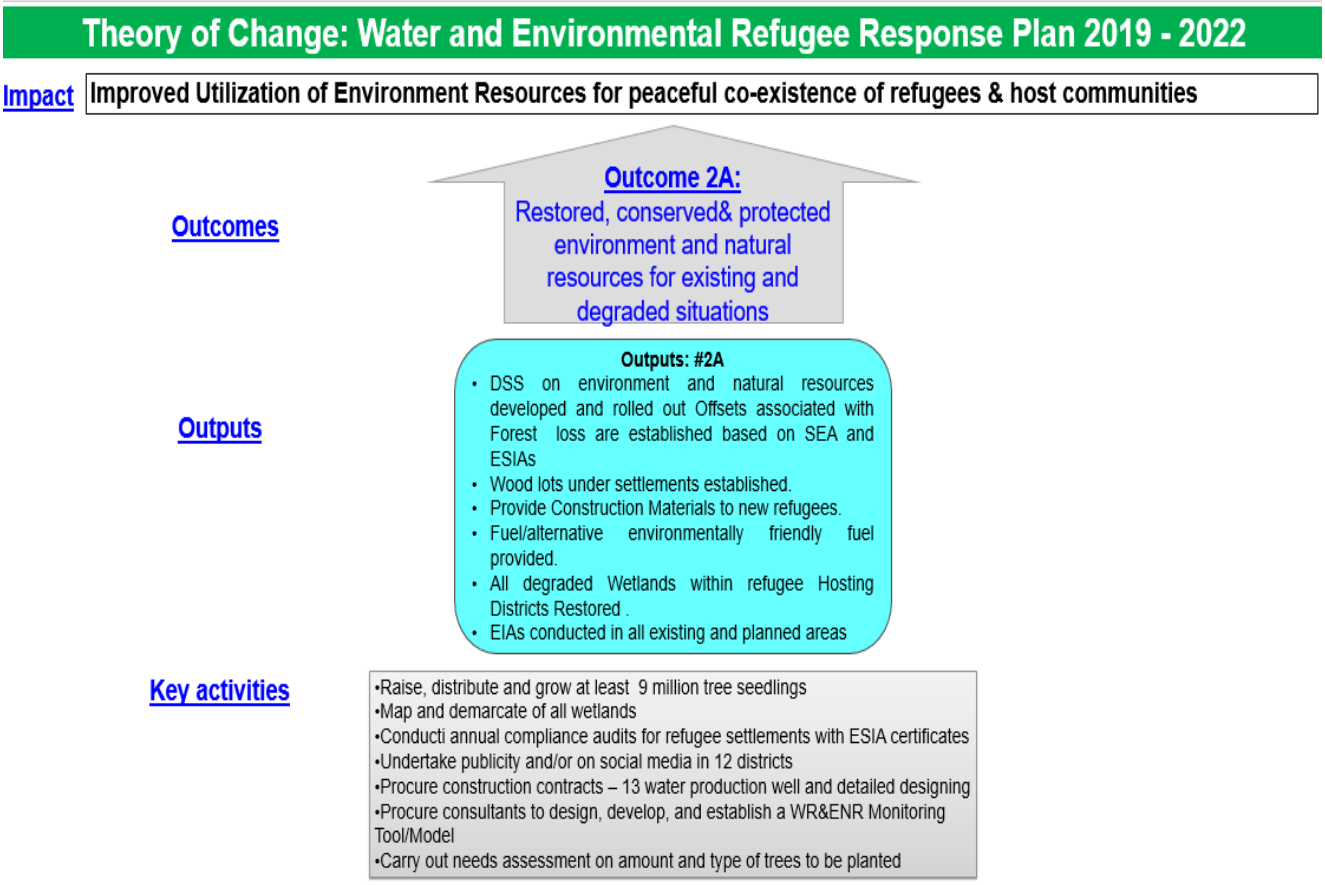

Figure 4-12 Theory of Change for ENR

4.5 Proposed Interventions

Environment and climate change mitigation and adaption need to be mainstreamed across sectors, especially through implementation of solid waste management and increased access to sustainable energy. Similarly, all partners involved in the refugee response need to integrate environment mitigation within emergency preparedness, stabilization and empowerment measures across all sectors. The proposed interventions are aiming at bridging the identified gaps in the sector as highlighted in Table 4-1 below.

Table 4-1: Proposed interventions for the identified gaps in the environment and natural resources

S/N	Gap	Intervention
1.	Lack of Model/Tools in choosing areas to establish refugee settlements.	Procuring of Consultants to design, develop, and establish a WR&ENR Monitoring Tool/Model
2.	Lack of Strategic Environmental Assessment (SEA)	Procuring of Consultants to conduct Strategic Environmental Assessment/ Environmental and Social Management Framework for all new settlements before their establishment

S/N	Gap	Intervention
3.	Lack of Environmental and Social Impact Assessment (ESIA) in the settlements	1. Procuring of Consultants to conduct Environmental and Social Impact Assessment for all existing settlements 2. Conducting ESIAs for new projects in the refugee settlements 3. Conducting annual compliance audits for refugee settlements with ESIA certificates
4.	Over exploitation of forest resources	Carry out needs assessment on amount and type of trees to be planted within each settlement and district hosting refugees.
		Raise at least 6 million tree seedlings/manage trees per year for three years
		Survey, demarcate, & establish woodlots i.e. an acre for every 100 households within/around a refugee settlement
		Engage land owners to either sell their land, lease or enter into Private Public Partnerships for tree planting
		Land acquisition -off-site- under a PPP arrangement (leasing or procure)
		At household level, each household, to be allocated sufficient space and encouraged to plant/grow four fruit trees of their preference each year.
		Conduct a study on alternative sources of energy such as solar and gas to be used by refugees within the settlements
		Sensitization on the use of available briquettes, renewable energy and fuel saving stoves.
		Advertise, and procure authorized & licensed service providers for wood fuel to supply to refugees until an alternative fuel is sought. In meantime following is approach is recommended: Year 1 - wood fuel BUT from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, or recycled material, and Year 3 -a combination of fuel saving stoves, liquid/bio gas, solar and/or electricity.
5.	Insufficient construction materials to refugees	**All degraded Wetlands within refugee Hosting Districts Restored**
		Provide to new refugee's construction materials such as unburnt bricks, sand, cement, poles, PE sheeting & thatching material, etc. from licensed suppliers.
6.	Destructed wetland resources	Map & demarcate all wetlands (&other natural reserves) in districts hosting refugees and develop wetland management plans
		Restore degraded wetlands, establish wetland management committees and provide a system of awareness creation and enforcement on the guidelines for wetland management
7.	Lack of logistics and budgetary allocations to carry out mandated roles at local, regional and national levels	Support to local government and environment and natural resources related authorities

4.6 Cost to Implement the Proposed Interventions

The costing of the implementing restoration, conservation and protecting of environment and natural resources for existing will focus on the proposed intervention activities for the identified seven (7) main gaps. The costing has been stretched for the period of the three years to allow consistence implementation and monitoring of the proposed interventions. The interventions

estimated cost for the ENR Sub-Component – Outcome 2A is **US$ 586,321,491** which is **64%** of the total plan budget (**USD 915,582,608).** Substantial cost for implementation of Environment and Natural Resources interventions, to restore, protect and conserve already damaged environment, will be in the 11 refugee hosting districts and at catchment level. The detailed budget is as shown in Table 4-2 below.

Some of the expected output for the Environment and Natural Resources (ENR) initiatives are such as raising of 18 million seedlings, ENR decision tool for establishment of refugee settlements, development and issuance of ESIAs certificates and provision of fuel wood from licensed providers and/or alternative fuel.

The expected outcomes for the proposed ENR activities and expected outputs are, improved ecosystem management such as wetlands and forest reserves, protected environment as a result of implementing mitigation measures as proposed in the ESIA reports, provision of fuel wood and building materials/poles.

Table 4-2: Cost for implementing environmental interventions – Sub Component - Outcome 2A

Ref	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
2A	**Environment and Natural Resources Sub - Budget**	**MWE**	**148,598,737**	**211,250,623**	**226,472,130**	**586,321,491**
2.1	**Decision support system on environmental and natural resources developed and rolled out**	**MWE**	**666,667**	**1,333,333**	**-**	**2,000,000**
2.1.1	Procuring of Consultants to design, develop, and establish a WR&ENR Monitoring Tool/Model	MWE	666,667	1,333,333		2,000,000
2.2	**Environmental Assessments conducted in all existing and planned areas**	**MWE, NEMA & DLG**	**299,000**	**332,500**	**137,500**	**769,000**
2.2.1	Procuring of Consultants to conduct Environmental and Social Impact Assessment for all existing settlements	NEMA & UNHCR	65,000	195,000		260,000
2.2.2	Conducting annual compliance audits for refugee settlements with ESIA certificates	NEMA & UNHCR		130,000	130,000	260,000
2.2.3	Conducting ESIAs for new projects in the refugee settlements	MWE & NEMA	234,000			234,000
2.2.4	Procuring of Consultants to conduct Strategic Environmental Assessment/ Environmental and Social Management Framework for all new settlements before their establishment	NEMA & UNHCR		7,500	7,500	15,000
2.3	**Offsets associated with Forest loss are established based on SEA and ESIAs**	**MWE & DLG**	**78,000**	**-**	**-**	**78,000**
2.3.1	Carrying out needs assessment on amount and type of trees to be	NFA & UNHCR	78,000	-	-	78,000

Ref	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
	planted within each settlement and district hosting refugees.					
2.4	**Wood lots under settlements established**	**MWE & OPM**	**17,789,861**	**17,757,861**	**17,757,861**	**53,305,584**
2.4.1	Raising, distributing and growing of at least 3.2 million tree seedlings per year for three years	NFA & PSP	9,784,944	9,784,944	9,784,944	29,354,832
2.4.2	Surveying, demarcating, & setting woodlots i.e. an acre for every 100 households within/around a refugee settlement	OPM, UNHCR, NFA	2,582,138	2,582,138	2,582,138	7,746,414
2.4.3	Organizing Sensitization meetings with land owners to either sell their land, lease or enter into Private Public Partnerships for tree planting	OPM & UNHCR	32,000			32,000
2.4.4	Leasing or Procuring Land -Off site- under a PPP arrangement	OPM, UNHCR, NFA	4,303,563	4,303,563	4,303,563	12,910,690
2.4.5	Training and sensitization sessions at household level to refugees and host communities plant/grow four fruit trees of their preference each year.	UNHCR, IPs, OPs & Refugees	1,087,216	1,087,216	1,087,216	3,261,648
2.5	**Construction Materials for new refugees houses provided**	**UNHCR**	**2,083,018**	**2,018,018**	**2,018,018**	**6,119,054**
2.5.1	Conducting of an assessment to identify source and quantity of needed construction materials	UNHCR, IPs & OPs	65,000	-	-	65,000
2.5.3	Procuring and distribution of construction materials to new refugees: such as unburnt bricks, sand, cement, poles, PE sheeting & thatching material, etc. from licensed suppliers.	OPM, UNHCR, IPs & OPs	2,018,018	2,018,018	2,018,018	6,054,054
2.6	**Fuel/alternative environmentally friendly fuel provided to refugees**	**MWE & UNHCR**	**98,921,591**	**98,920,091**	**98,920,091**	**296,761,773**
2.6.1	Organising sensitization meetings on the use of available briquettes	MoEMD, IPs & OPs	33,333	33,333	33,333	100,000
2.6.2	Procuring authorized & licensed service providers for wood fuel to supply to refugees until an alternative fuel is sought.	MWE - NFA & UNHCR	1,500	-	-	1,500
2.6.3	Procuring and distributing cooking fuel to refugees: Year 1 - continue with wood fuel BUT from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, or recycled material, and Year 3 -a combination of fuel saving stoves,	OPM, NFA & UNHCR	98,886,758	98,886,758	98,886,758	296,660,273

Ref	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
	liquid/bio gas, solar and/or electricity.					
2.7	**All degraded Wetlands within refugee Hosting Districts Restored**	**MWE & DLG**	**28,760,600**	**90,888,820**	**107,638,660**	**227,288,080**
2.7.1	Mapping and demarcating of all wetlands (& other natural reserves) in districts hosting refugees including development of wetland management plans	MWE - DEA/NFA	660,000	660,000	-	1,320,000
2.7.2	Establishing wetland management committees and provide a system of awareness creation and enforcement on the guidelines for wetland management i.e. Kyaka II Wetlands + 4 No. Wetlands	MWE - DEA	-	2,500,000	2,500,000	5,000,000
2.7.3	Wetland Restoration 22,922 Ha, initially in four Refugee settlements	MWE - DEA	28,100,600	87,728,820	105,138,660	220,968,080

4.7 Implementation Plan

The proposed activities shall be implemented in the stretch of three years of the plan but in different time-frame depending on its applicability. The detailed implementation plan for each activity have been put in quarterly basis as detailed in Figure 3-10.

4.8 Result framework on Environment and natural Resources

The proposed interventions are aimed to ensure that the identified gaps are resolved. The result framework matrix Table 4-3 below details the outcomes, means of verifications, assumptions made, risks and mitigation measures.

Ref.	Result/Activity	Response Entity	Total, US$	Year 1 (2020				Year 2 (2021)				Year 3 (2022)			
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
2A	**Environment and Natural Resources Sub - Budget**	**MWE**	**586,321,491**	**32,288,344**	**39,205,879**	**44,788,004**	**34,816,511**	**49,470,065**	**56,389,100**	**58,095,559**	**47,295,899**	**51,518,359**	**58,429,893**	**62,383,019**	**51,640,859**
2.1	**Decision support system on environmental and natural resources developed and rolled out**	MWE	2,000,000	0	0	0	666667	666666.5	666666.5	0	0	0	0	0	0
2.1.1	Procuring of Consultants to design, develop, and establish a WR&ENR Monitoring Tool/Model	MWE	2,000,000				666667	666666.5	666666.5						
2.2	**Environmental Assessments conducted in all existing and planned areas**	MWE, NEMA & DLG	769.000	0	0	0	299000	65000	65000	65000	137500	7500	0	0	130000
2.2.1	Procuring of Consultants to conduct Environmental and Social Impact Assessment for all existing settlements	NEMA & UNHCR	260,000				65000	65000	65000	65000					
2.2.2	Conducting annual compliance audits for refugee settlements with ESIA certificates	NEMA & UNHCR	260,000								130000				130000
2.2.3	Conducting ESIAs for new projects in the refugee settlements	MWE & NEMA	234,000				234000								
2.2.4	Procuring of Consultants to conduct Strategic Environmental Assessment/ Environmental and Social Management Framework for all new settlements before their establishment	NEMA & UNHCR	15,000								7500	7500			
2.3	**Offsets associated with Forest loss are established based on SEA and ESIAs**	MWE & DLG	78,000	19500	19500	19500	19500	0	0	0	0	0	0	0	0
2.3.1	Carrying out needs assessment on amount and type of trees to be planted within each settlement and district hosting refugees.	NFA & UNHCR	78,000	19500	19500	19500	19500								
2.4	**Wood lots under settlements established**	MWE & OPM	53,305,584	16000	6901701.3	10872160	0	0	6885701	10872160	0	0	6885701	10872160	0
2.4.1	Raising, distributing and growing of at least 6million tree seedlings per year for three years	NFA & PSP	29,354,832			9784944				9784944				9784944	
2.4.2	Surveying, demarcating, & setting woodlots i.e. an acre for every 100 households within/around a refugee settlement	OPM, UNHCR, NFA	7,746,414		2582138				2582138				2582138		
2.4.3	Organizing Sensitization meetings with land owners to either sell their land, lease or enter into Private Public Partnerships for tree planting	OPM & UNHCR	32,000	16000	16000										
2.4.4	Leasing or Procuring Land -Off site- under a PPP arrangement	OPM, UNHCR, NFA	12,910,690		4303563				4303563				4303563		
2.4.5	Training and sensitization sessions at household level to refugees and host communities plant/grow four fruit trees of their preference each year.	UNHCR, IPs, OPs & Refugees	3,261,648			1087216				1087216				1087216	
2.5	**Construction Materials for new refugees houses provided**	UNHCR	6,119,054	504504.505	504504.505	569504.505	504504.505	504504.505	504504.505	504504.505	504504.505	504504.505	504504.505	504504.505	504504.505
2.5.1	Conducting of an assessment to identify source and quantity of needed construction materials	UNHCR, IPs & OPs	65,000			65000									
2.5.3	Procuring and distribution of construction materials to new refugees: such as unburnt bricks, sand, cement, poles, PE sheeting & thatching material, etc. from licensed suppliers.	OPM, UNHCR, IPs & OPs	6,054,054	504505	504505	504505	504505	504505	504505	504505	504505	504505	504505	504505	504505
2.6	**Fuel/alternative environmentally friendly fuel provided to refugees**	MWE & UNHCR	296,761,773	24723189.44	24755933.77	24721689.44	24721689.44	24721689.44	24755933.77	24721689.44	24721689.44	24721689.44	24755933.77	24721689.44	24721689.44
2.6.1	Conducting a study on alternative sources of energy such as solar and gas to be used by refugees within the settlements	MoEMD	-												
2.6.1	Organizing sensitization meetings on the use of available briquettes	MoEMD, IPs & OPs	100,000		33333				33333				33333		
2.6.2	Procuring authorized & licensed service providers for wood fuel to supply to refugees until an alternative fuel is sought.	MWE - NFA & UNHCR	1,500	1500											
2.6.3	Procuring and distributing cooking fuel i.e. Year 1 - continue with wood fuel from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, or recycled material, and Year 3 -a combination of fuel saving stoves, liquid/bio gas, solar and/or electricity. Procuring and distributing cooking fuel to refugees: Year 1 - continue with wood fuel from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, or recycled material, and Year 3 - a combination of fuel saving stoves, liquid/bio gas, solar and/or electricity.	OPM, NFA & UNHCR	296,660,273	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689
2.7	**All degraded Wetlands within refugee Hosting Districts Restored**	MWE & DLG	227,288,080	7025150	7025150	8605150	8605150	23512205	23512205	21932205	21932205	26284665	26284665	26284665	26284665
2.7.1	Mapping and demarcating of all wetlands (& other natural reserves) in districts hosting refugees including development of wetland management plans	MWE - DEA/NFA	1,320,000			330000	330000	330000	330000						
2.7.2	Establishing wetland management committees and provide a system of awareness creation and enforcement on the guidelines for wetland management i.e. Kyaka II Wetlands + 4 No.Wetlands	MWE - DEA	5,000,000			1250000	1250000	1250000	1250000						
2.7.3	Wetland Restoration 22,922 Ha, initially in four Refugee settlements	MWE -DEA	220,968,080	7025150	7025150	7025150	7025150	21932205	21932205	21932205	21932205	26284665	26284665	26284665	26284665

Figure 4-13: Implementation and Disbursement Plan for ENR Component (2A)

Table 4-3: Environment and Natural Resources Result Framework Matrix

No.	Project/Activity Objective	Project Outcome Indicators	Means of verification	Assumptions, Risks & Mitigation
1.	To have an ENR decision making tool/model to identify whether an area is suitable for establishing a settlement or not	ENR decision making tool/model	ENR decision making tool in place Assessment Reports on suitability of areas for establishment of settlements in place	**Assumption:** The tool will be adapted and incorporated/integrated into the overall catchment management framework **Risk:** Other events such as climate change influenced still result in environmental impacts despite the assessments from the tool. **Mitigation:** 1. Continuous monitoring of the effectiveness of the tool 2. Upgrade the tool according to the outcome of the monitoring and reviews
2.	ESIA are undertaken and mitigation measures for identified impacts as a result of establishment of settlements are implemented	Number of ESIA NEMA Certificates of approved Number of audits undertaken	1. NEMA Certificates of approval in place 2. Compliance letters of the audits in place	**Assumption:** The proposed mitigation measures shall be implemented by all stakeholders in the settlements including refugees. **Risk:** 1. Unforeseen impacts during the study, might not be taken care of during operational phase of the settlements. 2. Lack of fund in implementing proposed mitigation measures. **Mitigation:** 1. Local and other government authorities should conduct regular monitoring to identify any impact that was not predicted during ESIA study, and then propose relevant mitigation measures. 2. Encourage IPs and OPs to locate money for environmental intervention, for any project/development within the settlement.
3.	Establishment of offsets for lost forest	Number of established offset sites	1. Available land for tree planting 2. Number of tree seedlings established in each year for three years	**Assumptions:** 1. Land for tree planting will be available. 2. Seedlings raised will be suitable for the selected areas for tree planting/offset. **Risk:** 1. Land acquisitions that delay the timely implementation. 2. Planted trees not to grow due to various factors such as insufficient rainfall, eaten by insects such as termites, and unfavourable weather conditions. **Mitigation:** 1. Suitable agreement with land owners which will easy land acquisition. 2. Advice from NFA, District's Forest Officer and Forest Department from MWE, should give guidance on the type of trees to be planted.

No.	Project/Activity Objective	Project Outcome Indicators	Means of verification	Assumptions, Risks & Mitigation
4.	Stop wetland degradation	Number of demarcated wetlands	No encroachment to the wetlands to practice illegal wetland use	**Assumptions:** All wetlands in the districts hosting refugees shall be demarcated. **Risk:** Seasonal wetlands might be confused to dry land leading to the illegal use. **Mitigation:** All wetlands either permanent or seasonal, should be indicated.
5.	Stop/reduce dependency on natural resources that leads to environmental degradation	1. Available alternative source of energy in refugee settlement 2. Available registered and authorised firewood and construction materials suppliers	1. Use of alternative source of cooking energy apart from firewood 2. Supplied firewood from licensed service providers 3. Refugees are being provided with sufficient construction materials	**Assumptions:** 1. Procurement of firewood and construction materials shall be from licensed suppliers. 2. Alternative source of energy for cooking will take place within three years of the plan implementation: i.e. Year 1 - continue with wood fuel from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, or recycled material, and Year 3 -a combination of fuel saving stoves, liquid/bio gas, and/or solar or electricity. **Risk:** Over dependence on handouts **Mitigation:** 1. Introduction of livelihood support including tree planting initiatives that will supply firewood to future refugees.
6.	Increased monitoring of natural resources by all responsible players	Decrease in environmental degradation	1. Number of monitoring reports 2. Proposed mitigation measure.	**Assumptions:** Government bodies such as DLGs, WMZ, NFA and NEMA shall be given access to the refugee settlement **Risk:** Community members and refugees might be violent to the officials when executing their work on environmental protection. **Mitigation:** Where violence is predicted in a certain community, police escort need to be given to these officials

5 WATER RESOURCES

5.2 Introduction

The most significant problems associated with the refugee-affected areas are deforestation, soil erosion, poor waste management and pollution of water resources, among others. All refugee hosting districts have had some environmental and water related interventions over the last years in the key areas of tree planting, capacity building and energy conservation. On the other hand, little efforts have been devoted to soil and water resources conservation, restoring degraded riverbanks and streams, to say the least not much impact has been realized on the ground. Sustainable management of fragile ecosystems such as degraded streams and riverbanks as well as bare hills has been encroached affecting their natural ecological functions. In view of the above, sustainable use of water resources, environment and natural resources for livelihood improvement and coordinated intervention involving all stakeholders including the refugees, host Districts, other authorities and Government Line Departments for corrective action needs to be given more attention. To address challenges of water and related resources MWE undertook reforms in 2015 to establish an effective framework for Water Resources Management in Uganda to ensure that water resources are managed in an integrated and sustainable manner.

One of the recommendations of the reform study was a paradigm shift in Water Resources Management (WRM) from centralized to Catchment/Basin based management, a form of de-concentration of services and activities to the lowest appropriate level. Although water resources management is a central level function, it was realized that effective planning and management of water resources needs to be carried out at the lowest appropriate level and based on hydrological catchments or basins, rather than administrative boundaries. It was recommended that four water management zones be established based on the hydrological setup of Uganda, and accordingly, as of now the country is divided into four Water Management Zones (WMZs) namely Victoria, Albert, Kyoga and Upper Nile.

WRM was de-concentrated to maximize economic and social benefits for Ugandans from water/related resources management and development. A framework for catchment based water resources management was developed in 2010 to guide establishment of Catchment Management Structures and preparation of Catchment Management Plans. This framework is being promoted by the Directorate of Water Resources Management (DWRM) through the four WMZs.

5.3 Situation Analysis

5.3.3 Current State of the Catchment Management Planning In the Refugee Hosting Catchments

Three (03) out of four (04) Water Management Zones (WMZ) in Uganda, are hosting refugees; namely Upper Nile, Albert, and Victoria Water management zones as detailed in Table 5-1 whereas the status of the CMP development as of March 2019 is as mentioned in Table 5-2 below.

Table 5-1: Settlements with their respective catchments

#	DISTRICT	REFUGEE SETTLEMENT	WATER MGMT ZONE	CATCHMENT
1	Adjumani	Adjumani	Upper Nile	Albert Nile
2	Arua	Rhino		

#	DISTRICT	REFUGEE SETTLEMENT	WATER MGMT ZONE	CATCHMENT
		Imvepi		
3	Koboko	Lobule		
4	Moyo	Palorinya		
5	Yumbe	Bidibidi		
6	Lamwo	Palabek		Aswa
7	Kikube	Kyangwali	Albert	Nkusi and Lake Albert
8	Kamwenge	Rwamwanja	Albert	Mpanga
9	Kiryandongo	Kiryandongo	Albert	Kiryandongo
10	Kyegegwa	Kyaka II	Albert	Muzizi and Katonga
11	Isingiro	Nakivaale	Victoria	Kagera and Rwizi
		Oruchinga		
12	Kampala*	Kampala	Victoria	Victoria, Mayanja and Ssezibwa

** NB. Kampala is not considered in this report*

Table 5-2: Status of the catchments with catchment management plan

WMZ	Catchment	Status of the CMP	When it came into effect
Albert	Mpanga	Finalized	2015
	Muzizi	Under development	
	Nkusi	Under development	
	Lake Albert	No yet started	
	Kiryandongo	Not yet started	
Upper Nile	Aswa	Finalized	2016
	Albert Nile	Finalized	2016
Victoria	Rwizi	Finalized	2016
	Maziba	Finalized	2015
	Katonga	Under development	
	Kagera	No yet started	

Catchment Management Plans have so far been developed in some of the catchments and the key issues of Water Resources Management have been identified in the CMPs. These CMPs will be operationalized by the Catchment Management Organizations (CMOs), of the respective catchments that have been formed as part of CMPs development process. The composition and roles of the CMOs are as indicated in Table 5-3 below.

Table 5-3: Summary of the roles and composition of the structures for catchment management

Catchment Structure	Roles	Composition
National Level	• Guide strategic direction for CBWRM • Set principles and standards as well as quality assurance and overall responsibility for delivery on the directorate's functions and services • Collect, analyze and archive water resources (quality and quantity) related data, maintain WR databases and information, and their dissemination to users • Develop guidelines, procedures and instruments for implementing functions and service delivery at all levels • Undertake overall planning and mobilization of support, resources and investments in water resources management • Develop and guide implementation of knowledge management and dissemination mechanisms • Foster collaboration, communication, co-learning and capacity building between and across government agencies, private sector, NGOs and general public • Offer secretariat services to the WPC • Provide technical assistance to relevant stakeholders.	MWE (DWRM, DWD, DEA, WPC, WESWG)
Catchment Stakeholder Forum	• Policy Initiation • Represent interests of major stakeholders in the CMO • Advise and provide information to CMC and CMO Secretariat • Review relevant proposals, plans, projects etc. & initiate proposals, petitions, & other actions.	• Representation of District Councils, • Farmers Groups, • Sub-county representation, • Women groups, • Relevant Local Government technical staff (Environment committee, Natural resources Committee), • NGOs, • CBOs and • Other lead agencies, • Registered water user associations and WSS operators in the CMO • Academic and research institutions
Catchment management	• Establishment and facilitation of catchment structures key among which are the CMOs comprising of Catchment Management For a,	• Water Management Zones (WMZs) under MWE

Catchment Structure	Roles	Composition
Organization	Catchment Management Committees and Secretariats • Coordination of the activities of regional level (zone and catchment) partners including streamlining efforts • Technical and financial facilitation of regional activities including stakeholder engagement processes and implementation of projects/programs • Support to CMO and local government (district and lower government) level implementation of relevant aspects of the de-concentrated functions and services of the DWRM • Establishment of sound financial management systems and funding mechanisms to support collaborative implementation of measures needed to deliver regional strategies and plans.	
Catchment Management Committee (CMC)	• Advise the WMZ Manager on issues related to regulation of water use and management of water resources in the catchment • Responsible for planning, implementation, monitoring & reporting on WRM and related activities in the CMO • Conflict resolution • Review policy, plans and provide guidance to the CMO secretariat on implementation of IWRM interventions in the catchment	• Chairpersons Districts, • Chief Administrative Officers, • District technical staff (Natural Resources, water, community development, Production etc.), • Other Lead Agencies (NWSC, NGOs and Private sector), • Relevant prominent organizations
Catchment Management Organization (CMO) Secretariat	• Coordination of planning of WRM issues within the catchment area • Coordination of preparation and implementation of IWRM plan in the catchment in liaison with Local Governments (LGs), relevant district officers, water users associations and other stakeholders • Coordinate implementation, monitoring and enforcement of relevant acts, bye-laws, guidelines, regulations, permits, plans, standards, etc.	• Made up of staff specifically engaged to support the CMO
Catchment Technical Committee (CTC)	• Provides technical support to the CMC during planning, management and development of water and related resources in the catchment	• CTC is composed of technical staff from key stakeholders in the catchment (local governments, NGOs, private sector etc) • Technical staff of various government ministries and agencies

5.3.4 Preparation of Micro Catchment Management Plans

In order to ensure that there is effective planning, development and management of water and related resources around refugees and host communities, a catchment based approach needs to be employed through delineation of micro catchments around refugee's settlements and host communities. Micro Catchment Management Plans (MCMPs) for the delineated micro catchments need to be prepared and micro catchment management committees established involving the refugees and host communities to manage the water related affairs in the micro catchment. Work is currently ongoing to prepare 8 micro catchment management plans around refugees and host communities in Albert Nile and Aswa catchments and implement the water investment and management interventions identified in the MCMPs. Micro catchments around all refugees' settlements and host communities therefore need to be delineated, prepare micro catchment management plans and Micro catchment management committees to be established.

5.3.5 Water availability and demand

The assessment of the water resources has been undertaken in the catchments where the Catchment Management Plans have been completed or under development. While the results show that the amount of water available on annual basis is enough, Table 5-4, to meet the demands up to the year 2040 there are seasonal and spatial variability in water resources implying that the water may not be enough to meet various demands in certain locations and during certain seasons resulting in water scarcity and possible conflicts among various water users. This therefore requires that water resource use to be planned for, allocated and regulated to ensure that it is available when and where it is needed to meet the various demands and that the catchments be protected to ensure availability of good quality and adequate water all year round.

Table 5-4: Water availability and demand in different catchments

WMZ	Catchment	Available Water			Demand (MCM/Yr)	Deficit
		Surface Water (MCM/Yr)	Groundwater (MCM/Yr)	Total (MCM/Yr)		
Albert	Mpanga (2020)	TBD	TBD	TBD	10.04	
	Muzizi	392.72	108.8	501.52	41.42	
	Nkusi	TBD	TBD	TBD	TBD	TBD
Upper Nile	Aswa	709	1,351	2,060	61.12	
	Albert Nile	4,764	TBD	4,764	TBD	
Victoria	Rwizi (2020)	TBD	TBD	TBD	54.1	
	Maziba	N/A	N/A	N/A	N/A	N/A
	Katonga	N/A	N/A	N/A	N/A	N/A

NB. *TBD – To be determined; N/A – Not applicable*

In the climate change scenario, the situation gets worse with regard to water resources availability. Though there is no explicit mention of water demand for refugees in the Catchment Management Plans, it is assumed that the water demand assessment indirectly covered them under the different water demands and uses.

5.3.6 Abstraction – Permitting, Regulation and Monitoring

The Water Act, 1997 Cap 152 states that, ***"No person shall extract water unless authorised under this Part of the Act***". In Uganda, the authority that is responsible for awarding water abstraction permits is Ministry of Water and Environment under the Directorate of Water Resources Management. Host communities where refugee settlements are located, most of motorized water abstraction have water abstraction permit which is not the case in the refugee settlements. All of the 148 motorized water system in these settlements have no water abstraction permits implying that water resources use is not regulated. Therefore, there is a lack of monitoring quantity of both available surface and ground water resources. This is likely to result in over-abstraction of water resources, drying up of water sources and unsustainable water development projects.

It was also found out that, water resources monitoring (groundwater and surface water quantity and quality) is limited due to insufficient monitoring stations within the catchments.

Based on the Sector Performance Report 2018, a total of 30 groundwater and 48 surface water resources monitoring stations were operated and maintained in the country. The available stations numbers are tabulated in Table-5-5 below.

Groundwater studies have been conducted in only a few settlements such as Bidibidi. This is important in identifying areas where high yield boreholes or production wells can be located and ensuring that the groundwater development of done in a sustainable manner. However, as mentioned before, no studies have been conducted to quantify how much water is available in the aquifer and the location of the recharge zones. These studies need to be carried out following a catchment.

Table-5-5: Water Resources Monitoring stations

Water Management Zone	**Surface Water Monitoring**	**Ground Water Monitoring**
	Current No. of Stations	**Current No. of Stations**
Albert	18	8
Upper Nile	11	5
Victoria	23	9
Total	**52**	**22**

5.3.7 Water for Production

In all catchments where Catchments Management Plans have been developed, water demand for production have been calculated. The water balance shows that available water is sufficient for all water demand including water for production. Table 5-6 below shows the allocated water for production, at catchment level in different years. There are several proposed water for production investment projects, ref. **Water for Production (WfP) Strategy and Investment Plan** (2010-2035) in each catchment. Under this WESRRP Scope and timeframe no WfP investments have been considered. However, to supplement rain-fed subsistence farming at household level, water harvesting and recycling are encouraged. In addition, for backyard irrigation water requirement/needs are to be included in the domestic water demand projections from Year – 2 and beyond.

Table 5-6: The total water demand for the different catchments and production areas.

#	Catchment	Allocated water for Production (MCM)
1	Albert Nile	49.85 (Year 2015)
2	Aswa	61.42 (Year 2015)
3	Muzizi	Still under development
4	Mpanga	5.22 (Year 2020) – 9.74 (Year 2035)
5	Nkusi	Still under development
6	Rwizi	40.5 (Year 2020) – 63.7 (2035)

In this plan, there are no investments that have been allocated for water production, since they will fall outside the period under review after all the CMPs are in place.

5.4 Gap Analysis

Three main gaps have been identified under Water Resources after analysing the situation within the project area, as detailed below;

5.4.3 Absence of Catchment Management Plans and micro catchment management plans

Four catchments namely Kiryandongo, Kagera, Lake Albert and Katonga, do not have Catchment Management Plans. Similarly, only 8 micro catchments out of an estimated 20 micro catchments around refugee settlements are having their plans being developed.

5.4.4 Dwindling underground water resources

Ground water levels have been showing signs of reducing due to reduced yields in the existing boreholes in and around refugee settlements and hosting Sub-Counties. Absence of ground water monitoring and minimum supervision on allowed amount of water to be extracted are affecting water resources both within the settlement and the districts hosting refugees but most especially in the sub-counties hosting refugees,

5.4.5 Low adherence to water resources guidelines

All 148 motorized water systems in refugee settlements in Uganda, have no water abstraction permit. There are no guidelines or limits set on amount allowed to be abstracted at a given time. The IPs and OPs are providing/supplying water in emergency situations where by they are allowed to supply water before obtaining water abstraction permits. However, after the emergency phase, permits are supposed to be acquired. Similarly, catchments that contribute water to various water sources in refugees and host communities are highly degraded and need to be protected following MWE's water source protection guidelines of 2013.

5.4.6 Lack of logistics and budgetary allocations to carry out mandated roles at local, regional and national levels

Local government from district level to lower level, authorities such as NFA and NEMA as well as Water Management Zones are faced with low budget and lack of logistics in undertaking their daily operations, due to low budget allocation from the central government. This leads to low monitoring of water resources management.

5.5 Theory of Change

Guided by Uganda's Comprehensive Refugee Response Framework (CRRF), the theory of change for the water resources describes the strategic inputs and activities, which if implemented holistically, will lead **to improved utilization of water resources for peaceful co-existence of refugees and host communities.**

The plan recognizes the crucial role of strengthening systems for effective service delivery and close partnership with government bodies, under the leadership of the Ministry of Water and Environment. This will be achieved through, provision of extra manpower to refugee hosting districts, provision of vehicles, motor cycles and assorted equipment's to refugee hosting districts and WMZs, provision of operational logistical support to refuge hosting districts and WMZs. Revision of existing manuals and guidelines and establishment of monitoring and evaluation framework will lead to **restored, conserved & protected environment and natural resources for existing and degraded situations outcome.**

The expected impact of this response plan specifically in water resources is to *improve utilization and protection of water resources for peaceful co-existence of refugees & host communities*. Anticipated outcome on water resources is controlled, monitored and protected. The likely outcomes are such as;

i) Catchment management framework in various catchment and micro catchments strengthened;
ii) Water resources monitoring within catchments established, and
iii) Water resources use regulated and water sources protected.

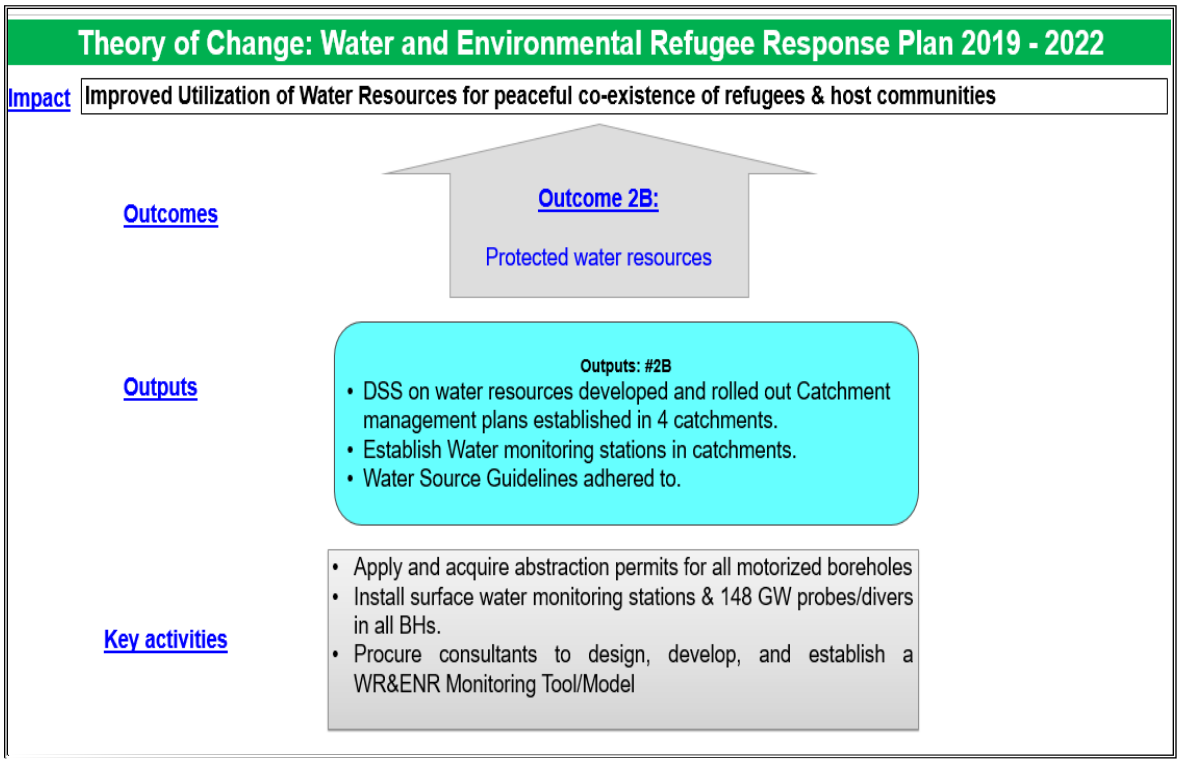

Figure 5-1: Theory of Change for Water Resources

5.6 Proposed Intervention

One of the aims of the Response Plan is to provide Water Sanitation and Hygiene (WASH) and Environmental services to refugees and host communities while protecting and monitoring the environment and natural resources, as well as water resources. To achieve this aim the plan should adopt a catchment-based approach including the development of sub and micro-catchment management plans that identify water and environmental management investments in the refugee hosting areas. The proposed interventions for water resources management are therefore aimed at improving utilization and protection of water resources to meet the various needs of refugees and host communities through strengthening the catchment management approach at various levels. The proposed interventions are as follows;

(i) Strengthening the Catchment management framework in various catchment and micro catchments

(a) Preparation of Catchment Management Plans and establishment of Catchment Management Organizations in 4 catchments (Lake Albert, Kagera, Kiryandongo and Katonga).

(b) Preparation of Micro- Catchment Management Plans and establishment of micro-Catchment Management Organizations in 12 micro catchments around refugees and host communities in the 4 catchments of Lake Albert, Kagera, Kiryandongo and Katonga.

(c) Implementation of water resources related investment and management measures identified in the prepared Micro- Catchment Management Plans in 12 micro catchments around refugees and host communities in the 4 catchments of Lake Albert, Kagera, Kiryandongo and Katonga

(ii) Establish water resources monitoring networks within all catchments.

a). Undertake rapid water sources assessments for identification of locations for water resources monitoring stations.

b). Installing at least 50No. Groundwater monitoring Station -5 in each of the 10 catchments (6 existing and 4 new CMPs).

c). Installing at least 30 No. surface water monitoring station - 3 in each of the 10 catchments covering major surface water bodies in the catchments.

d). Conducting water quality monitoring and assessment regularly (monthly/quarterly).

e). Benefiting data captured from the proposed ground water monitoring divers in the 148 existing+26 new water production wells, to be implemented under Sub-Component – Outcome 3A.

(iii) Regulate water resources use and support protection of the quality and quantity of water source

a). Applying and acquiring abstraction permits for an estimated 350 motorized boreholes and water supplies based on surface water

b). Applying and acquiring waste water discharge permits for an estimated 20 locations where waste water is being discharged

c). Developing and implementing water source protection plans around 250 water sources

5.7 Cost to Implementing the Proposed Interventions

The costing of the implementing water resources management will focus on the proposed intervention activities for the identified three (4) main gaps. The costing has been stretched for the period of the three years to allow consistence implementation and monitoring of the proposed interventions. The cost for water resource interventions is US$ 19,101,838 which is 2.11 % of the total plan budget (USD 915,582,608). Substantial cost for implementation of water resources interventions will be in refugee hosting districts and at catchment level. The cost breakdown of the proposed water resources interventions is detailed in Table 5-7 below.

Table 5-7: Cost for implementing interventions in water resources for three- year: Outcome No. 2B

Ref.	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
2B	**Water Resources Sub- Budget**	**MWE**	**6,668,000**	**9,573,838**	**3,110,000**	**19,351,838**
2.8	**Catchment management plans established in 4 catchments**	**MWE & DLG**	2,950,000	3,950,000	2,750,000	9,650,000
2.8.1	Procuring consultant(s) to develop 04 CMPs (Kagera, Kiryandongo and Katonga)	MWE	250,000	750,000	250,000	1,250,000
2.8.2	Micro- Catchment Management Plans and micro- Catchment Management Organizations established in 12 micro catchments around refugees and host communities in the 4 catchments	MWE	1,500,000	2,000,000	1,300,000	4,800,000
2.8.3	Facilitation to catchment management organization (CMOs)	MWE	1,200,000	1,200,000	1,200,000	3,600,000
2.9	**Water monitoring stations within catchments established**	**MWE - WMZ**	**1,560,000**	**3,047,838**	**360,000**	**4,967,838**
2.9.1	Procuring of Consultants to identify geological formation in each catchment to identify the rock formation to enable identification of ground water monitoring stations needed.	DWRM & UNHCR	1,200,000			1,200,000
2.9.2	Installing at least 05 No. GW monitoring Station for each catchment in accordance with the Study for the 03 No. CMPs to be developed and the other 06 No. CMPs that exist.	DWRM & UNHCR		1,520,270		1,520,270
2.9.3	Installing at least 03 No. monitoring Station for each water course and 01 No. for each water body in nine catchments.	DWRM & UNHCR		1,167,568		1,167,568
2.9.4	Conducting water flow analysis regularly (monthly/quarterly)	MWE DWRM	360,000	360,000	360,000	1,080,000
2.10	**Water Source Guidelines adhered to**	**WMZ & DLG**	**2,158,000**	**2,576,000**	**-**	**4,734,000**
2.10.1	Applying and acquiring abstraction permits for all motorized boreholes	UNHCR	348,000			348,000
2.10.2	Paying annual abstraction fees for 3 years	UNHCR	522,000			522,000
2.10.3	Developing of 138 No. water source plans.	UNHCR	1,288,000	2,576,000		3,864,000

5.8 Implementation and disbursement plan

The proposed activities shall be implemented in the stretch of three years of the plan but in different timeframes depending on its applicability. The detailed implementation plan for each activity have been put in quarterly basis as detailed in Figure 5-2

5.9 Result framework on Water Resources

The result framework on water resources has aimed to ensure the identified gaps are well addressed and expected results are achievable.

Table 5-8 give details of the expected objectives of the proposed interventions.

Table 5-8: Result framework for water resources

No.	Project Development Objective	Project Outcome Indicators	Means of verification
1	Improved integrated water resources management	Catchment management plan in place	1. Functional CMOs (Catchment Management Organizations) 2. Implementation of the proposed interventions within the catchment
2	Knowing amount of water available both surface and underground water	Number of established water monitoring stations	Records of amount of water in the catchment
3	Regulated amount of water being abstracted in a certain area	Number of water abstraction permits within the catchment	Number of water abstraction permits within the catchment

Ref.	Result/Activity	Response Entity	Total, US$	Year 1 (2020)				Year 2 (2021)				Year 3 (2022)			
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
2B	**Water Resources Sub- Budget**	**MWE**	**19,351,838**	**1,260,000**	**790,000**	**1,540,000**	**3,078,000**	**3,037,459**	**3,037,459**	**1,749,459**	**1,749,459**	**1,290,000**	**1,040,000**	**390,000**	**390,000**
2.8	**Catchment management plans established in 4 catchments**	**MWE & DLG**	9,650,000	300000	300000	1050000	1300000	987500	987500	987500	987500	1200000	950000	300000	300000
2.8.1	Procuring three consultants to develop 04 CMPs (Kagera, Kiryandongo and Katonga)	MWE	1,250,000				250000	187,500	187500	187500	187,500	250,000			
2.8.2	Micro- Catchment Management Plans and micro- Catchment Management Organizations established in 12 micro catchments around refugees and host communities in the 4 catchments	MWE	4,800,000			750000	750000	500000	500000	500000	500000	650000	650000		
2.8.3	Facilitation to catchment management organization (CMOs)	MWE	3,600,000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000	300000
2.9	**Water monitoring stations within catchments established**	**MWE - WMZ**	**4,967,838**	**90000**	**490000**	**490000**	**490000**	**761959.3925**	**761959.3925**	**761959.3925**	**761959.3925**	**90000**	**90000**	**90000**	**90000**
2.9.1	Procuring of Consultants to identify geological formation in each catchment to identify the rock formation to enable identification of ground water monitoring stations needed.	DWRM & UNHCR	1,200,000		400000	400000	400000								
2.9.2	Installing at least 05 No. GW monitoring Station for each catchment in accordance with the Study for the 03 No. CMPs to be developed and the other 06 No. CMPs that exist.	DWRM & UNHCR	1,520,270					380068	380068	380068	380068				
2.9.3	Installing at least 03 No. monitoring Station for each water course and 01 No. for each water body in nine catchments.	DWRM & UNHCR	1,167,568					291892	291892	291892	291892				
2.9.4	Conducting water flow analysis regularly (monthly/quarterly)	MWE DWRM	1,080,000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000
2.10	**Water Source Guidelines adhered to**	**WMZ & DLG**	**4,734,000**	**870000**	**0**	**0**	**1288000**	**1288000**	**1288000**	**0**	**0**	**0**	**0**	**0**	**0**
2.10.1	Applying and acquiring abstraction permits for all motorized boreholes	UNHCR	348,000	348000											
2.10.2	Paying annual abstraction fees for 3 years	UNHCR	522,000	522000											
2.10.3	Developing of 138 No. water source plans.	UNHCR	3,864,000				1288000	1288000	1288000						

Figure 5-2: Implementation and Disbursement Plan for the Water Resources Component (2B)

Legend	Symbol/line
Targeted Milestone	
Quarterly/Bi-annual or interim Milestone	
Consolidated Output(s)	
One-Off Activity	
Procurement Activity	
Procurement Lead-time	
Continuous/Routine Activity	
Monthly or Quarterly Activity	

6 WATER SUPPLY

6.2 Introduction

Safe drinking water and appropriate sanitation is essential to life, health and dignity and access to it is a basic human right. In accordance with the National Planning Policy II (NDP II) both refugees and host communities should have assured access to adequate water of good quality, sanitation facilities and hygiene promotion practices.

Water supply range from boreholes construction, installation of water tanks, water drainage, and rehabilitation of wells among others which have enabled institutions to access clean and safe water (Alabaster & Kručková, 2015). WASH standards in Uganda are guided by the Water Supply Design Manual (MWE, 2013), which allocates per capita water demands different user categories such as; day school pupils, boarding students, teachers and family, out-patients, non-resident staff at health institutions and in-patients and resident staff as shown in Table 6-1 below.

Table 6-1: Per Capita Water demand for different users

No.	User Category	Litres/capita/day
1	Day school students	5
2	Boarding school students	50
3	Teachers and family	50
4	Out-patients	10
5	Non-residents stuff at health institutions	10
6	In-patients and resident staff	100
7	Household level	20

Source: *Water supply Design Manual* (MWE, 2013)

The type and technology used for an institution is based on the size of the institution vs the average water demand for the different institutions, location (urban or rural), costing for investment and operation and maintenance for the selected technology option.

6.3 Situation Analysis

6.3.3 Status of Water Supply in the refugee hosting Districts

Currently, the water supply coverage within the settlements is 83.5% which is 16.7 Lpcpd whereas that in the host community is at 71%. In the three years of this plan implementation as per proposed interventions, the water coverage in refugee settlement is estimated to raise to 90% (18Lpcpd) whereas that in the host community is estimated to increase to 77%. Among the proposed interventions to solve water supply gaps is to implement 26 water supply schemes by MWE, UNHCR and other donors both in refugee settlement and host community. The new schemes and optimal use of the existing schemes are expected to increase production by 1,510m^3/day.

6.3.4 Targeted Population

The plan targets cover the current population of refugees (1,209,476) as per refugee portal by March, 2019 plus estimated refugee population influx of 120,000 i.e. 40,000 refugees per year in in the next three years. For refugee host communities the plan mainly targets 9 Sub-Counties refer

to table 6-4 which currently do not have piped water supply systems. The initial targeted population for host communities shall be identified after proposed feasibility study and designs are done.

6.3.5 Planning

6.3.5.1 Infrastructure Planning

A joint planning team constituting of: OPM, UNHCR, District Local Government (DLG), implementing Partners (IPs), operating partners (OP), refugee and host community representatives undertakes a joint assessment for an infrastructure investment to be established at settlement and host community level. The Joint team harmonizes the findings and recommendations which are then taken to the Technical Working group (TWG) at Settlement and District level. The TWG reviews the structural details in relation to the budget allocation. On approval of the TWG, a Minute (Document) is written to the DLG, requesting for approval. The Minute has details not limited to BOQs, Structural details, location, target group, cost and the duration it will take to complete the Infrastructure Investment.

6.3.5.2 Rapid Technical Assessment

A Rapid technical assessment is conducted to identify gaps/needs of a practical intervention in both refugee settlement and/or host community. At settlement level, each of the sectors jointly harmonise the findings (gaps/needs) based on the needs of the refugees and host community. The line/technical Departments at District level and the planning unit are consulted to harmonize the findings to avoid duplication of roles among both the partners and government line departments.

On approval by the DLG, through the Technical Working Group (TWG), both IPs and OPs through their procurement process, identify a contractor to expedite the infrastructure investment in accordance to the approved design and Bill of Quantities (BOQs). During the implementation period, supervision is conducted by the IP/OP identified staff on daily basis while a joint monitoring team conducts routine monitoring, makes recommendations for work output as to guide the partner on the way forward to contractor.

Consequently, IPs and OPs harmonize their plans and designs to suit the refugee needs in each region i.e. West Nile, Mid-West and South-West regions. It must be emphasized here that refugees and host communities have individual requirements/needs in the local context as far as design, acceptability and usage is concerned. However, it is desirous that designs must meet regional refugee and host community interests but these must be SMART investments. Therefore, the line Ministry of Water and Environment has constituted a design review committee for that purpose: to review and approve all water infrastructure development designs across all settlements and host community. This measure would enhance standardization, conformity to specification and codes, technology adaptability, and pronouncement on the system management option.

6.3.5.3 Feasibility Studies

Feasibility studies are conducted by sector IPs/OPs together with technical teams from the District Local Governments (DLG) including the host Sub-counties extension staff, where the investments are going to be implemented. These feasibility studies guide the impact of planned interventions as per the need: Knowledge, Attitude, Behaviour & Practice (KABP) assessments are conducted at inception, mid and end of project in both refugee settlements and host communities.

6.3.5.4 Designs

In an ideal situation, IPs/OPs develop and submit investment designs and bills of quantities (BOQs) to the Technical Working Group (TWG) for review of all technical specifics before approval by the DLG. All stakeholders are involved and consulted right from inception of the investment. This may not be the case in an emergency scenario. Going forward, designs must be submitted to the design review committee of the MWE for approval.

6.3.5.5 Construction

To commence construction phase, IPs/OPs identify contractors in accordance with their procurement guidelines/policy. Construction supervision is conducted by the TWG lead by the District Engineer and the Sub-county extension staff in which the investment is implemented. This strengthens ownership of the project from inception to allow all stakeholders understand the project technicalities and progress of the project implementation.

6.3.5.6 Investment ownership and transfer

In principle, IPs/OPs own the investments during and after construction/establishment for a period of 6 to 12 months after which the Investments are handed over to OPM and the DLG. In case of unavailability of operational funds, UNHCR is in turn requested to fund the running/Operation costing implementable through IPs/OPs.

Due to a short span of operating water schemes, most times there are challenges during asset transfer from one IP/OP to the other. It has been noted that at the point of hand-over, little or no data/information is given to the next IP/OP, as a result they have to start from zero. This has hindered effective management of facilities that have been established in both settlements and host communities.

6.3.6 Challenges faced during infrastructure development and investment

Despite the well laid down policies and procedures the sectoral water infrastructure development and sourcing for finance still face some challenges. These are some of challenges but not limited to:

- Lengthy bureaucratic procurement processes and internal dynamics of IPs/OPs which at times delay the timely delivery of the much needed services.
- Deployment dynamics of the contractors by IPs/OPs: contractors lack the confidence to recruit local labour i.e. Host community member/Refugees during implementation of the investments. Though IPs/Ops have advocated for employment of local labour in both skilled and unskilled labour force including refugees that are capable to avoid clashing with refugees and host community members.
- New technologies e.g. hybrids-solar/generator which do not have spare parts that are locally available. Some spare parts need to be imported out of the country.
- Unavailability of quality building materials within the project area of implementation. This has an implication on cost variations which normally affects the project cycle, as per the earlier plans made.
- Landlords' interference.

- Investments following refugees that have been settled already, influence rational decision making hence working in an emergency mode.
- Mismatch between the feasibility study, designs and implementation due to insufficient funding.

6.3.7 Operation and Maintenance of Water Supply System in Refugee Settlements

Operations and Maintenance (O&M) of water systems in refugee settlements is executed by implementing Partners (IPs) and/or by operating partners (OPs) as appointed by UNHCR and in consultation with the OPM. In addition, National Water and Sewerage Corporation (NWSC) is responsible for managing water supply systems in Kiryandongo, Adjumani, Arua and Isingiro urban centres in which some of the refugee settlements are located. It must be mentioned here, maintenance of hand pump in most of host communities districts, respective local governments take lead with support of donor communities.

6.3.8 Water Supply Situation in Refugee Settlements

As of March 2019, 148 motorized water production wells and/or piped water supply system were operational or completed. This is an increase of 59 No. new motorized pumps systems since 2017 to 148 No. a 66% increase by end of the Q1 2019, Figure 6-1. 71 hand-pumps have been installed in the same period, a 6% increase in the last 18months. In March 2018, 13 hand-pumps were rehabilitated in Palabek refugee settlement in Lamwo District. All these concerted efforts have resulted and immensely contributed to the reduction and dependency on trucked water that had peaked to almost 25% of the total daily water supplied for the refugees needs by end of 2017 to less than 2% at the end of Q1 2019.

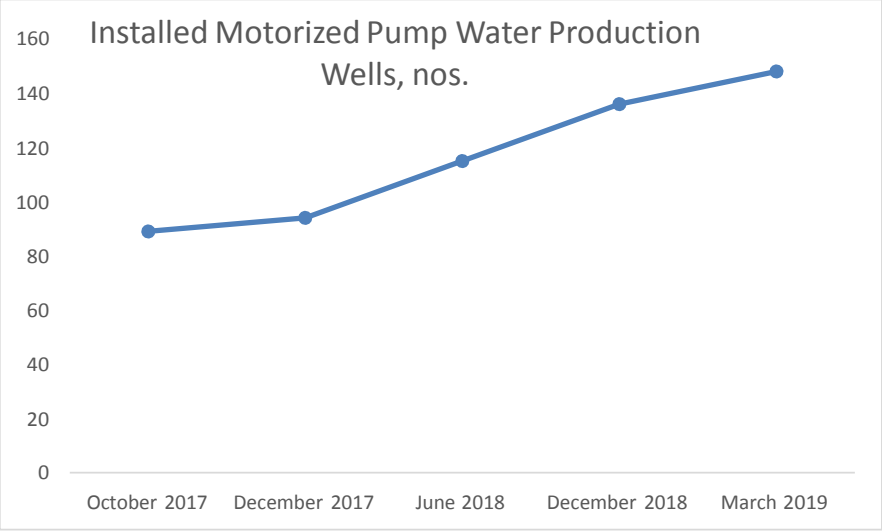

Figure 6-1: Installed motorized pump water systems in refugee settlements

Presently, trucked water supply option is used only, in most circumstances as a short term measure during the refugee emergency phase, at refugee reception centres, and hard-to-reach refugee settlements or in areas with poor ground water resources, This shift and swift intervention, has reduced use of trucked water during humanitarian phase, in the last 18 months to less than 10 trucks per day, and this is commendable, Figure 6-2.

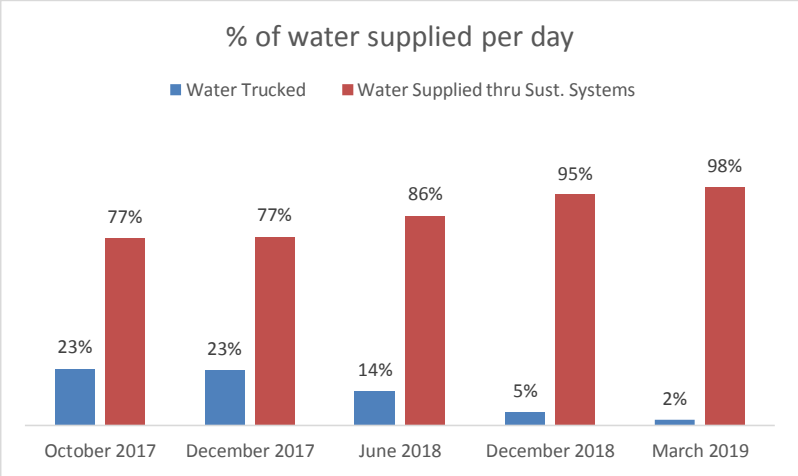

Figure 6-2: Trucked water vs Water Supplied from Sustainable Systems

Water produced and supplied to the refugees had increased by 24% from 15,805 m^3/day to 19,560 m^3/day at end of 2018 but slightly dropped to 19,276 m^3/day at end of Q1 2019. Overall, this is an improved performance regarding amount of water available, hence the water access, which stood at 18 lcpd as at end of Q4 2018, Figure 6-3.

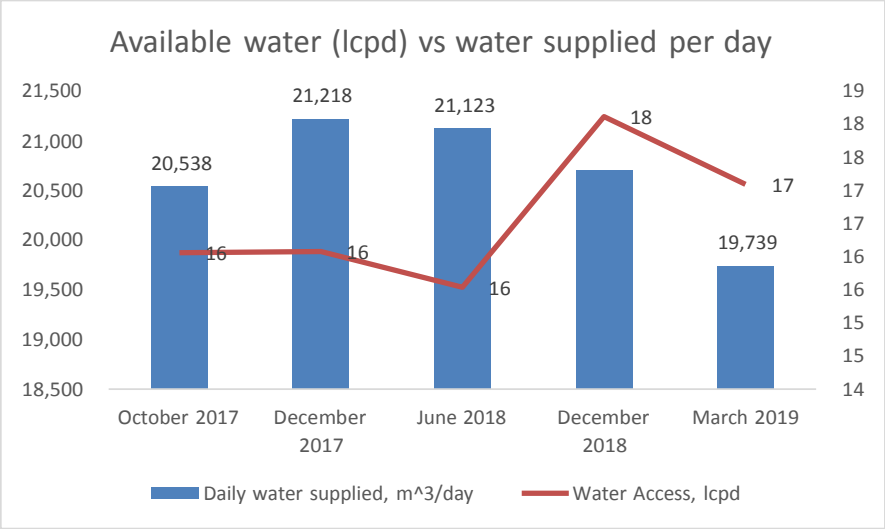

Figure 6-3: Daily water supplied (cum/day) vs potential water access, lpcpd.

Whereas, the average water access in the Refugee settlements, was 18 litres per capita per day (lcpd) in December 2018, this amount, a key performance indicator is still below the 20lcpd. In Kyaka II Refugee Settlement, water availability was at 9lpcpd, hardly half the target amount. In Kyangwali Refugee Settlement water availability was 11lcpd of March 2019. This is attributed to the recent influx of Congolese refugees into Uganda, the two Kyaka II and Kyangwali being among the refugee receiving settlements centres in the country.

Further, the average water availability amount, should be put in context as this is merely water available or supplied into the distribution system. Since most of the consumers access water from

communal Public Stand-Posts (PSPs) that lack water meters, and where water meters exist they are not being read regularly to quantify the actual water that reach the consumers.

6.3.9 Water Meter Management and Water Balancing

Water produced/supplied is only monitored at water production wells using bulk mechanical meters where they exist and functioning. In absence of meters or where they are faulty pump capacity flow rates and duration of pump operation are used to estimate the water supplied. In most settlements, there are no bulk meters at storage tanks, and where they exist they are not being read.

Figure 6-4: Water spillage at a storage tank in Rhino Camp Settlement.

There is passive leakage control management within most of the settlements. During the situational assessment, there were no noticeable water loss control frameworks in place. In absence of a water balance being regularly conducted it is hard to quantify the physical water loss as shown in Figure 6-4 above.

6.3.10 Water Quality Control

Water quality data is lacking in most schemes, what is available is data that was captured during drilling test pumping. IPs/OPs claim that they maintain free chlorine at 0.3mg/L but there is little evidence that residual chlorine monitoring is being carried out, regularly, in the distribution network. This is due to lack of field test-kits and/or operators run out of reagents or pillows used in water testing. Water Safety plans are yet to be rolled out in the water operations either due to lack of capacity or budget.

Figure 6-5: L-R Online chlorine dozer, Chlorine drum next to mixing tank. In case of chemical spillage and or fumes the corrosive chemical may attack the electrical control panel housed in same house.

Most of the new water supply system have online chlorine dozers at the water production wells. However, these dozers and chemicals are located in same rooms that house vital equipment/units, and in case of any spillage or leakage damage to equipment is inevitable.

6.3.11 Electro-mechanical equipment maintenance at water supply installations

The trend is to reduce installing hand-pumps and replacing them with high yield motorized pump water production wells. Until now most of the motorized system depended on thermal diesel generator sets. These were inefficient, environmentally unfriendly and costly. Hybrid systems are becoming popular however they are expensive as far as Capital Investments (CAPEX) are concerned, some in region of US$ 400-800,000. Running costs/Operational Expenditure (OPEX) vary from one operator to the other. Some operators are frugal and efficient whereas others are not. However, there is evidence of asset stripping in some stations due to lack of sufficient OPEX and general negligence.

There was no objective evidence that asset management system frameworks are institutionalized; as planned preventive maintenance plans are not in place. Maintenance is ad-hoc, as IPs/OPs mostly deal with breakdown and corrective maintenance due to little and/or no budget for maintenance of electro-mechanical equipment. Maintenance records are scanty and un-updated. Operation records are available but inconsistent from station to station and also from one operator to the other. Sharing of information, best practices and setting benchmark are areas that need strengthening.

6.3.12 Water supply distribution systems

By end of Q1 2019 a total volume of 10,788 m^3 storage capacity had been erected and in use scattered across refugee settlements. By the time of compiling this report the inventory of the water distribution networks i.e. pipe sizes, pipe materials, total length of pipeline length, in KMs, their x, y, x coordinates, location of fixtures, and No. of PSPs was yet to be compiled. Mapping and geo-referencing of these vital underground assets are yet to be institutionalized and commence. As mentioned above a lot of efforts have been made in improving water supply in refugee settlements.

However, water shortages and rationing is being experienced. At public stand-posts there are long queues, Figure 6-6.

Figure 6-6: A public stand-post (psp) in Kiryandongo Refugee Settlement, Bweyale TC - long jerrycan queues are common in RS.

6.3.13 Financing operational costs – Budgeting and OPEX

NWSC water tariffs include O&M OPEX and depreciation. For towns that cannot breakeven there is cross-subsidy mechanism in place. For NWSC operated systems, budgeting is decentralized. Each Area Manager, as an accounting officer, manages his/her budget, and running expenditure. With exception of water supply systems in refugee settlements managed by NWSC, Nsamizi Institute in Nakivale and soon to be piloted water user fees in Rhino Camp, generally water use in refugee settlements is free.

To generate revenue for costs of maintenance, household (host communities) water users pay a monthly fee of about UGX500-2,000, however, these households abandon the boreholes and access the free water sources in the refugee camps and this makes borehole rehabilitation a challenge. Therefore, most of the systems are highly subsidized as far as O&M is concerned, and little funding is left for maintenance hence asset stripping.

6.3.14 Capacity Building

There is no evidence that IPs/OPs undergo career development and vocational skills enhancement training. This is particularly due to lack of residue funds to undertake training and also the short span of O&M of the schemes.

6.3.15 Water Supply in Host Communities

Water supply in urban centres in host refugee districts is generally managed by NWSC, and local governments in collaboration with Umbrella Association of the MWE.

6.3.15.1 NWSC

Currently, there are five systems, including Kampala that are managed by the National Water and Sewerage Corporation (NWSC) in districts that are host refugees. In these service areas, the refugee settlements are served from the same systems as the host communities. Average daily

water supplied by NWSC to urban localities that host refugees presently is 221,748 cubic meters per day, Table 6-2. In towns served by NWSC averagely, water is about 80%.

Table 6-2: Piped water systems operated by NWSC

District	Sub County	Type of Water System	Energy Used	Installed Cap. m^3/day	Practical Capacity m^3/day	Water Prod. m^3/day	Water Supplied: m^3/day
Adjumani	Adjumani T.C	Underground Abstraction	National grid and generators	2,376	1,824	707	705
Arua	Omugo	Underground Abstraction	Solar and generators	1,125	1,175	1,175	1,175
Isingiro	Kikagate	Underground Abstraction	National grid and generators	79	79	79	79
Kiryandongo	Bweyale T.C	Underground Abstraction	National grid and generators	532	406	336	336
Kampala	N/A	Conventional WTP and GW abstraction	National grid and generators	240,000	233,840	225,611	219,453
Total				**244,112**	**237,324**	**227,908**	**221,748**

The above systems predominantly depend on diesel generators that are expensive to maintain high water production cost and with a higher carbon foot-print.

6.3.15.2 Other operators

In addition to the NWSC managed systems, there are also system managed by other operators, namely umbrella organizations, local government, scheme operators, the water committee and the local governments, Table 6-3.

Table 6-3: Centralized water schemes operated by other operators not NWSC

District	Sub County	Type of Water System	Kind of Energy Used	Operated by:	Water Supplied:	Remarks
Adjumani	1. Dzaipi	Borehole	Grid /Solar	Northern Umbrella	500m^3/Month	Rehabilitation ongoing
	2. Pakelle	Borehole	Solar	Northern Umbrella	900m^3/Month	
Arua	3. Rigbo	Borehole	Solar	Water Mission / Scheme Operator	ND	Constructed by Water Mission
Moyo	4. Itula	Borehole	Generator /Solar	Scheme Operator	ND	Constructed by district
	5. Ariwa (Kiranga)	Borehole	Solar	Water Committee	10,000m^3 Tank (3 No.)	Refugee Settlement immediately after construction
Koboko	6. Lobule	Borehole	Solar		ND	Refugee Settlement

District	Sub County	Type of Water System	Kind of Energy Used	Operated by:	Water Supplied:	Remarks
Lamwo	7. Palabek-Gem (From IDP)			Local Government	ND	Not Functional but rehabilitation planned by WSDF-N
	8. Palabek-Kal (From IDP)	Borehole /Well	Solar	Northern Umbrella	600m^3/Month	Not Functional but rehabilitation planned by WSDF-N
Isingiro	9. Isingiro T.C	Ground Water	Gravity	South-Western Umbrella	30,000m^3/Month	Low Supply
	10. Rugaaga	Borehole	Generator /Grid/ Solar	South-Western Umbrella	291m^3/Month	South-Western Facility

The smaller water supply schemes operated and other operators (other than NWSC) are majorly sustainable as far as energy use is concerned. All but one, use renewable energy, solar photovoltaic panels, and the exception being a gravity flow scheme.

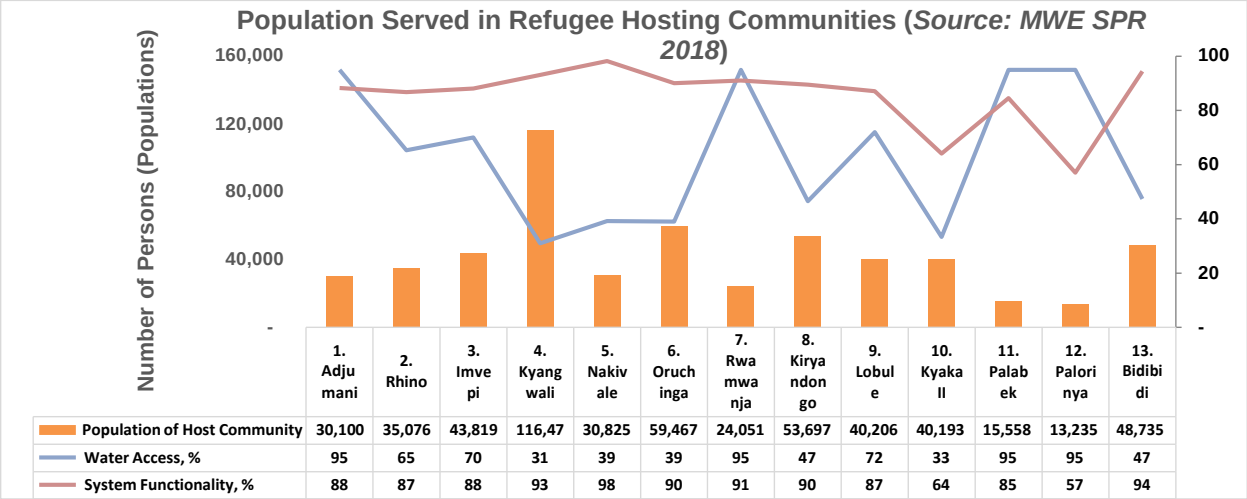

Figure 6-4: Host Communities' population, water access and water sources functionality.

In 35 sub counties that are hosting refugees with a population of 551,437, a ratio of 1:2 a local to a refugee, access of rural water supplies was at 63%, with an exception of Kyangwali, Nakivale, Oruchinga, Kiryandongo, Kyaka II, and Bidibidi with less than 50%, below the national performance of 70%, MWE, 2018. In regards, to system functionality of water sources, it is only Kyaka II (64%) and Palorinya (57%) that are much below the National sector performance, ~80%, Figure 6-4.

Nine Sub counties that are hosting refugees are currently not served by any water supply system, by either government or other stakeholders. However, efforts are being made to develop water

supply systems in these areas. Feasibilities have been completed and designs either completed or being undertaken, Table 6-5.

Table 6-5: Host Districts/Sub-counties presently lacking water supply system

Refugee Hosting Districts	Sub County	Status
1. Isingiro	1. Ngarama	No water (Under construction by district in phases)
	2. Rushasha	No water (dry corridor)
	3. Kashumba	No water (dry corridor)
2. Kikube	4. Kyangwali	No water
3. Kamwenge	5. Katalyeba T.C	No water but mains extension planned by NWSC from Kamwenge TC scheme
4. Kiryandongo	6. Mutunda	No water
5. Kyegegwa	7. Mpara	No water (TOR for design and construction supervision done. To be advertised soon under the Integrated Water Management Development Project (IWMDP)
	8. Kyegegwa Rural	No water (TOR for design and construction supervision done. To be advertised soon (IWMDP)
	9. Ruyonza	No Water (TOR for design and construction supervision done. To be advertised soon (IWMDP)

6.3.16 The water supply situation per settlement and host community

Water supply is currently provided by a combination of infrastructure including boreholes, shallow wells, springs, and piped water systems. The Table 6-6 below shows details of the water supply situation in host communities and refugee settlements as at June 2019.

It has been noted that for Host communities, water supply is captured as coverage in % (Percentage) while in Refugee settlements; water supply is captured as Litres per person per day.

In Refugee Hosting community, the highest safe water coverage was 95% in the six (6) Sub counties that are hosting refugees in Adjumani District. Rusheshe Sub County in Isingiro District has the lowest safe water coverage of 13%, followed by Runyonza Sub County in Kyengegwa District. Bweyare Town Council is the only Refugee hosting community supplied by National Water and Sewerage Corporation (NWSC).

In refugee settlements of Orunchinga (22.8 Lpcpd), Palorinya (20.7 Lpcpd) and Imvepi (22.0 Lpcpd) were providing safe drinking water above the Sphere standards of 20l/p/d. Whereas, Kyaka (8.2 Lpcpd) and Kyangwari (11.2 Lpcpd) provided the least amount of water per person per day as detailed in Table 6-6 below as of June 2019 Source MWE/TSU and UNHCR Data Base respectively.

Table 6-6: Water supply and Sanitation situation for refugee settlements and Host communities

No.	Region	District	District Population 2019	Sub-county Name	SC Population * 2019	% Access			Settlement Name	Population March 19 - Baseline	Water	Sanitation		Water	Sanitation
						Water * 2019	Sanitation Covarage ** 2018				Litres Per Day ***	% Coverage	Population (June 2019)	Litres Per Day ***	% Coverage
						%	Latrine coverage (%)	Handwashing Coverage (%)							
1	West Nile/ North	Adjumani	235,268	Adjumani T C	37,014	95	95.6	65.2	Adjumani	203,449	16.5	73.0	203,878	15.7	70.0
				Itirikwa	17,841	95	87.7	60.3							
				Ukusijoni	11,894	95	79.5	47.2							
				Pachara	17,943	95	71.8	47							
				Pakelle	51,676	95	68.8	32.5							
				Dzaipi	44,807	95	68.1	37.3							
		Arua	882,470	Omugo	49,773	47	77	44	Rhino	102,577	20.2	43.0	108,517	19.7	46.0
				Uriama	26,637	84	87	35							
				Rigbo	29,609	63	55	5							
				Udupi	44,148	69	71	31	Imvepi	57,453	24.8	75.0	57,831	22.0	74.0
		Moyo	148,406	Itula	13,121	95	89.8	52.8	Palorinya	119,226	22.0	47.0	118,773	20.7	51.0
		Yumbe	628,701	ARIWA	29,677	48	69.9	80.1	Bidibidi	223,939	16.6	62.0	223,939	17.0	62.0
				KOCHI	53,682	52	78.1	50.1							
				KULULU	47,979	44	93.9	50.3							
				ODRAVU	54,913	54	78.6	49.8							
				ROMOGI	59,275	49	89	65.4							
		Koboko	209,715	Lobule	40,622	72	72	33	Lobule	TBD	TBd	TBD	TBD	TBD	TBD
		Lamwo	142,115	Palabek-Gem	15,919	95	TBD	TBD	Palabek	40,870	20.1	76.0	45,891	18.3	69.0
				Palabek Kal	15,303	95	TBD	TBD							
2	Mid West	Kikuube	330027	Kyangwali	117,768	31	74	33	Kyangwali	93,068	11.0	54.0	102,063	11.2	54.0
		Kiryandongo	305,521	Mutunda	73,478	0	74	20.5	Kiryandongo	53,772	15.4	72.0	53,772	15.6	72.0
				Byeyare	35,760	100 NWSC	75	30							
3	South West	Isingiro	573,520	Kashumba	26,241	75	95.1	38	Nakivale	97,645	17.2	77.0	110,796	17.5	76.0
				Mbaare	39,739	51	93.4	34							
				Rugaaga	39,199	45	97.6	64							
				Rushasha	15,550	13	93	32							
				Ngarama	41,359	44	97.5	57.8	Oruchinga	7,272	22.8	72.0	7,465	23.0	68.0
				Kikagate	60,041	39	96.9	42.4							
				Isingiro	33,260	26	90.6	28							
		Kamwenge	482,591	Nkoma	24,296	95	89.4	24	Rwamwanja	65,071	18.5	81.0	68,146	17.7	60.0
				Bwizi	34,491	55	82.6	23							
				Bihanga	17,246	90	86.2	21							
				Biguri	40,999	89	89.3	28							
		Kyegegwa	383,805	Kyegegwa Kabweeza	36,476	38	TBD	TBD	Kyaka	90,492	9.2	47.0	95,006	8.2	50.0
				Mpara	55,005	33	TBD	TBD							
				Ruyonza	40,788	18	TBD	TBD							

Table 6-7 summarizes, the average water access for each individual host district as reported by technical support units (TSUs) as of August 2019. Kiryandongo District reporting on average 100% access and Kyegegwa at 30% on average in the sub-counties that host refugees.

Table 6-7: Host Communities Water Access (%) in Refugee Host Districts

#	District	Water Access, %	#	District	Water Access, %
1	Kiryandongo	100	7	Arua	66
2	Adjumani	95	8	Yumbe	49
3	Moyo	95	9	Isingiro	40
4	Lamwo	95	10	Kikuube	31
5	Kamwenge	95	11	Kyegegwa	30
6	Koboko	72			

6.4 Gap analysis

During the situational analysis/assessment six focus areas of concern and related gaps were identified, Table 6-8.

Table 6-8: Gaps in Water and Sanitation Operations

Focus Area	Gaps
Infrastructure planning	Planning for Emergency, Humanitarian, Integration, and repatriation phases
Designs, Construction/ implementation	Lack of integrated water system design at Catchment or Micro catchment level
	Low service coverage and yet to meet the 20lcpd target
Management Options and Approach	Water Supply Operations: standalone O&M, working in silos, short operations span
	Poor Maintenance of electro-mechanical equipment
Operations and Management of WASH facilities	Underfunding
	Low Sanitation coverage especially Faecal Sludge Management (FSM), handling, collection, transportation and treatment
	Low Vocational and Management Skills
	Lack of requisite equipment and tools
Financing and budgets: CAPEX and OPEX	Lack of financing to improve and expand water supply systems to meet changing and emerging environment/drive to commercialization
	OPEX - tariff, user fee and/or subsidy
Oversight, Compliance and Monitoring frameworks	Lack of Key Results Area (KRA), Key Performance Indicators (KPI), Performance Targets, Service levels

Among the key gaps identified are: challenges in planning; water supply schemes being operated in isolation (silos) rather than being integrated and benefiting from economies of scale; poor maintenance culture, low sanitation coverage especially challenges in faecal sludge management at household level; lack of investment development financing; financial sustainability in meeting the running costs (OPEX), etc.

6.5 Theory of Change

In line with Uganda's Comprehensive Refugee Response Framework (CRRF), the theory of change for Water Supply and Sanitation describes the strategic inputs, outcomes and activities, which if implemented holistically. The intended outcome is improved equitable and Sustainable access to water and sanitation services in both host communities and refugee settlements which will impact into improved utilization of environment and natural resources for peaceful co-existence of refugees and host communities, Figure 6-7.

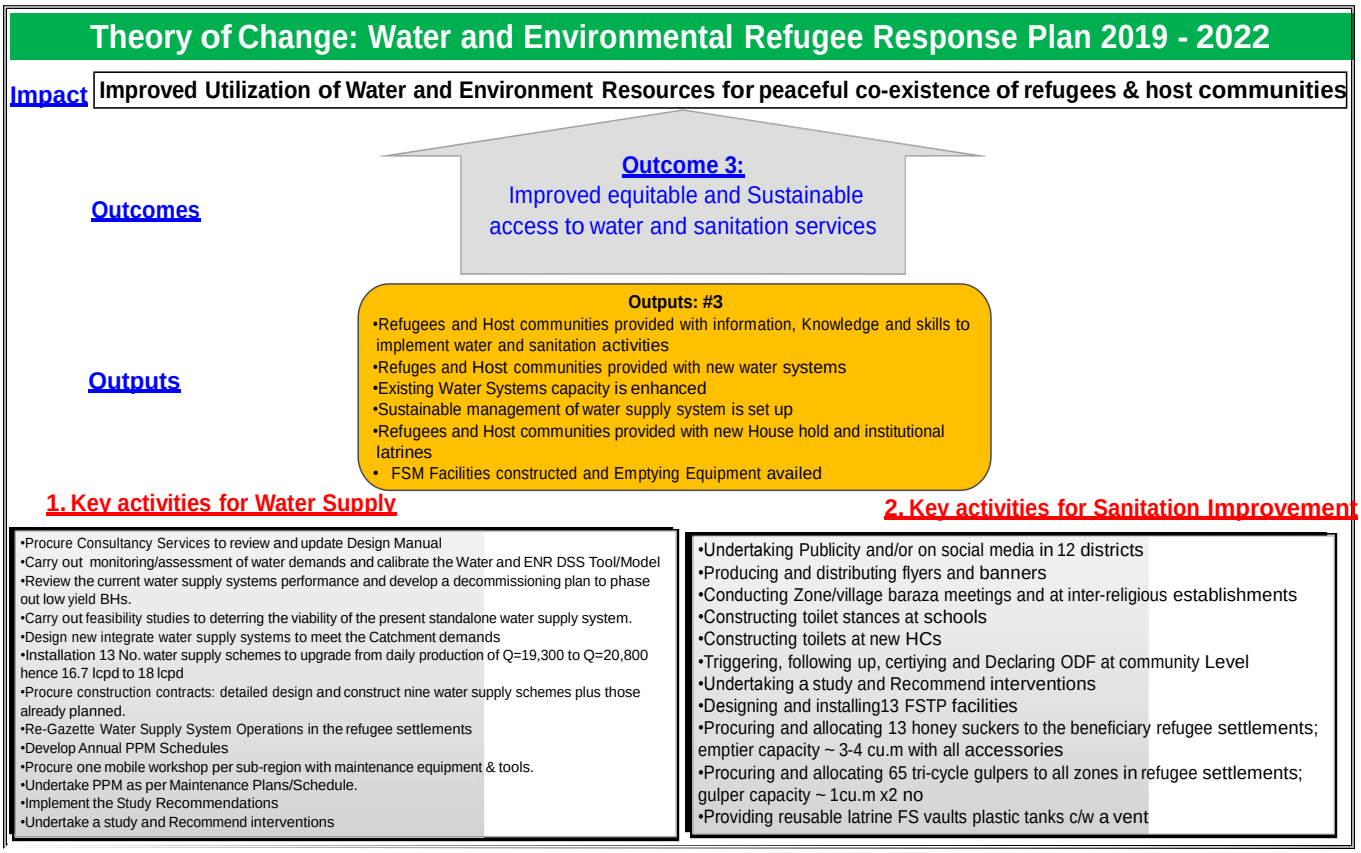

Figure 6-7: Theory of Change – for Water and Sanitation

The plan recognizes the crucial role of improved equitable and Sustainable access to water and sanitation services in both host communities and refugee settlements and close partnership with government bodies, under the leadership of the Ministry of Water and Environment.

The expected outcomes for the proposed Water Supply are: ***Refuges and Host communities provided with new water systems; Existing Water Systems capacity is enhanced and Sustainable management of water supply system is set up***

6.6 Proposed Interventions and the Costing

The implementation of planned Water Supply interventions in the next three (3) years will cost US$ 124,234,260 which is 13.6% of the total response plan. The breakdown of the costs of intervention is as shown in Table 6-9 below.

The Key proposed water supply activities are: Procure Consultancy Services to review and update Design Manual, Carry out monitoring/assessment of water demands and calibrate the Water and ENR DSS Tool/Model, Review the current water supply systems performance and develop a decommissioning plan to phase out low yield BHs, Carry out feasibility studies to deterring the viability of the present standalone water supply system, Design new integrate water supply systems to meet the Catchment demands, Installation 13 No. water supply schemes to upgrade from daily production of Q=19,300 to Q=20,800 hence 16.7 Lpcpd to 18 Lpcpd, Procure construction contracts: detailed design and construct nine water supply schemes plus those already planned, Re-Gazette Water Supply System Operations in the refugee settlements, Develop Annual PPM

Schedules, Procure one mobile workshop per sub-region with maintenance equipment & tools, Undertake PPM as per Maintenance Plans/Schedule, Installation of consumer meters i.e. prepaid meters for public stand-posts (PSPs) and individual backyard taps meters. Development and roll out of a new billing and commercial systems.

Table 6-9: Proposed intervention and costing for water supply

Ref.	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
3A	**WATER SUPPLY SUB-BUDGET**	**MWE**	**25,171,737**	**57,415,723**	**41,646,800**	**124,234,260**
3.1	**Refugees and Host communities provided with information, Knowledge and skills to implement water and sanitation activities**	**OPM, MWE, DLG**	**84,000**	**84,000**	**84,000**	**252,000**
3.1.1	Undertaking Publicity and/or on social media in 12 districts	IPs & OPs	24,000	24,000	24,000	72,000
3.1.2	Producing and distributing flyers and banners	IPs & OPs	36,000	36,000	36,000	108,000
3.1.3	Conducting Zone/village *baraza* meetings and at inter-religious establishments	IPs & OPs	24,000	24,000	24,000	72,000
3.2	**Refuges and Host communities provided with new water systems**	**MWE & Utility**	**7,884,940**	**35,150,000**	**34,250,000**	**77,284,940**
3.2.1	Carrying out feasibility studies to determine the viability of the present standalone water supply system.	DWD	900,000	900,000	-	1,800,000
3.2.2	Designing new integrate water supply systems to meet the Catchment demands	DWD	-	1,750,000	1,750,000	3,500,000
3.2.3	Installation of 13 No. water supply schemes to upgrade from daily production of Q=19,300 to Q=20,800 hence 16.7 lcpd to 18 lcpd	MWE, UNHCR & IPs	6,984,940	-	-	6,984,940
3.2.4	Procuring construction contracts: detailed design and construct nine water supply schemes plus those already planned: 69% to 75%.	DWD, UNHCR & IPs		32,500,000	32,500,000	65,000,000
3.3	**Existing Water Systems capacity is enhanced**	**Utility**	**9,922,747**	**14,148,923**	**-**	**24,071,670**
3.3.1	Assessing and replacing controls at all water production wells: SCADA, remote sensing, controls. Including GW BH divers monitors at all old 148 + 26 new water production wells.	**UNHCR, IPs, UTILITY**	3,900,000	7,800,000	-	11,700,000
3.3.2	Installation of consumer water meters for half of the HH	**UNHCR, IPs, UTILITY**	-	6,115,590	-	6,115,590
3.3.3	Installing for a start 2718 prepaid PSP meters to serve at least 50HH per PSP for half of the HH in settlements	**UNHCR, IPs, UTILITY**	5,436,080	-	-	5,436,080
3.3.4	Installing attendant 12 local prepaid PSP software, POS and integrate with Billing system	**UNHCR, IPs, UTILITY**	120,000	-	-	120,000

Ref.	Result/Activity	Responsible Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
3.3.5	Designing/developing a user-friendly billing system, free licence, OR Open source and integrate with prepared PSP software; with possibility to quell and produce reports in line with Audit Compliance SOP	**UNHCR, IPs, UTILITY**	466,667	233,333		700,000
3.4	**Sustainable management of water supply system is set up**	**Utility**	**7,280,050**	**8,032,800**	**7,312,800**	**22,625,650**
3.4.1	Re-Gazetting Water Supply System Operations in the refugee settlements	MWE	20,000	-	-	20,000
3.4.2	Developing Annual Planned Preventive Maintenance (PPM) Schedules	UTILITY, IP	240,000	120,000		360,000
3.4.3	Procuring one mobile workshop per sub-region with maintenance equipment & tools.	UTILITY, IP	-	600,000	-	600,000
3.4.4	Undertaking PPM as per Maintenance Plans/Schedule.	UTILITY, IP	480,000	480,000	480,000	1,440,000
3.4.5	Carrying tariff and structure study	MWE	20,000	-	-	20,000
3.4.6	Procuring and distributing equipment and tools to utilities	MWE, Utility	180,000	-	-	180,000
3.4.7	Providing funds –in form of user fees- to meet O&M costs (subsidy) for refugees	UNHCR	6,340,050	6,832,800	6,832,800	20,005,650

6.7 Implementation and Disbursement Plan

Ref.	Result/Activity	Response Entity	Total, US$	Year 1 (2020)				Year 2 (2021)				Year 3 (2022)			
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3A	WATER SUPPLY SUB-BUDGET	MWE	124,234,260	1,851,013	4,079,326	4,982,659	8,822,659	7,032,533	10,049,757	22,824,757	22,944,757	2,724,200	2,724,200	18,099,200	18,099,200
3.1	Refugees and Host communities provided with information, Knowledge and skills to implement water and sanitation activities	OPM, MWE, DLG	252,000	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000	21000
3.1.1	Undertaking Publicity and/or on social media in 12 districts	IPs & OPs	72,000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
3.1.2	Producing and distributing flyers and banners	IPs & OPs	108,000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000
3.1.3	Conducting Zone/village baraza meetings and at inter-religious establishments	IPs & OPs	72,000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
3.2	Refuges and Host communities provided with new water systems	MWE & Utility	77,284,940	0	2328313.42	2778313.42	2778313.42	450000	450000	17125000	17125000	875000	875000	16250000	16250000
3.2.1	Carrying out feasibility studies to determine the viability of the present standalone water supply system.	DWD	1,800,000			450000	450000	450000	450000						
3.2.2	Designing new integrate water supply systems to meet the Catchment demands	DWD	3,500,000							875000	875000	875000	875000		
3.2.3	Installationing 13 No. water supply schemes to upgrade from daily production of Q=19,300 to Q=20,800 hence 16.7 lcpd to 18 lcpd	MWE, UNHCR & IPs	6.984.940			2328313	2328313								
3.2.4	Procuring construction contracts: detailed design and construct nine water supply schemes plus those already planned: 69% to 75%.	DWD, UNHCR & IPs	65,000,000							16250000	16250000			16250000	16250000
3.3	Existing Water Systems capacity is enhanced	Utility	24,071,670	0	0	293333.335	4193333.335	4133333.33	7750556.667	3850556.667	3850556.667	0	0	0	0
3.3.1	Assessing and replacing controls at all water production wells: SCADA, remote sensing, controls. including GW BH divers monitors at all old 148 + 26 new water production wells.	UNHCR, IPs, UTILITY	11,700,000				3900000	3900000	3900000						
3.3.2	Installating consumer water meters for half of the HH	UNHCR, IPs, UTILITY	6,115,590						2038530	2038530	2038530				
3.3.3	Installing for a start 2718 prepaid PSP meters to serve at least 50HH per PSP for half of the HH in settlements	UNHCR, IPs, UTILITY	5,436,080						1812027	1812027	1812027				
3.3.4	Installing attendant 12 local prepaid PSP softwares, POS and integrate with Billing system	UNHCR, IPs, UTILITY	120,000			60000	60000								
3.3.5	Designing/developing a user friendly billing system, free licence, OR Open source and integrate with prepared PSP software; with possibility to quell and produce reports in line with Audit Compliance SOP	UNHCR, IPs, UTILITY	700,000			233333	233333	233333							
3.4	Sutainable management of water supply system is set up	Utility	22,625,650	1830012.5	17300012.5	1890012.5	1830012.5	2428200	1828200	1828200	1948200	1828200	1828200	1828200	1828200
3.4.1	Re-Gazetting Water Supply System Operations in the refugee settlements	MWE	20,000		20000										
3.4.2	Developing Annual Planned preventive Maintenance (PPM) Schedules	UTILITY, IP	360,000	120000			120000				120000				
3.4.3	Procuring one mobile workshop per sub-region with maintenance equipment & tools.	UTILITY, IP	600,000					600000							
3.4.4	Undertaking PPM as per Maintenance Plans/Schedule.	UTILITY, IP	1,440,000	120000	120000	120000	120000	120000	120000	120000	120000	120000	120000	120000	120000
3.4.5	Carrying tariff and structure study	MWE	20,000	5000	5000	5000	5000								
3.4.6	Procuring and distributing equipment and tools to utilities	MWE, Utility	180,000			180000									
3.4.7	Providing extra funds to meet O&M costs (subsidy) for refugees	UNHCR	20,005,650	1505013	1505013	1505013	1505013	1708200	1708200	1708200	1708200	1708200	1708200	1708200	1708200

Figure 6-8: Implementation and Disbursement Plan for Water Supply Component (3A)

6.8 Result Framework

Table 6-10: Result Framework for Water Supply

3A	**WATER SUPPLY**		
3.1	**Refugees and Host communities provided with information, Knowledge and skills to implement water and sanitation activities**		
	Project/Activity Objective	**Project Outcome Indicators**	**Means of verification**
3.1.1	Undertaking Publicity and/or on social media in 12 districts	12 District Sensitized on proper utilization and management of water Systems	No. of **Information, Education and Communication (**IEC) Materials
3.1.2	Producing and distributing flyers and banners	Flyers and banners produced	Number of fliers and banners produced and distributed
3.1.3	Conducting Zone/village *baraza* meetings and at inter-religious establishments	Zone/Village *baraza* meeting held	No. of Reports on the *baraza* meetings held
3.2	**Refuges and Host communities provided with new water systems**		
	Project/Activity Objective	**Project Outcome Indicators**	**Means of verification**
3.2.1	Carrying out feasibility studies to determine the viability of the present standalone water supply system.	Feasibility studies to deterring the viability conducted on the present standalone water supply system.	Report on the feasibility on present standalone water supply system to deterring the viability
3.2.2	Designing new integrate water supply systems to meet the Catchment demands	New integrate water supply systems Designed to meet the Catchment demands	Number of new integrate water supply systems designed to meet the Catchment demands
3.2.3	Installation of 13 No. water supply schemes to upgrade from daily production of Q=19,300 to Q=20,800 hence 16.7 lcpd to 18 lcpd	13 No. water supply schemes installed to upgrade from daily production	Number of water supply schemes to upgrade from daily production
3.2.4	Procuring construction contracts: detailed design and construct nine water supply schemes plus those already planned: 69% to 75%.	Constructor identified to undertake detailed design and construction of nine water supply schemes plus those already planned 69% to 75%	Nine water supply schemes plus those already planned designed and constructed
3.3	**Existing Water Systems capacity is enhanced**		
	Project/Activity Objective	**Project Outcome Indicators**	**Means of verification**
3.3.1	Assessing and replacing controls at all water production wells: SCADA, remote sensing, controls. Including GW BH divers monitors at all old 148 + 26 new water production wells.	All Water Production wells assessed and replaced with controls: SCADA, remote sensing, controls. Including GW BH divers monitors at all old 148 + 26 new water production wells.	A report on the assessment and Replacement of all Water Production wells.

3.3.2	Installation of consumer water meters for half of the HH	Consumer meters installed at HH level	Number of Consumer meters installed at HH Level
3.3.3	Installing for a start 2718 prepaid PSP meters to serve at least 50HH per PSP for half of the HH in settlements	2718 prepaid PSP meters installed to serve at least 50HH per PSP for half of the HH in settlements	Number of prepaid PSP meters installed to serve at least 50HH per PSP for half of the HH in settlements
3.3.4	Installing attendant 12 local prepaid PSP software packages, POS and integrate with Billing system	12 local prepaid PSP software installed, POS and integrated with Billing system	Number of local prepaid PSP software packages installed, POS and integrated with Billing system
3.3.5	Designing/developing a user-friendly billing system, free licence, OR Open source and integrate with prepared PSP software; with possibility to quell and produce reports in line with Audit Compliance SOP	A new friendly billing system designed/developed and integrated with prepared PSP software.	A report on the friendly billing system designed/developed and integrated with prepared PSP software.
3.4	**Sustainable management of water supply system is set up**		
	Project/Activity Objective	**Project Outcome Indicators**	**Means of verification**
3.4.1	Re-Gazetting Water Supply System Operations in the refugee settlements	Water Supply System Operations (re)Gazette in the refugee settlements	Number of Water Supply System Operations (re)Gazette in the refugee settlements
3.4.2	Developing Annual Planned Preventive Maintenance (PPM) Schedules	Annual PPM Schedules developed	Number of Annual PPM Schedules developed and implemented
3.4.3	Procuring one mobile workshop per sub-region with maintenance equipment & tools.	One mobile workshop procured per sub-region with maintenance equipment & tools.	Number of mobile workshops procured per sub-region with maintenance equipment & tools.
3.4.4	Undertaking PPM as per Maintenance Plans/Schedule.	PPM undertaken as per Maintenance Plans/Schedule.	Report on PPM undertaken as per Maintenance Plans/Schedule.
3.4.5	Carrying tariff and structure study	Feasibility studies to deterring the tariff and structure conducted	A report on the Feasibility studies to deterring the tariff and structure conducted
3.4.6	Procuring and distributing equipment and tools to utilities	Procurement and distribution of Equipment and tools to utilities	Number of Equipment and tools to utilities procured and distributed to Utilities
3.4.7	Providing funds –in form of user fees- to meet O&M costs (subsidy) for refugees	Funds Provided inform of user fees to meet O&M costs for refugees and host communities	Amount of Funds Provided inform of user fees to meet O&M costs for refugees and host communities

7 SANITATION AND HYGIENE

7.2 Situation Analysis

7.2.3 Status of Sanitation in the refugee hosting Districts

Currently, the average sanitation coverage within the refuge hosting districts in Uganda is 82% for latrine coverage and hand washing facilities at 45.5%, whereas that of refugee Settlements is 68.2% for latrine coverage for the month of March 2019 and decreased to 63.8% as of the month of June 2019. Kiryandongo has the highest Latrine coverage at 94.8% and Koboko district at 72% has the lowest as shown in Table 6-6.

In refugee settlements, unavailability of materials for construction of family latrines coupled with low levels of community participation have delayed shift from communal to family latrines in refugee settlements in West Nile. Instances of hard ground conditions and waterlogged areas in pockets of settlements in refugee settlements in Mid-west and South-West has exacerbated the problem of family latrine coverage, including for vulnerable families. Due to limitations on construction materials support, structures of the latrines are poor and serve for a shorter duration than optimal as compared to properly constructed latrines. On the other hand, the latrines for Persons with Special Needs serve adequately more and have a longevity of almost double compared to ordinary family latrines, Figure 7-1. Extra support is given to Persons with Special Need (PSNs) i.e. people with disability (PWD), elderly, etc. by constructing for them these sanitation facilities.

Figure 7-1: Household latrine left and PSN on the right

7.2.4 Targeted Population

The plan targets to cover the current population of refugees (1,209,476) as per refugee portal of March, 2019 plus estimated refugee population influx of 120,000 (40,000 refugees per year) in the next three years. The targeted population for host communities shall be identified after proposed feasibility study and designs are done. For refugee host communities the plan is targeting 36 Sub-Counties as detailed in Table 6-6.

Generally, latrine coverage in refugee settlements and refugee host districts is below the national average of 80%. Isingiro District, which has 7 (Seven) sub counties hosting refugees as an average of 95% all above the national Average of 80% latrine coverage. While in Refugee settlements, Imvepi (74%), Kiryandongo (72%) and Adjumani (70%) have the highest latrine coverage and Rhino (46%) and Kyaka II (50%) as have the lowest latrine coverage, shown in Table 6-6.

To avert, uncoordinated implementation, increase efficiency and effectiveness in service delivery of water and sanitation services, a sanitation regulation framework, a Memorandum of Understanding (MOU) has been developed to harmonize the roles of different actors and guide the regulation of sanitation activities, implementation and provision of sanitation interventions in the sector, however the MOU did not include and specify roles of Ministry of Local Government (MoLG) or the Ministry of Gender, Labour, and Social Development (MGLSD) in monitoring, advising, and providing technical assistance to all local government, and Ministry of Gender's responsibility of developing policies and guidelines with respect to community mobilization and empowerment, gender responsiveness, and mentoring of community development. This oversight needs to be addressed in future.

Table 6-6 shows details of the Sanitation situation as March and June 2019. Currently sanitation coverage includes household latrines and Hand washing facilities within the refugee hosting communities and Latrine coverage with in the settlements for refugees.

7.2.5 Institutional sanitation

Both refugees and Host communities are currently sharing Health and Educational Facilities. Health and Education institutions within the refugee settlements have the necessary sanitation facilities (drainable latrine, segregated by gender) while those in the refugee hosting communities are inadequate and not in a good state. Majority of instructional latrines are designed in such a way that they should be drained when they are full. However, there is no human waste treatment facility within an average of 60 kilometres range. This emptying process requires specialized equipment and personnel to handle this; which is expensive and not readily available. There exists only three faecal sludge treatment units ***(Bibibidi, Rwamwanja and Kyangwali)*** and no vacuum truck to adequately serve the settlements and hosting districts, which are over whelmed. There are 3,017 institutional latrines exists in schools, markets, food distribution centres, and health centres there is a gap of 35%.

7.2.6 Solid waste management

Solid wastes at household level **in both refugee settlements and Host communities** are rudimentarily treated as soil conditioner whilst markets and communal areas lack an organized management system in terms of segregation, collection and disposal/re-use. Random efforts to convert sanitation wastes to value through biogas pilots and briquetting exist, but on limited scale across the hosting districts.

7.2.7 Hygiene

In both refugee settlements and Host communities, there is generally absence of a harmonized and contextualized behaviour change communication framework for hygiene awareness initiatives and this slows down the adoption of positive hygiene practices.

The challenge is compounded by limitations in hygiene related supplies such as soap with 50% of refugees in West Nile refugee settlements reporting inability to access the supplies due to household financial situations. Knowledge levels on hand-washing is relatively high as per MSNA for refugees (***77% after defecating, 76% before eating***) and host community households (***71% after defecating, 87% before eating***). Isingiro and Kamwenge districts, have the lowest level of awareness on hand-washing after use of a toilet (Isingiro: host community 63%, refugees 64%; Kamwenge: host community 56%, refugees 65%).

7.2.8 Gap Analysis

In refugee hosting communities, there is under-staffing of environmental health staff at district and sub-country level, who are the technical staff mandated to support communities in promotion of sanitation and hygiene at Community level.

The above challenge is coupled with inadequate logistical support to Environmental Health staff to expedite their roles and responsibilities. There is inadequate coordination between refugee hosting District and sub counties with IPs/Ops engaging in Sanitation and hygiene service provision in Settlements.

Other identified gaps are

1. Low Community involvement and behaviour change
2. Planning for Emergency, Humanitarian, Integration, and repatriation phases
3. Low Sanitation coverage especially FSM, handling, collection, transportation and treatment.

7.2.9 Theory of Change - Sanitation

To achieve the desired outcome of improved equitable and Sustainable access to water and sanitation services to attain targeted impact of improved utilization of environment and natural resources for peaceful co-existence of refugees and host communities, the WERRP will undertake the following sanitation focused activities as detailed in the theory of change in the section for Water supply Figure 6-7, these include but not limited to:

- Refugees and Host communities provided with information, knowledge and skills to implement water and sanitation activities
- Refuges and Host communities provided with new water systems
- Existing Water Systems capacity is enhanced
- Sustainable management of water supply system is set up
- Refugees and Host communities provided with new House hold and institutional latrines
- FSM Facilities constructed and Emptying Equipment availed.

7.3 Proposed Interventions for Sanitation

Interventions proposed are focused on addressing and bridging the following gaps in sanitation in both Refugees and host communities as follows:

i. ***Low community involvement and behavioural Change***; public awareness with be emphasized in both refugee settlement s and Host communities. This will comprise

undertaking publicity and/or on social media in 12 districts; production and distribution of flyers and banners; and conducting ***baraaza*** meetings at Zonal/Village level and utilizing the Inter Religious establishments.

ii. ***Planning for Emergency, Humanitarian, Integration, and repatriation phases***: this will be addressed by reviewing the water and sanitation design manual to profile Sanitation. A consultant will be identified to undertake the review.

iii. ***Low Sanitation coverage especially FSM, handling, collection, transportation and treatment***; the following interventions have been proposed;

- The Sanitation situation in all refugee settlement and host communities needs to be determined. A study will be undertaken and recommended interventions implemented.
- One FSM facility will be established in each of the refugee settlements to serve both the refugees and host community. 13 FSM facilities will be designed and installed in each of the refugee settlements with its host community.
- To facilitate emptying of latrines in both Institutional and household level latrines: FS emptying facilities will be availed in all refuge settlements; for Institutional latrine emptying (Schools and Health Facilities) 13 honey suckers with emptier capacity ~ 3-4 cu.m with all accessories will be procured and allocate to the beneficiary refugee settlements. For household emptying, 65 tri-cycles and with 65 gulpers of capacity ~ 1cu.m x2 will be procured and allocated to all zones in refugee settlements to serve both refugees and host communities.
- To reduce the risk of ground water contamination and the challenge of latrine wall collapse for the house hold latrines during emptying, we propose that all HH Latrines to be lined. This will be attained by providing reusable latrine FS vaults plastic tanks c/w a vent, for each house hold.
- In recognition of the Ministry of Education and Sports Refugee and the Ministry of Health Refugee Response plans, in education institutions and health facilities respectively, we propose to add at least one complete lined latrine facility in each settlement for the new schools and new health facility.

The proposed interventions will focus on bridging the identified gap in Sanitation as detailed in the *Table 7-1* below in both Refugee settlements and Host communities

Table 7-1: Proposed interventions for the identified gaps in sanitation

Gap	Proposed Interventions	Activity
1. Low Community involvement and behavior change	Promote Public awareness	Undertake Publicity and/or on social media in 12 districts
		Produce and distribute flyers and banners
		Conduct Zone/village *baraza* meetings and at inter-religious establishments
2. Planning for Emergency, Humanitarian, Integration, and repatriation phases	Review the Water & Sanitation Design Manual to Profile Sanitation	Procure Consultancy Services to review and update Design Manual

Gap	Proposed Interventions	Activity
3. Low Sanitation coverage especially FSM, handling, collection, transportation and treatment.	Determine sanitation situation in all refugee settlements	Undertake a study and Recommend interventions
	Establish FSM facilities at least one facility in all refugee settlement	Design and install 13 FSTP facilities
	Avail FS emptying facilities in all refuge settlements	Procure and allocate 13 honey suckers to the beneficiary refugee settlements; emptier capacity ~ 3-4 cu.m with all accessories
		Procure and allocate 65 tri-cycle gulpers to all zones in refugee settlements; gulper capacity ~ 1cu.m x2 no
	All HH Latrines to be lined	Provide reusable latrine FS vaults plastic tanks c/w a vent
	Increase pupil - toilet stance ratio at education institutions and also for new schools.	Construct toilet stances at schools
	Construct new toilets at new Health Centres	Construct toilets at new HCs

7.4 Cost to Implement the Proposed Interventions

The costing of the implementing sanitation activities will focus on the proposed intervention activities for the identified seven (7) main gaps. The costing has been stretched for the period of the three years to allow consistence implementation and monitoring of the proposed interventions. The interventions cost for Sanitation is **US$ 124,780,700** which is **13.6%** of the total plan. The breakdown of the intervention is as shown in Table 7-2 below.

Some of the expected outputs for the sanitation are initiatives are such as Conducting Zone/village *baraza* meetings and at inter-religious establishments, constructing toilet stances at schools and Health facilities, Triggering, following up, certifying and Declaring Open Defecation Free (ODF) at community level, Designing and installing13 Faecal Sludge Treatment Plant (FSTP) facilities and Providing reusable latrine FS vaults plastic tanks c/w a vent.

The expected outcomes for the proposed Sanitation activities and expected outputs are, Refugees and Host communities provided with information; Knowledge and skills to implement water and sanitation activities; Refugees and Host communities provided with new House hold and institutional latrines and FSM Facilities constructed and Emptying Equipment availed.

Table 7-2: Cost for implementing proposed sanitation intervention

Ref.	Result/Activity	Response Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
3B	**SANITATION SUB-BUDGET**	**MWE**	**46,840,433**	**72,775,433**	**5,164,833**	**124,780,700**
3.5	**Refugees and Host communities provided with new House hold and institutional latrines**	**MWE**	**1,164,833**	**1,164,833**	**1,164,833**	**3,494,500**
3.5.1	Constructing toilet stances at schools	UNICEF	617,500	617,500	617,500	1,852,500

Ref.	Result/Activity	Response Entity	Amount, US$			
			Year 1	Year 2	Year 3	Total, US$
2.5.2	Constructing toilets at new HCs	UNHCR	93,333	93,333	93,333	280,000
3.5.3	Triggering, following up, certifying and Declaring ODF at community level	UNICEF	454,000	454,000	454,000	1,362,000
3.6	**FSM Facilities constructed and Emptying Equipment availed**	**MWE**	**45,675,600**	**71,610,600**	**4,000,000**	**121,286,200**
3.6.1	Undertaking a study and Recommend interventions	UNHCR	30,000	-	-	30,000
3.6.2	Designing and installing13 FSTP facilities	MWE, UNHCR	4,875,000	27,625,000	-	32,500,000
3.6.3	Procuring and allocating 13 honey suckers to the beneficiary refugee settlements; emptier capacity ~ 3-4 cu.m. with all accessories	OPM, UNHCR	-	1,020,000	-	1,020,000
3.6.4	Procuring and allocating 65 tri-cycle gulpers to all zones in refugee settlements; gulper capacity ~ 1cu.m x2 no	OPM, UNHCR	-	195,000	-	195,000
3.6.5	Providing reusable latrine FS vaults plastic tanks c/w a vent	UNHCR	40,770,600	42,770,600	4,000,000	87,541,200

7.5 Implementation and Disbursement Plan – Sanitation Component

The proposed activities shall be implemented in the stretch of three years of the plan but in different timeframes depending on its applicability. The detailed implementation plan for each activity have been put in quarterly basis as detailed in Figure 7-2 below show which activity will be done in which year in the period of the three years of the plan.

Ref.	Result/Activity	Response Entity	Total, US$	Year 1 (2020)				Year 2 (2021)				Year 3 (2022)			
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3B	SANITATION SUB-BUDGET	MWE	124,780,700	143,500	113,500	23,029,633	23,553,800	28,620,050	27,405,050	8,113,083	8,637,250	1,113,500	1,113,500	1,206,833	1,731,000
3.5	Refugees and Host communities provided with new House hold and institutional latrines	MWE	3,494,500	113500	113500	206833.33	731000	113500	113500	206833.33	731000	113500	113500	206833.33	731000
3.5.1	Constructing toilet stances at schools	UNICEF	1,852,500				617500				617500				617500
2.5.2	Constructing toilets at new HCs	UNHCR	280,000			93333				93333				93333	
3.5.3	Triggering, following up, certifying and Declaring ODF at community level	UNICEF	1,362,000	113500	113500	1	113500	1500	113500	113500	113500	1	113500	113500	113500
3.6	FSM Facilities constructed and Emptying Equipment availed	MWE	121,286,200	30000	0	2822800	2822800	28506550	27291550	7906250	7906250	1000000	1000000	1000000	1000000
3.6.1	Undertaking a study and Recommend interventions	UNHCR	30,000	30000											
3.6.2	Designing and installing13 FSTP facilities	MWE, UNHCR	32,500,000			2437500	2437500	6906250	6906250	6906250	6906250				
3.6.3	Procuring and allocating 13 honey suckers to the beneficiary refugee settlements; emptier capacity ~ 3-4 cu.m with all accessories	OPM , UNHCR	1,020,000					1020000							
3.6.4	Procuring and allocating 65 tri-cycle gulpers to all zones in refugee settlements; gulper capacity ~ 1cu.m x2 no	OPM , UNHCR	195,000					195000							
3.6.5	Providing reusable latrine FS vaults plastic tanks c/w a vent	UNHCR	87,541,200			20385300	20385300	20385300	20385300	1000000	1000000	1000000	1000000	1000000	1000000

Figure 7-2: Implementation and Disbursement Plan for Sanitation Component (3B)

7.6 Result Frame work on Sanitation

The result framework Table 7-3 give details on the objectives of the proposed interventions and how they will be implemented.

Table 7-3: Result Framework on Sanitation

S/N	Project/Activity Objective	Project Outcome Indicators	Means of verification
1	Publicity and/or on social media in 12 districts	Sensitized Publics	No. of Information, Education and Communication **(**IEC) Materials
2	Producing and distributing flyers and banners	Flyers and banners produced	Number of fliers and banners produced and distributed
3	Conducting Zone/village *baraza* meetings and at inter-religious establishments	Zone/Village *baraza* meeting held	No. of Reports on the *baraza* meetings held
4	Constructing toilet stances at schools	Latrines constructed at Schools	Number of latrines constructed at schools
5	Constructing toilets at new HCs	Latrines constructed at Health facilities	Number of latrines constructed at health facilities
6	Triggering, following up, certifying and Declaring ODF at community Level	Villages declared ODF	Number of villages declared ODF
7	Undertaking a study and Recommend interventions	a FSTP study undertaken in all settlements	a report with recommendations on FSTP
8	Designing and installing13 FSTP facilities	13 FSTTP facilities designed and installed	Number of FSTP facilities designed and installed
9	Procuring and allocating 13 honey suckers to the beneficiary refugee settlements; emptier capacity ~ 3-4 cu.m with all accessories	13 honey suckers procured	Number of Honey suckers procured and distributed
10	Procuring and allocating 65 tri-cycle gulpers to all zones in refugee settlements; gulper capacity ~ 1cu.m x2 no	65 tri-cycles procured and allocated	Number of tri-cycles procured and allocated
11	Providing reusable latrine FS vaults plastic tanks c/w a vent	Plastic FS Vaults tanks provided	Number of Plastic FS vault tanks provided

8 MANAGEMENT AND COORDINATION FRAMEWORK FOR IMPLEMENTING THE SECTOR RESPONSE PLAN

8.2 Institutional Roles and Responsibilities

The WESRRP is a 3-year costed plan and an integral part of the SDP. The implementation of the WESRRP is a collaborative responsibility between the Ministry of Water and Environment as lead agency and other stakeholders including Line Ministries, Local Governments, Development and Humanitarian Partners and the Private Sector, among others.

The following MWE structures, Figure 8-1 are engaged in the implementation of the WESRRP:

- Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD) and Directorate of Environmental Affairs (DEA); as well as stand-alone departments in support to the technical departments such as the Finance and Administration Department, Water and Environment Sector Liaison Department, Policy and Planning Department, and Climate Change Department.
- A number of deconcentrated support structures related to the MWE have been established: Technical Support Units (TSU), Water and Sanitation Development Facilities (WSDF), Umbrella Authorities (UAs), Water Management Zones (WMZ) under the DWD, and Water Resources Management (WRM) and regional entities under Water for Production and ENR.
- Four semi-autonomous agencies: National Water and Sewerage Corporation (NWSC) managing large towns' water supply and sewerage as well as small towns handed over to NWSC after being constructed by the Urban Water and Sewerage Services Department (UWSSD), National Environmental Management Agency (NEMA), the National Forest Authority (NFA) and the Uganda National Meteorological Authority (UNMA).

Besides the MWE, the following Government entities are involved:

- **Office of the Prime Minister** responsible for coordination and implementation of Government policies across Ministries, Departments and other Public Institutions as well as Government programmes and the NDP. As enshrined in the Ugandan Constitution, the refugee mandate is under the Central Government (Article 189). Operationalized by the Refugee Act 2006, the refugee management function is held by the OPM Department of Refugees.
- **Ministry of Finance, Planning and Economic Development** (MoFPED) responsible for providing financial resources, technical guidance and monitoring on budgeting required to effectively execute the NDP, DDP and SDPs. Budget call circulars guide annual planning at both the central and Local Government level. As refugees are further incorporated into NDP III, MoFPED will necessarily play a greater role.
- **Ministry of Local Government** (MoLG) responsible for the guidance, inspection, monitoring and coordination of LGs to ensure efficient LGDP processes.
- Other **Line Ministries**, including the Ministry of Education and Sports (MoES), Ministry of Health (MoH), Ministry of Energy and Mineral Development (MEMD), Ministry of Agriculture, Fisheries and Animal Industry (MAAIF), Ministry of Lands, Housing and

Urban Development (MLH&UD), and the Ministry of Gender, Labour and Social Development (MoGLSD).[10]

- **National Planning Authority** and **Uganda Bureau of Statistics (UBOS)** that is responsible for providing reliable data for planning, technical advice and capacity building in data collection and management.
- **District Local Governments** (DLGs) in charge of service delivery and spearheading the refugee inclusion at the district level. In particular, District Water Offices, in charge of construction and rehabilitation of water facilities, District Environment Offices, responsible for the environment and natural resources management at district and lower local government level, District Forest Services responsible for managing Local Forest Reserves, District Natural Resource Office responsible for cross-sectoral coordination of climate change actions at local government level. In addition, the District Water and Sanitation Coordination Committees play a role in overseeing the implementation of water supply and sanitation programmes, strengthen collaboration and coordination with other sectors and players.

In addition, the following Non-Government actors play a key role in the plan implementation:

- **Development and Humanitarian Partners**: The MWE engages with WASH as well as Environment and Climate Change Development and Humanitarian Partners, UN Agencies and other partners to mobilize resources and better coordinate implementation of interventions, including monitoring and evaluation, to achieve results at scale.[11]
- **Implementing Partners**: Implementing partners such as UN Agencies, National and International NGOs, private providers will coordinate with the MWE and structures set up within the Ministry to oversee the implementation of the plan to ensure alignment and harmonization of activities. This shall be achieved through continuous coordination within the technical humanitarian working groups, i.e. the WASH Platform and the Working Group for Energy and Environment.
- **Refugees and Host Communities**: Deliberate efforts will be put in place to seek the views of refugees and host communities in the planning and implementation process, so that their needs can be recognized and addressed. Existing engagement mechanisms, in particular the CRRF Steering Group, where both refugees and host communities are represented, as well as the Refugee Engagement Forum, bringing together Refugee Welfare Council (RWC) representatives from all refugee-hosting districts, shall be utilized in this regard.

[10] The mandate of the MWE regarding sanitation and hygiene activities is stipulated in the Memorandum of Understanding that was signed by MoH, MoES, and MWE. The role of MWE is limited to development of public sanitary facilities and promotion of good practices of hygiene and sanitation in small towns and rural growth centres. With respect to water for production, MWE is the lead agency for water for production and development off-farm. MAAIF is the lead agency for water use and management for agricultural development on-farm. The mandate of MEMD is water use and management for hydropower generation.

[11] As outlined in the SDP 2015/16-2019/20, the major source of donor support to the sector originates from bilateral and multilateral financing windows such as the World Bank, African Development Bank (AfDB), European Investment Bank, European Union, Germany (KfW/GIZ), Austria, France, Japan, Belgium, among others.

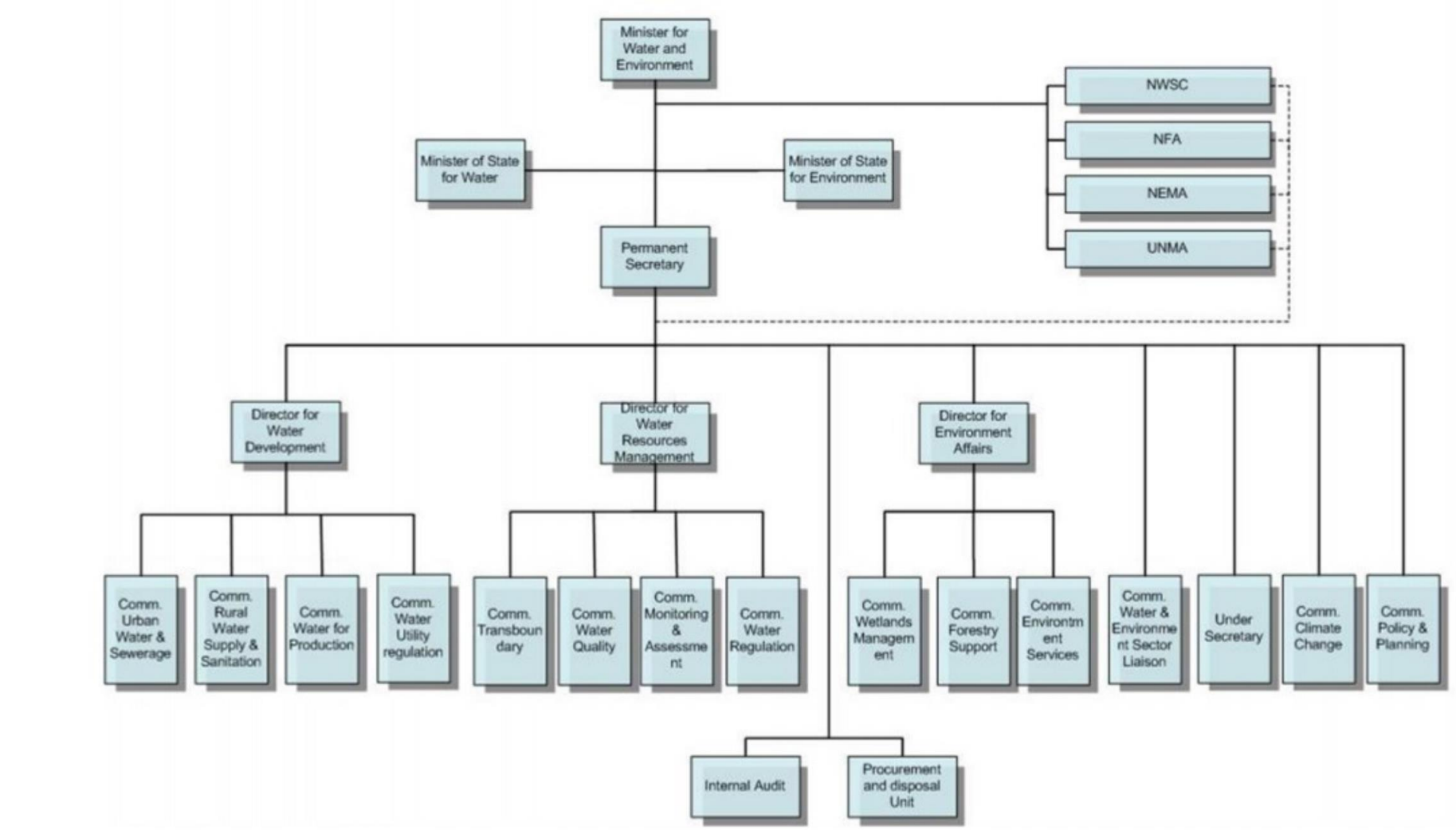

Figure 8-1: Ministry of Water and Environment Structure

8.3 Coordination framework for the implementation of the Plan

With the adoption of the Water and Sanitation Sector-Wide Approach to Planning (SWAP) in 2000/01, a sector coordination mechanism was established at the Centre and in most district local governments. The coordination at the Centre is through the Water and Environment Sector Working Group (WESWG) and Annual Joint Sector Reviews and Joint Technical Reviews, which are attended by a wide range of stakeholders. To ensure effective coordination, there are two sub-sector working groups, the Water and Sanitation Sub-Sector Working Group and the Environment and Natural Resources and Climate Change Sub-Sector Working Group, with the WESWG retaining the overall responsibility for strategic policy guidance and supervision. In addition, cross-cutting, thematic and divisional groups work at sub-group level to handle specific and technical issues.

Within this context, a **Refugee Response Sub-Sector Working Group**, chaired by the Director Water Development (DWD) and co-chaired by the Director Environmental Affairs (DEA) and the Director Water Resources Management (DWRM), Figure 8-2, has been established to oversee the implementation of the Sector Response Plan. The Sub-Group reports to the Water and Environment Sector Working Group of the MWE.

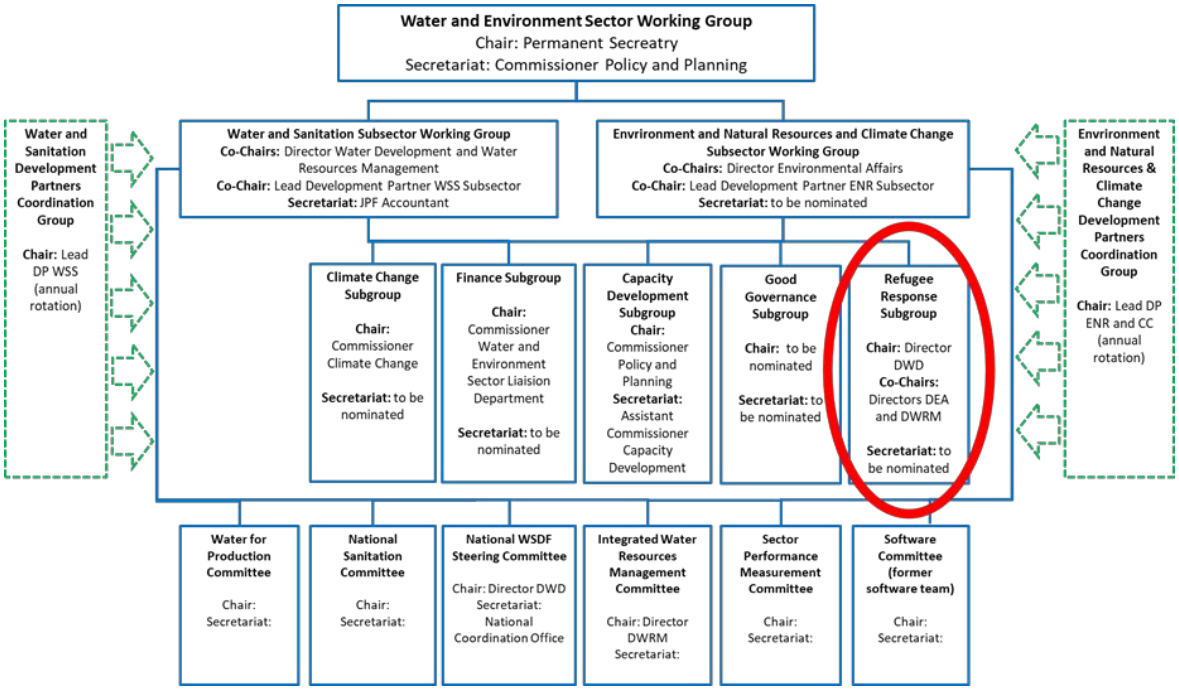

Figure 8-2: Water and Environment Sector Working Group Structure and Reporting

The **Refugee Response Sub-Sector Working Group** brings together key players in the sector from both the humanitarian and development coordination structurers. It comprises representatives from the Ministry of Water and Environment (DWD, DEA, DWRM), NWSC, UNMA, NFA, NEMA, OPM (incl. CRRF Secretariat and the Refugee Department), MoLG, other relevant MDAs as needed and humanitarian and development donors and implementing partners. In addition, representatives of relevant line ministries are requested to participate as observers.

The Refugee Response Sub-Sector Working Group will operate within the broader coordination arrangements of Uganda's comprehensive refugee response through maintaining a close link to the **CRRF Steering Group**, which is chaired at Ministerial level by the Office of the Prime Minister, responsible for the overall coordination of the refugee response (Article 189 of Uganda's Constitutions), and the Ministry of Local Government, reaffirming the key role refugee-hosting districts play in the realization of a comprehensive response. To ensure efficient and effective planning and monitoring for the comprehensive refugee response in the water and environment sector, the Co-Chairs of the humanitarian technical Working Group on Environment and Energy (WorkGrEEn) and humanitarian WASH Platform as well as the Co-Chairs of the Environment and Climate Change Development Partners Group and Water and Sanitation Development Partners Group participate in the Refugee Response Sub-Sector Working Group, Figure 8-3.

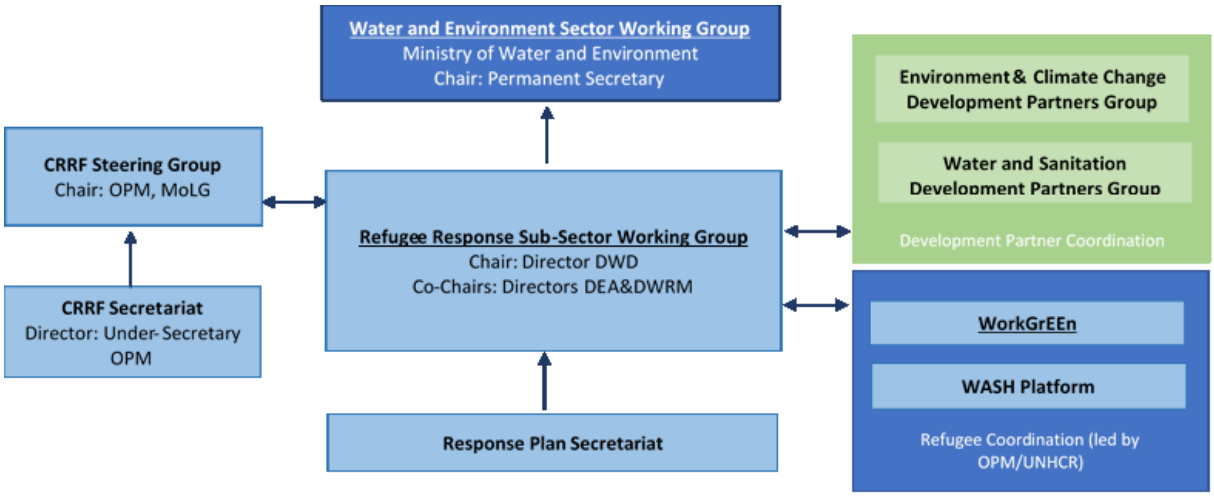

Figure 8-3: Refugee Response Sub-Sector Working Group Coordination Arrangement

The primary role of the Refugee Response Sub-Sector Working Group will be to provide strategic guidance and oversight of Uganda's Water and Environment Response Plan for Refugees and Host Communities including by

1. Ensuring that all sector activities in refugee-hosting districts are coordinated under the Sector Response Plan and in line with national guidelines, standards and processes.
2. Providing oversight and guidance to partners on the implementation of the response plan to maintain compliance with identified priorities;
3. Promoting and supporting resource mobilization and ensuring transparency and accountability to Government of Uganda and its partners on funds allocated towards the Water and Environment Sector Response Plan;
4. Establishing and maintaining engagement with various stakeholders (government, local government, NGO etc.) including existing coordination structures, particularly relevant humanitarian and development partners coordination structures;
5. Conducting periodic monitoring of implementation of the response plan, including commissioning assessments, reviews and evaluations related to the plan and its implementation;

6. Reviewing and approving updates/revisions of the rolling response plan on an annual basis. Annual reviews shall include consultation meetings with DLGs of refugee-hosting districts.

A **Secretariat** will be established within the MWE, Figure 8-4, with a close link to the Water and Environment Sector Liaison Department, to support the implementation of the Response Plan and service the Refugee Response Sub-Sector Working Group. The Secretariat will comprise focal points from each Directorate as well as the Climate Change Department and focal points from NFA, NEMA and NWSC. A Response Plan Support Team will provide a supportive function to the Secretariat, assisting all Response Plan implementation departments and units to carry out specialized tasks as well as consolidating plans, budgets, monitoring results, compiling reports and disseminating outputs and outcomes.

The overall support for the secretariat to be the engine driving all initiatives in a coordinated way towards the goals comprises a team of four national consultants, a Response Plan Liaison Officer, a monitoring and evaluation specialist, a financial management specialist as well as an administrator.

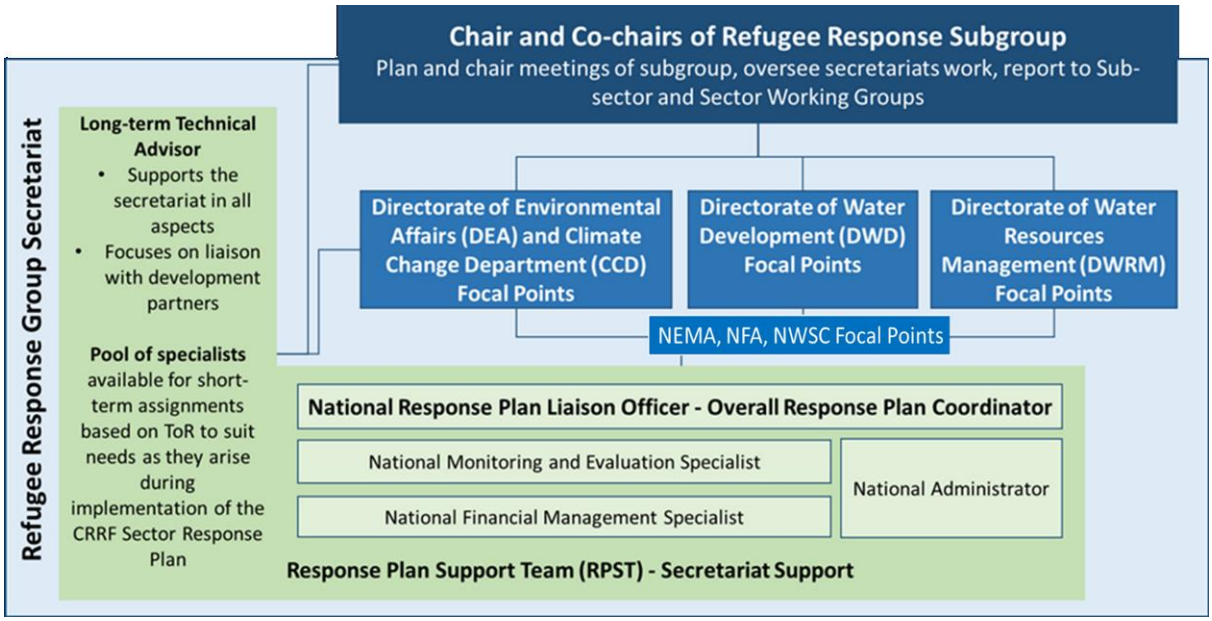

Figure 8-4: Proposed Refugee Response Sub-Group Secretariat

8.4 Financing of the Plan

8.4.3 Possible Sources of Funding

Funding for the WESRP will come from the Government, multilateral and bilateral development and humanitarian donors, UN Agencies, NGOs and the private sector. Whilst there will be a range of different financing mechanisms of the Plan at any one time, efforts will be made to align donor financing in order to promote efficiency and enhance the effectiveness of coordination, oversight and delivery. Critically, financing mechanisms that are more aligned will facilitate MWE' leadership over the implementation of the Plan and better enable resources to be transparently accounted for against the results achieved.

8.4.4 Committed Funding

The **Refugee Response Sub-Sector Working Group** will discuss any new funding opportunities that may arise. It is recognized that due to existing project agreements, individual donor restrictions and because of the nature of the work some donors will continue to directly fund implementing partners, even in the long term. For transparency, accountability and efficiency, it will be expected that all donors and implementing partners provide timely reports through the coordination structure (Refugee Response Sub-Sector Working Group and Secretariat) in order to ensure that all resources and results can be tracked and monitored, regardless of the funding mechanism used.

In order to map existing and planned investments in refugee-hosting districts in the water and environment sector, and by doing so identify the gaps, a financial tracking exercise will be conducted on an annual basis to inform and guide priority setting and resource mobilization.

Some of the on-going projects and committed funding are as shown in Table 8-1 below.

Table 8-1: Committed Funding

S/N	Particulars	Entity	Committed Funding
1a	IWMDP	World Bank	USD 58 Mil. of which half of amount is grant.
1b	WATSAN thru MOFPED to MoLG	World Bank	Approx. USD 120 mil.
2a	Support to UNHCR for O&M in West Nile except Rhino Camp RS	KfW	• € 15 mil. till 2021 • € 15 mil. till 2024
2b	Water Supply and Sanitation for Refugee Settlements and Host Communities in Northern Uganda	KfW	• Arua Dist. 5 Mil. € - 3yrs • Yumbe Dist. € 7 mil. ~ € 12 mil.
3	WatSan in Arua & Support to NUWS	GIZ	€ 5 mil.
4	Piped water supply & FSTP grant to EU Trust Fund: Arua, Kiryandongo, Adjumani, & Yumbe.	EU	1.95 Mil. USD

NB. Need to cross check above commitment. Also, above does not include GoU co-funding

The above commitment, from Development Partners and Donors excluding GoU co-funding, translate to about US$ 210 Mil. about 23% of the overall WESRRP Budget.

9 CONCLUSION

The overall objective of this Comprehensive Costed Water and Environment Sector Refugee Response plan (WESRRP) is to respond to the urgent need for an integrated coordination and strategic planning in order to serve the refugees and host communities in Uganda better.

The response plan does not replace the earlier Water Supply and Sanitation Infrastructure Development Plan, but is the first step, covering the water and environment sector's proposed refugee response action/ implementation plan for sustainable use of natural resources and delivery of services & goods for peaceful co-existence of the refugees and host communities in the coming three years.

9.1 Theory of Change of the WESRRP

To attain the desired aim to **Improve Utilization of Water and Environment Resources for peaceful co-existence of refugees & host communities, t**he WESRRP will critically focuses on the following as shown in the overall Theory of change illustrated in Figure 9-1 below:

1. ***Strengthening systems for effective service deliver.***
2. ***Restoring, conserving & protecting the Environment and Natural Resources for existing and degraded situation.***
3. ***Improving equitable and Sustainable access to water and sanitation services.***

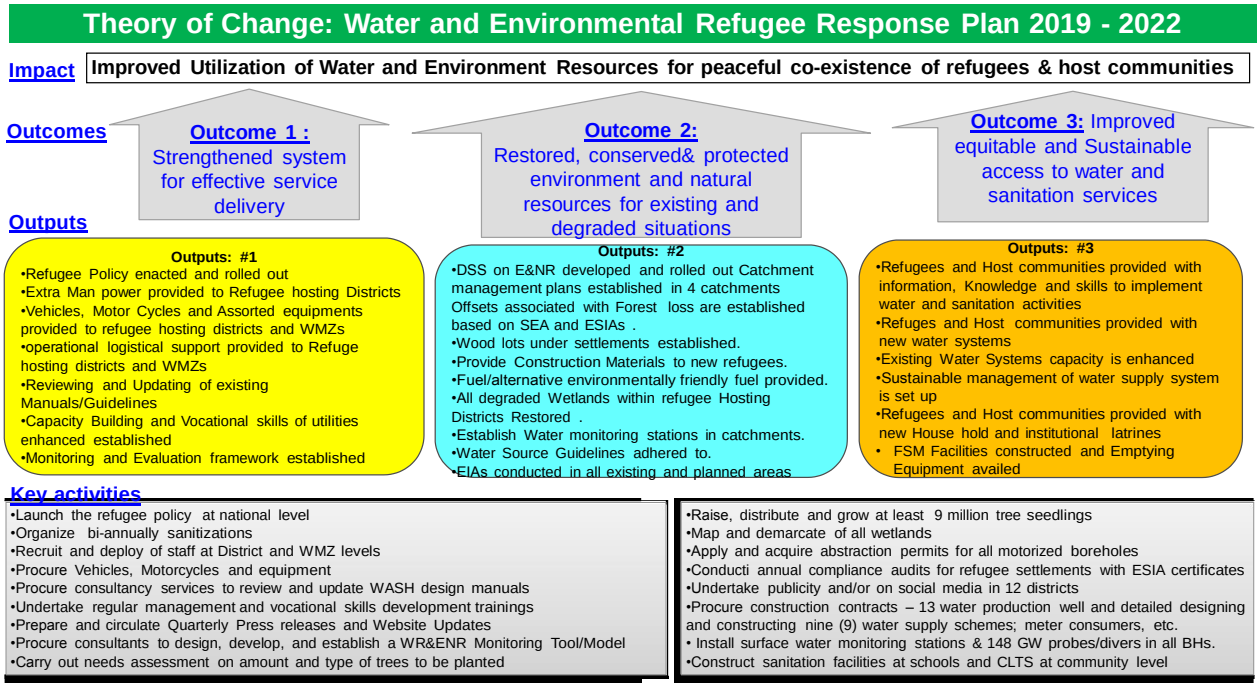

Figure 9-1: Overall Comprehensive Theory of Change

Development partners are requested to support the Government of Uganda to ensure that there is improved utilization of water and environment resources for peaceful co-existence of refugees and host communities through **restoration, conservation and protection of the environment and natural resources in Uganda.**

9.2 Plan and Budget

The detailed plan and budget is presented to deliver the improvements envisaged in the comprehensive theory of change. Activities have been carefully prioritized to ensure that this Plan achieves its intended outputs and outcomes and contributes to the overall impact. A total of US$ 915.582,608 is needed, of which US$ 605,673,329, a 66% of the total budget, for Outcome No. 2 to reverse the impacts and effects on the environmental degradation and provision of fuel for the refugees, Table 9-1. The do-nothing scenario especially towards the environment i.e. unabated harvesting of wood for fuel, logging and quarrying & mining of natural resources for construction material, will greatly impact on the environment, irreversibly.

Table 9-1: Detailed Plan and Budget to deliver improvements in Theory of Change

WESRRP 3-YEAR BUDGET	**Total, US $**		**915,582,608**
Cost Centres	**Outcome 1**	**Outcome 2**	**Outcome 3**
Technical Support	4,016,840	17,231,000	1,614,000
Running Costs	1,355,180	296,761,773	22,625,650
Environmental and Natural Resources Conservation	0	280,593,664	0
Capital Investments	1,161,500	11,086,892	224,775,310
Others	54,360,800	0	0
Total	**60,894,320**	**605,673,329**	**249,014,960**

About US$ 210mil. Approximately 23% is already committed by Development and Humanitarian Partners to implement the WESRRP. The Amount excluded GoU funding.

9.3 Expected Outputs

Table 9-2 below summarizes the Comprehensive WESRRP 2019-2022 expected outputs but not limited to:

Table 9-2: Expected Outputs of WESRRP

S/N	OUTPUT	INSTITUTIONS
Outcome # 1- Institutions Strengthening and Support		
1.	Procure 1 pickup per the refugee hosting district	All 11 districts
2.	Procure 1 motorcycle per the refugee hosting district	All 11 districts
3.	Assorted water quality equipment (portable pH/EC probe-meter, turbid-meter, Pocket cholo-meter paqlab, GPS)	All 11 districts
4.	Procure (tax free) 3 pickups	3 WMZ
5.	Procure lab and mapping equipment	3 WMZ
6.	Provide resources and incentives to boost household livelihoods	To over 280,000 HHH
Outcome #2A – Environment and Natural Resources		
7.	Raise and grow 18 million tree seedlings/manage trees for 3 years	All 11 Districts

S/N	OUTPUT	INSTITUTIONS
8.	Land acquisition -off-site- under a PPP arrangement	All 11 Districts
9.	Conduct a study on alternative sources of energy to replace wood-fuel	Pilots
10.	Provide the refugees with cooking fuel to reduce on encroachment of the neighbouring resources	All Settlements to benefit
11.	Restore 04 degraded wetlands,	MWE - DEA
Outcome #2B – Water Resources Management		
12.	Development of 04 CMPs.	Lake Albert, Kagera, Kiryandogo and Katonga
13.	Install at least 05 No. Ground Water monitoring Stations in each catchment	10 Catchments (4 to be developed and 6 existing).
14.	Install at least 03 No. monitoring Station for each water course and 01 No. for each water body in nine catchments.	WMZ
Outcome #3A – Water Supply Systems		
15.	Install water level monitoring diver devices in all existing and new water production wells	148 +26 water level divers
16.	Installation 13 No. water supply schemes to upgrade from daily production of Q=19,300 to Q=20,800 (16.7 -18 lcpd) at refugee settlement levels, plus 04 to integrate and 09 Water supply systems for nine Sub-counties	13 Settlements and 11 09 Sub-counties to benefit
17.	One mobile workshop per sub-region with maintenance equipment & tools.	NWSC and Umbrella to benefit
18.	Installation consumer water meters for half of the HH	135,902
19.	Prepaid PSP meters for half of the HH in settlements	2,718
Outcome 3B - Sanitation		
20.	Design and install 13 FSTP facilities	11 Districts and 13 Settlements
21.	13 Honey suckers of capacity ~ 3-4 cum with accessories	13 refugee settlements
22.	Tri-cycle gulpers of capacity ~ 1cu.m x2 no	5 per settlement ` 65 Nos.
23.	Provide reusable latrine FS vaults plastic tanks c/w a vent	271,804HH +20,000HH
24.	Construct toilet stances at schools	2,470 in all 13 settlements
25.	Construct toilets at new Health Centres	14

ANNEXES

Annex I: Roles and Responsibilities of Institutions Implementing in Environment Sector Refugee Response

1. NEMA

i) Principal Agency for Environmental: regulate, monitor, supervise and coordinate all activities relating to environment
ii) Support the mainstreaming and integration of environmental concerns in national and sectoral plans through coordination and collaboration with lead agencies;
iii) Require lead agencies to report and account for the execution of their mandate in relation to environmental management as prescribed in this Act or any other applicable law;
iv) Issue environmental compliance certificates;
v) Regulate, monitor and coordinate private sector, intergovernmental organizations, non-governmental organizations, cultural institutions, indigenous people and local communities and religious institutions on issues relating to the environment;
vi) Issue permits and licenses in accordance with this Act and any other applicable law;
vii) Undertake and coordinate environmental monitoring, inspections and compliance audits;
viii) Undertake and support research in innovations, new technologies and emerging issues on environment;
ix) Prepare and disseminate the National State of the Environment Report;
x) Support the preparation and dissemination of the National Environment Action Plan;
xi) Undertake public environmental awareness and literacy
xii) Coordinate lead agencies in their preparedness and response to environmental emergencies or disasters;
xiii) Responsibilities of "Lead Agencies" including OPM, MWE and DLGs under NEMA (2019)
    a). Plan, regulate and manage the segment of the environment within its mandate;
    b). Carry out strategic environmental assessments in accordance with section 47;
    c). Prepare an environment action plan in accordance with section 45;
    d). Prepare the state of environment report in accordance with section 46;
    e). Undertake environmental inspections and review environment assessments and environmental audits in accordance with this Act and any other applicable law;
    f). Ensure that any activity undertaken in its area of jurisdiction is in compliance with this Act;
    g). Implement the decisions of the Authority with respect to the segment of environment under its mandate;
    h). Report on progress quarterly and account to the Authority for the execution of its role in relation to environmental management within three months after the end of the financial year; and
    i). Implement and enforce the provisions of the Act.

2. **OPM**
   i) Lead Agency concerning Refugee Management (includes responsibilities under NEMA 2019)
   ii) Coordinate inter-ministerial and non-governmental activities and programmes relating to refugees
   iii) Coordinate implementation of Comprehensive Refugee Response Framework
   iv) Land management in refugee settlements

3. **MWE/DEA/CCD/CENTRE**
   i) Lead Agency concerning Environmental Affairs: plan, regulate and manage the respective segment of the environment
   ii) Coordinate implementation of the Water and Environment Sector Response Plan
   iii) Provide strategic guidance on national and sector aspirations, including NDPIII, mainstreaming, etc.
   iv) Harmonize project activities with on-going project support, including FIEFOC2, REDD+ Strategy, NDC-Partnership, implementation coordination, etc.
   v) Mobilize technical support including for Districts

4. **DEA/REGIONAL OFFICE**
   i) Regional sub-sector focal points to be included in field-level coordination and consulted
   ii) Determining areas for implementation of project activities
   iii) Coordinating environment activities of the District Local Governments
   iv) Monitoring and Evaluation of the project activities
   v) Providing technical backstopping to DNRS

5. **NFA**
   i) Management of Central Forest Reserves (planning and afforestation/ reforestation/ restoration of CFRs)
   ii) Production and issue of quality tree seedlings to beneficiaries
   iii) Provision of quality seed and planting materials
   iv) Forest monitoring, data management and reporting
      a). Coordination of GIS activities
      b). Monitoring and reporting on impact
      c). GHG monitoring and reporting
   v) Technical support to Districts
   vi) Plantation development

6. **DISTRICT LOCAL GOVERNMENTS (District Natural Resources Service)**
   i) Lead Agency for environment at District-level
   ii) DNRO responsible for environment, forestry and wetlands management and officers
   iii) Community mobilization and sensitization
   iv) Identification of beneficiaries
   v) Training of farmers on tree planting and management

vi) Conducting forestry extension services
vii) Management planning and afforestation/reforestation/restoration of LFRs
viii) Receive seedlings on behalf of the beneficiaries and distribute accordingly
ix) Local Forest Reserves protection
x) Mapping and demarcation of wetlands
xi) Wild fire management
xii) Extension services, community development / mobilisation
xiii) Formulation of bylaws

7. NGOs working in refugee settlements and host communities

i) Participation in coordination
ii) Community mobilization and sensitization
iii) Assisting in extension to beneficiaries
iv) Stakeholder mobilization and engagement
v) CSA extension and activities
vi) Community agroforestry extension and activities
vii) Participatory forestry management
viii) Facilitating incentives such as cash for work, climate financing and Payment for Ecosystem Services.
ix) Livestock management
x) Policy implementation (watch dog) and reporting

8. Development Partners/Humanitarian Donors/UN Agencies

i) Technical backstopping in coordination and project designs
ii) Availing resources for the sector (e.g. funding, in-kind, human resources)
iii) Participating in joint monitoring
iv) Communicating specific needs for accountability and providing timely feedback
v) Enabling institutional strengthening and participation

Annex II: District Land Covers from 2015 – 2017

Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
ADJUMANI	4.0509033		174.1500003	1626.120013	51086.70898	40019.48612	75324.6336	8419.9939	123097.1376	783.8999998	1232.2513	6931.122805	2.97	308702.525	2017
ADJUMANI			177	1,607	52,922	50,999	73,329	7,151	107,919	6,521	782	7,292	3	308,703	2015
Difference	**4**	**0**	**-2**	**19**	**-1,835**	**-10,980**	**1,995**	**1,269**	**15,178**	**-5,737**	**450**	**-361**	**0**	**0**	
Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
HOIMA	1651.049993	832.1400049	37207.54528	5615.320324	15657.53844	44456.83399	35222.4428	5,887	213998.2197	4000.94203	1023.93	227637.9504	93.2400001	593283.78	2017
HOIMA	1,002	387	37,578	5,835	15,478	48,587	32,449	5,433	215,008	2,912	1,000	227,536	80	593,284	2,015
Difference	**649**	**445**	**-370**	**-220**	**180**	**-4,130**	**2,774**	**454**	**-1,009**	**1,089**	**24**	**102**	**13**	**0**	
Class	Broad leaved Plantation	Coniferous Plantations	Tropical High Forest well stocked	Tropical High	Woodland	Bushland	Grassland	Wetlands	Subsistence Farmland	Commercial Farmland	Built up Areas	Open Water	Impediments	Total Distric	Year
ISINGIRO	1138.464797	851.3279736			1365.322385	21137.77699	146600.026	8634.6411	81321.57783		127.61333	3906.949021	2.79	265086.49	2017
ISINGIRO	75	798			1,193	21,401	146,337	8,552	82,639		113	3,979	3	265,090	2015
Dufference	**1,063**	**53**	**0**	**0**	**172**	**-263**	**263**	**83**	**-1,317**	**0**	**15**	**-72**	**0**	**-4**	
Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
KAMWENGE	1309.188677	292.7699984	25293.25423	3392.674501	10943.54091	19162.43247	20804.2749	7106.6252	148213.4445	63.1799993	646.39571	6613.296123	103.0500018	243,944.13	2017
KAMWENGE	1,046	252	25,143	3,363	10,627	19,502	20,854	7,060	148,664	65	660	6,604	104	243,944	2015
Difference	**263**	**41**	**150**	**30**	**316**	**-340**	**-50**	**46**	**-451**	**-1**	**-13**	**9**	**-1**	**0**	
Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
KIRYANDONG	163.3499995	348.3000015	558.1356977	2407.429176	135882.9854	21095.91691	77170.6108	5979.6139	108120.5122	6167.336856	938.97	3969.146355	3.51	362805.817	2017
KIRYANDONGO		35	597	2,551	125,128	39,833	80,310	4,985	99,009	5,460	863	4,032	4	362,806	2015
Difference	**163**	**313**	**-39**	**-144**	**10,755**	**-18,737**	**-3,140**	**995**	**9,112**	**708**	**76**	**-63**	**0**	**0**	
Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
KOBOKO	382.0871611	39.6619758			5886.453651	3841.9351	4906.87411	14.31	59374.79318	10.6199997	1109.7292		56.25	75622.7144	2017
KOBOKO	397	40			6,251	3,927	4,851	14	58,947	11	1,124		60	75,623	2015
Difference	**-15**	**-1**	**0**	**0**	**-364**	**-85**	**56**	**0**	**428**	**0**	**-14**	**0**	**-4**	**0**	
Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
KYEGEGWA	3707.810659	4.3200002	3451.756037	4373.270957	5311.090243	12226.42846	8749.57971	3154.9675	133339.7305		203.76	45.0329048	157.9500013	174725.697	2017
KYEGEGWA	3,957		3,434	4,683	5,223	12,833	8,781	2,880	132,547		205	51	133	174,726	2015
Difference	**-249**	**4**	**18**	**-310**	**89**	**-606**	**-31**	**275**	**793**	**0**	**-2**	**-6**	**25**	**0**	
Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
LAMWO	5.3099994				34203.46307	32818.06066	260110.269	10.10229	222736.4488	49.2300008	1862.5171	252.5564395	19.0800001	552067.037	2017
LAMWO	7				23,794	39,216	263,851	10	186,383	36,672	1,874	251	20	552,079	2015
Difference	**-2**	**0**	**0**	**0**	**10,409**	**-6,398**	**-3,741**	**0**	**36,353**	**-36,622**	**-12**	**2**	**-1**	**-12**	
Class	Hardwoods_P	Softwood_P	THF_WS	THF_LS	Woodlands	Bushlands	Grasslands	Wetlands	Subsistence_F	Commercial_F	Built_up	Open_Water	Impediments	Total	Year
MOYO	21.9599997				28968.49313	35625.78875	42462.9257	9364.7023	61492.92165	49.4099994	401.77094	10553.25383	131.2200004	189072.446	2017
MOYO	4				30,468	42,372	38,658	8,167	57,539	85	384	11,264	131	189,073	2015
Difference	**18**	**0**	**0**	**0**	**-1,499**	**-6,746**	**3,805**	**1,197**	**3,954**	**-35**	**17**	**-711**	**0**	**0**	

Annex III: Detailed Implementation Plan for different Outcomes

Outcome No. 1: Strengthened Systems, Processes and Institutional Support - Activities, Work-plan and Disbursement

Ref.	Result/Activity	Response Entity	Amount, US$				Year 1 (2020)				Year 2 (2021)				Year 3 (2022)			
			Year 1	Year 2	Year 3	Total, US$	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1	**Strengthened system for effective service delivery**	**Various**	**21,579,975**	**19,657,172**	**19,657,172**	**60,894,320**	**4,802,334**	**4,955,335**	**5,476,734**	**6,345,572**	**4,840,293**	**4,988,293**	**4,840,293**	**4,988,293**	**4,840,293**	**4,988,293**	**4,840,293**	**4,988,293**
1.1	**Refugee Policy enacted and rolled out**	**OPM**	**206,000**	**176,000**	**176,000**	**558,000**	**10000**	**88000**	**20000**	**88000**	**0**	**88000**	**0**	**88000**	**0**	**88000**	**0**	**88000**
1.1.2	Organising parliamentary advocacy meetings	OPM	10,000			10,000	10000											
1.1.3	Launching the refugee policy at national level	OPM	20,000			20,000			20000									
1.1.4	Organising bi-annually sentization meeting in each of the 11 districts	OPM/UNHCR	176,000	176,000	176,000	528,000		88000		88000		88000		88000		88000		88000
1.2	**Extra Manpower provided to Refugee hosting Districts**	**MWE & DLG**	**281,700**	**300,600**	**300,600**	**882,900**	**68850**	**68850**	**68850**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**	**75150**
1.2.1	Recruiting and deploying 03 contract officers (1 Water resources engineer, 1 environmental management officer, & 1 social-economist) for three years in each of the 11 districts	MWE	158,400	158,400	158,400	475,200	39600	39600	39600	39600	39600	39600	39600	39600	39600	39600	39600	39600
1.2.2	Recruiting and deploying 11 (DLG) drivers (one for each District) for 27 months	Respective DLGs	4,950	19,800	19,800	44,550				4950	4950	4950	4950	4950	4950	4950	4950	4950
1.2.3	Recruiting and deploying 3 (MWE-WMZ) drivers for the new acquired vehicles for 27 months	MWE - WMZ	1,350	5,400	5,400	12,150				1350	1350	1350	1350	1350	1350	1350	1350	1350
1.2.4	Recruiting and deploying 5 forest guards from the both refugee and host communities for each settlements	OPM & UNHCR with support from MWE- DEA & NFA	117,000	117,000	117,000	351,000	29250	29250	29250	29250	29250	29250	29250	29250	29250	29250	29250	29250
1.3	**Vehicles, Motor Cycles and Assorted equipments provided to refugee hosting districts and WMZs**	**MWE**	**1,161,500**	**-**	**-**	**1,161,500**	**0**	**0**	**585000**	**576500**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1.3.1	Procuring 1 pickup per the refugee hosting district (11)	MWE	440,000			440,000				440000								
1.3.2	Procuring 1 motorcycle per the refugee hosting district (11)	MWE	16,500			16,500				16500								
1.3.3	Procuring assorted equipment as per the refugee hosting district (11)	MWE	165,000			165,000			165000									
1.3.4	Procuring (tax free) 3 pickups	MWE	120,000			120,000				120000								
1.3.3	Procuring, installing laboratory and mapping equipment	MWE	420,000			420,000			420000									
1.4	**operational logistical support provided to Refuge hosting districts and WMZs**	**MWE & DLG**	**52,008**	**166,636**	**166,636**	**385,280**	**0**	**0**	**14400**	**37608.4**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**	**41658.9**
1.4.1	Providing fuel Vehicles for 27 months (DLGs)	Respective DLGs	8,712	34,848	34,848	78,408				8712	8712	8712	8712	8712	8712	8712	8712	8712
1.4.2	Providing fuel for motor cycle for 27 months (DLGs)	Respective DLGs	1,742	6,970	6,970	15,682				1742.4	1742.4	1742.4	1742.4	1742.4	1742.4	1742.4	1742.4	1742.4
1.4.3	Vehicle maintenance for 2 years (DLGs)	Respective DLGs		11,000	11,000	22,000					2750	2750	2750	2750	2750	2750	2750	2750
1.4.4	Servicing and maintaining Motor cycle for 2 years (DLGs)	Respective DLGs		2,200	2,200	4,400					550	550	550	550	550	550	550	550
1.4.5	Servicing Laboratory equipment Consumables per hosting district (DLGs)	Respective DLGs	19,800	39,600	39,600	99,000			9900	9900	9900	9900	9900	9900	9900	9900	9900	9900
1.4.6	Providing fuel for Vehicles (WMZs)	MWE	2,376	9,504	9,504	21,384				2376	2376	2376	2376	2376	2376	2376	2376	2376
1.4.7	Maintaining vehicles (WMZs)	MWE	-	3,000	3,000	6,000					750	750	750	750	750	750	750	750
1.4.8	Maintaining Lab/field equipment Consumables per WMZ	MWE	9,000	18,000	18,000	45,000			4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
1.4.9	Conducting induction for recruited officers, and continue with capacity building & trainings for the project staff in 11 districts	MWE	10,378	41,514	41,514	93,406				10378	1079	10379	10379	1079	10379	1079	10379	10379
1.5	**Reviewing and Updating of existing Manuals/Guidelines**	**MWE & DLG**	**130,000**	**-**	**-**	**130,000**	**0**	**0**	**40000**	**90000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1.5.1	Procuring Consultancy Services to review and update Design Manuals	MWE - UNHCR	50,000			50,000				50000								
1.5.2	Procure consultants for the develop guidelines on environmental conservation and protection in refugee settlements	MWE - UNHCR	80,000			80,000			40000	40000								
1.6	**Capacity Building and Vocational skills of utilities enhanced established**	**MWE & Utility**	**170,000**	**120,000**	**120,000**	**410,000**	**0**	**60000**	**25000**	**85000**	**0**	**60000**	**0**	**60000**	**0**	**60000**	**0**	**60000**
1.6.1	Carrying out a training needs assessment (TNA); developing and printing of capacity development and training plan (CD&TP).	MWE, UNHCR, Utility	50,000			50,000			25000	25000								
1.6.2	Undertaking Regular Management and Vocational Skills Development Trainings (at least 25-30pax in each sub region (4) bi-annually)	MWE, Utility, VSDC-NWSC	120,000	120,000	120,000	360,000		60000		60000		60000		60000		60000		60000
1.7	**Monitoring and Evaluation framework established**	**MWE, CRRF & DLG**	**39,000**	**24,000**	**24,000**	**87,000**	**6000**	**21000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**	**6000**
1.7.1	Procuring consultants for developing M&E framework Consultancy: with incentive Mechanism	MWE	15,000			15,000		15000										
1.7.2	Conducting Quarterly Performance Review meetings	MWE	16,000	16,000	16,000	48,000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
1.7.3	Preparing and circulating Quarterly Press releases and Website Updates	MWE	8,000	8,000	8,000	24,000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
1.8	**Logistical Support to Sector Secretariat**	**MWE - RRP**	**671,167**	**211,337**	**211,337**	**1,093,841**	**52834**	**52834**	**52834**	**512664**	**52834**	**52834**	**52834**	**52834**	**52834**	**52834**	**52834**	**52834**
1.9	**Livelihood - support to HH**	**OPM &UNHCR**	**18,120,267**	**18,120,267**	**18,120,267**	**54,360,800**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**	**4530067**
1.10	**Logistic Support to NEMA**	**NEMA**	**748,333**	**538,333**	**538,333**	**1,824,999**	**134583**	**134584**	**134583**	**344583**	**134583**	**134583**	**134583**	**134583**	**134583**	**134583**	**134583**	**134583**

Outcome No. 2: Existing degraded Environmental and Natural Resources is restored, conserved and protected -: Activities, Work-plan and Disbursement

Ref.	Result/Activity	Response Entity	Total, US$	Year 1 (2020)				Year 2 (2021)				Year 3 (2022)			
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
2	**Existing degraded Environment and Natural Resources is restored, conserved and protected**	**Various**	**605,673,329**	**33,548,344**	**39,995,879**	**46,328,004**	**37,894,511**	**52,507,525**	**59,426,559**	**59,845,018**	**49,045,358**	**52,808,359**	**59,469,893**	**62,773,019**	**52,030,859**
2A	**Environment and Natural Resources Sub - Budget**	**MWE**	**586,321,491**	**32,288,344**	**39,205,879**	**44,788,004**	**34,816,511**	**49,470,065**	**56,389,100**	**58,095,559**	**47,295,899**	**51,518,359**	**58,429,893**	**62,383,019**	**51,640,859**
2.1	**Decision support system on environmental and natural resources developed and rolled out**	**MWE**	**2,000,000**	**0**	**0**	**0**	**666667**	**666666.5**	**666666.5**	**0**	**0**	**0**	**0**	**0**	**0**
2.1.1	Procuring of Consultants to design, develop, and establish a WR&ENR Monitoring Tool/Model	MWE	2,000,000				666667	666666.5	666666.5						
2.2	**Environmental Assessments conducted in all existing and planned areas**	**MWE, NEMA & DLG**	**769,000**	**0**	**0**	**0**	**299000**	**65000**	**65000**	**65000**	**137500**	**7500**	**0**	**0**	**130000**
2.2.1	Procuring of Consultants to conduct Environmental and Social Impact Assessment for all existing settlements	NEMA & UNHCR	260,000				65000	65000	65000	65000					
2.2.2	Conducting annual compliance audits for refugee settlements with ESIA certificates	NEMA & UNHCR	260,000								130000				130000
2.2.3	Conducting ESIAs for new projects in the refugee settlements	MWE & NEMA	234,000				234000								
2.2.4	Procuring of Consultants to conduct Strategic Environmental Assessment/ Environmental and Social Management Framework for all new settlements before their establishment	NEMA & UNHCR	15,000								7500	7500			
2.3	**Offsets associated with Forest loss are established based on SEA and ESIAs**	**MWE & DLG**	**78,000**	**19500**	**19500**	**19500**	**19500**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2.3.1	Carrying out needs assessment on amount and type of trees to be planted within each settlement and district hosting refugees.	NFA & UNHCR	78,000	19500	19500	19500	19500								
2.4	**Wood lots under settlements established**	**MWE & OPM**	**53,305,584**	**16000**	**6901701.3**	**10872160**	**0**	**0**	**6885701**	**10872160**	**0**	**0**	**6885701**	**10872160**	**0**
2.4.1	Raising, distributing and growing of at least 6million tree seedlings per year for three years	NFA & PSP	29,354,832			9784944				9784944				9784944	
2.4.2	Surveying, demarcating, & setting woodlots i.e. an acre for every 100 households within/around a refugee settlement	OPM, UNHCR, NFA	7,746,414		2582138				2582138				2582138		
2.4.3	Organizing Sensitization meetings with land owners to either sell their land, lease or enter into Private Public Partnerships for tree planting	OPM & UNHCR	32,000	16000	16000										
2.4.4	Leasing or Procuring Land -Off site- under a PPP arrangement	OPM, UNHCR, NFA	12,910,690		4303563				4303563				4303563		
2.4.5	Training and sensitization sessions at household level to refugees and host communities plant/grow four fruit trees of their preference each year	UNHCR, IPs, OPs & Refugees	3,261,648			1087216				1087216				1087216	
2.5	**Construction Materials for new refugees houses provided**	**UNHCR**	**6,119,054**	**504504.505**	**504504.505**	**569504.505**	**504504.505**	**504504.505**	**504504.505**	**504504.505**	**504504.505**	**504504.505**	**504504.505**	**504504.505**	**504504.505**
2.5.1	Conducting of an assessment to identify source and quantity of needed construction materials	UNHCR, IPs & OPs	65,000			65000									
2.5.3	Procuring and distribution of construction materials to new refugees: such as unburnt bricks, sand, cement, poles, PE sheeting & thatching material, etc. from licensed suppliers	OPM, UNHCR, IPs & OPs	6,054,054	504505	504505	504505	504505	504505	504505	504505	504505	504505	504505	504505	504505
2.6	**Fuel/alternative environmentally friendly fuel provided to refugees**	**MWE & UNHCR**	**296,761,773**	**24723189.44**	**24755022.77**	**24721689.44**	**24721689.44**	**24721689.44**	**24755022.77**	**24721689.44**	**24721689.44**	**24721689.44**	**24755022.77**	**24721689.44**	**24721689.44**
2.6.1	Conducting a study on alternative sources of energy such as solar and gas to be used by refugees within the settlements	MoEMD													
2.6.1	Organizing sensitization meetings on the use of available briquettes	MoEMD, IPs & OPs	100,000		33333				33333				33333		
2.6.2	Procuring authorized & licensed service providers for wood fuel to supply to refugees until an alternative fuel is sought.	MWE - NFA & UNHCR	1,500	1500											
2.6.3	Procuring and distributing cooking fuel: i.e. Year 1 - continue with wood fuel from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, or recycled material, and Year 3 -a combination of fuel saving stoves, liquid/bio gas, solar and/or electricity. Procuring and distributing cooking fuel to refugees: Year 1 - continue with wood fuel from gazetted localities/authorized tree farmers, Year 2 – use of improved cooking stoves that use briquettes, or recycled material, and Year 3 - a combination of fuel saving stoves, liquid/bio gas, solar and/or electricity.	OPM, NFA & UNHCR	296,660,273	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689	24721689
~~2.7~~	~~All degraded Wetlands within refugee Hosting Districts Restored~~	~~MWE & DLG~~	~~227,288,080~~	~~7025150~~	~~7025150~~	~~8605150~~	~~8605150~~	~~23512205~~	~~23512205~~	~~21932205~~	~~21932205~~	~~26284665~~	~~26284665~~	~~26284665~~	~~26284665~~
2.7.1	Mapping and demarcating of all wetlands (& other natural reserves) in districts hosting refugees including development of wetland management plans	MWE - DEA/NFA	1,320,000			330000	330000	330000	330000						
2.7.2	Establishing wetland management committees and provide a system of awareness creation and enforcement on the guidelines for wetland management i.e. Kyaka II Wetlands + 4 No.Wetlands	MWE - DEA	5,000,000			1250000	1250000	1250000	1250000						
~~2.7.3~~	~~Wetland Restoration 22,922 Ha, initially in four Refugee settlements~~	~~MWE - DEA~~	~~220,968,080~~	~~7025150~~	~~7025150~~	~~7025150~~	~~7025150~~	~~21932205~~	~~21932205~~	~~21932205~~	~~21932205~~	~~26284665~~	~~26284665~~	~~26284665~~	~~26284665~~
2B	**Water Resources Sub- Budget**	**MWE**	**19,351,838**	**1,260,000**	**790,000**	**1,540,000**	**3,078,000**	**3,037,459**	**3,037,459**	**1,749,459**	**1,749,459**	**1,290,000**	**1,040,000**	**390,000**	**390,000**
~~2.8~~	~~Catchment management plans established in 4 catchments~~	~~MWE & DLG~~	~~9,650,000~~	~~300000~~	~~300000~~	~~1050000~~	~~1300000~~	~~987500~~	~~987500~~	~~987500~~	~~987500~~	~~1200000~~	~~950000~~	~~300000~~	~~300000~~
2.8.1	Procuring three consultants to develop 04 CMPs (Kagera, Kiryandongo and Katonga)	MWE	1,250,000				250000	187500	187500	187500	187500	250,000			
2.8.2	Micro- Catchment Management Plans and micro- Catchment Management Organizations established in 12 micro catchments around refugees and host communities in the 4 catchments	MWE	4,800,000			750000	750000	500000	500000	500000	500000	650000	650000		
~~2.8.3~~	~~Facilitation to catchment management organization (CMOs)~~	~~MWE~~	~~3,600,000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~	~~300000~~
~~2.9~~	~~Water monitoring stations within catchments established~~	~~MWE - WMZ~~	~~4,967,838~~	~~90000~~	~~490000~~	~~490000~~	~~490000~~	~~761959.3925~~	~~761959.3925~~	~~761959.3925~~	~~761959.3925~~	~~90000~~	~~90000~~	~~90000~~	~~90000~~
2.9.1	Procuring of Consultants to identify geological formation in each catchment to identify the rock formation to enable identification of ground water monitoring stations needed.	DWRM & UNHCR	1,200,000		400000	400000	400000								
2.9.2	Installing at least 05 No. GW monitoring Station for each catchment in accordance with the Study for the 03 No. CMPs to be developed and the other 06 No. CMPs that exist.	DWRM & UNHCR	1,520,270					380068	380068	380068	380068				
2.9.3	Installing at least 03 No. monitoring Station for each water course and 01 No. for each water body in nine catchments.	DWRM & UNHCR	1,167,568					291892	291892	291892	291892				
2.9.4	Conducting water flow analysis regularly (monthly/quarterly)	MWE DWRM	1,080,000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000
~~2.10~~	~~Water Source Guidelines adhered to~~	~~WMZ & DLG~~	~~4,734,000~~	~~870000~~	~~0~~	~~0~~	~~1288000~~	~~1288000~~	~~1288000~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
~~2.10.1~~	~~Applying and acquiring abstraction permits for all motorized boreholes~~	~~UNHCR~~	~~348,000~~	~~348000~~											
~~2.10.2~~	~~Paying annual abstraction fees for 3 years~~	~~UNHCR~~	~~522,000~~	~~522000~~											
~~2.10.3~~	~~Developing of 138 No. water source plans.~~	~~UNHCR~~	~~3,864,000~~				~~1288000~~	~~1288000~~	~~1288000~~						

Outcome No. 3 Improved equitable and sustainable access and utilization of Water and Sanitation Services -: Activities, Work-plan and Disbursement

Ref.	Result/Activity	Response Entity	Total, US$	Year 1 (2020)				Year 2 (2021)				Year 3 (2022)			
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
3	**Improved equitable and surtainable access and utilisation of Water and Sanitation Services**	**Various**	**249,014,960**	**1,994,513**	**4,192,826**	**28,012,293**	**32,376,459**	**35,652,583**	**37,454,807**	**30,937,840**	**31,582,007**	**3,837,700**	**3,837,700**	**19,306,033**	**19,830,200**
3A	**WATER SUPPLY SUB-BUDGET**	**MWE**	**124,234,260**	**1,851,013**	**4,079,326**	**4,982,659**	**8,822,659**	**7,032,533**	**10,049,757**	**22,824,757**	**22,944,757**	**2,724,200**	**2,724,200**	**18,099,200**	**18,099,200**
3.1	**Refugees and Host communities provided with informatiom, Knowledge and skills to implement water and sanitation activities**	**OPM, MWE, DLG**	**252,000**	**21000**	**21000**	**21000**	**21000**	**21000**	**21000**	**21000**	**21000**	**21000**	**21000**	**21000**	**21000**
3.1.1	Undertaking Publicity and/or on social media in 12 districts	IPs & OPs	72,000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
3.1.2	Producing and distributing flyers and banners	IPs & OPs	108,000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000
3.1.3	Conducting Zone/village baraza meetings and at inter-religious establishments	IPs & OPs	72,000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
3.2	**Refuges and Host commnunities provided with new water systems**	**MWE & Utility**	**77,284,940**	**0**	**2328313.42**	**2778313.42**	**2778313.42**	**450000**	**450000**	**17125000**	**17125000**	**875000**	**875000**	**16250000**	**16250000**
3.2.1	Carrying out feasibility studies to determine the viability of the present standalone water supply system.	DWD	1,800,000			450000	450000	450000	450000						
3.2.2	Designing new integrate water supply systems to meet the Catchment demands	DWD	3,500,000							875000	875000	875000	875000		
3.2.3	Installationing 13 No. water supply schemes to upgrade from daily production of Q=19,300 to Q=20,800 hence 16.7 lcpd to 18 lcpd	MWE, UNHCR & IPs	6,984,940		2328313	2328313	2328313								
3.2.4	Procuring construction contracts: detailed design and construct nine water supply schemes plus those already planned: 69% to 75%.	DWD, UNHCR & IPs	65,000,000							16250000	16250000			16250000	16250000
3.3	**Existing Water Systems capacity is enhanced**	**Utility**	**24,071,670**	**0**	**0**	**293333.335**	**4193333.335**	**4133333.33**	**7750556.667**	**3850556.667**	**3850556.667**	**0**	**0**	**0**	**0**
3.3.1	Assessing and replacing controls at all water production wells: SCADA, remote sensing, controls. including GW BH divers monitors at all old 148 + 26 new water production wells.	**UNHCR, IPs, UTILITY**	11,700,000				3900000	3900000	3900000						
3.3.2	Installating consumer water meters for half of the HH	**UNHCR, IPs, UTILITY**	6,115,590						2038530	2038530	2038530				
3.3.3	Installing for a start 2718 prepaid PSP meters to serve at least 50HH per PSP for half of the HH in settlements	**UNHCR, IPs, UTILITY**	5,436,080						1812027	1812027	1812027				
3.3.4	Installing attendant 12 local prepaid PSP softwares, POS and integrate with Billing system	**UNHCR, IPs, UTILITY**	120,000			60000	60000								
3.3.5	Designing/developing a user friendly billing system, free licence, OR Open source and integrate with prepared PSP software; with possibility to quell and produce reports in line with Audit Compliance SOP	**UNHCR, IPs, UTILITY**	700,000			233333	233333	233333							
3.4	**~~Sutainable management of water supply system is set up~~**	**~~Utility~~**	**~~22,625,650~~**	**~~1830012.5~~**	**~~1730012.5~~**	**~~1890012.5~~**	**~~1830012.5~~**	**~~2428200~~**	**~~1828200~~**	**~~1828200~~**	**~~1948200~~**	**~~1828200~~**	**~~1828200~~**	**~~1828200~~**	**~~1828200~~**
~~3.4.1~~	~~Re-Gazetting Water Supply System Operations in the refugee settlements~~	~~MWE~~	~~20,000~~		~~20000~~										
~~3.4.2~~	~~Developing Annual Planned preventive Maintenance (PPM) Schedules~~	~~UTILITY, IP~~	~~360,000~~	~~120000~~			~~120000~~				~~120000~~				
~~3.4.3~~	~~Procuring one mobile workshop per sub-region with maintenance equipment & tools.~~	~~UTILITY, IP~~	~~600,000~~					~~600000~~							
~~3.4.4~~	~~Undertaking PPM as per Maintenance Plans/Schedule.~~	~~UTILITY, IP~~	~~1,440,000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~	~~120000~~
~~3.4.5~~	~~Carrying tariff and structure study~~	~~MWE~~	~~20,000~~	~~5000~~	~~5000~~	~~5000~~	~~5000~~								
~~3.4.6~~	~~Procuring and distributing equipment and tools to utilities~~	~~MWE, Utility~~	~~180,000~~			~~180000~~									
~~3.4.7~~	~~Providing extra funds to meet O&M costs (subsidy) for refugees~~	~~UNHCR~~	~~20,005,650~~	~~1585013~~	~~1585013~~	~~1585013~~	~~1585013~~	~~1708200~~	~~1708200~~	~~1708200~~	~~1708200~~	~~1708200~~	~~1708200~~	~~1708200~~	~~1708200~~
~~3B~~	**~~SANITATION SUB-BUDGET~~**	**~~MWE~~**	**~~124,700,700~~**	**~~143,500~~**	**~~113,500~~**	**~~23,029,633~~**	**~~23,553,800~~**	**~~28,620,050~~**	**~~27,405,050~~**	**~~8,113,083~~**	**~~8,637,256~~**	**~~1,113,500~~**	**~~1,113,500~~**	**~~1,206,833~~**	**~~1,731,000~~**
3.5	**Refugees and Host communities provided with new House hold and institutional latrines**	**MWE**	**3,494,500**	**113500**	**113500**	**206833.33**	**731000**	**113500**	**113500**	**206833.33**	**731000**	**113500**	**113500**	**206833.33**	**731000**
3.5.1	Constructing toilet stances at schools	UNICEF	1,852,500				617500				617500				617500
2.5.2	Constructing toilets at new HCs	UNHCR	280,000			93333				93333				93333	
3.5.3	Triggering, following up, certifying and Declaring ODF at community level	UNICEF	1,362,000	113500	113500	113500	113500	1500	113500	113500	113500	13500	113500	113500	113500
3.6	**FSM Facilities constructed and Emptying Equipment availed**	**MWE**	**121,286,200**	**30000**	**0**	**22822800**	**22822800**	**28506550**	**27291550**	**7906250**	**7906250**	**1000000**	**1000000**	**1000000**	**1000000**
3.6.1	Undertaking a study and Recommend interventions	UNHCR	30,000	30000											
3.6.2	Designing and installing13 FSTP facilities	MWE, UNHCR	32,500,000			2437500	2437500	6906250	6906250	6906250	6906250				
3.6.3	Procuring and allocating 13 honey suckers to the beneficiary refugee settlements; emptier capacity ~ 3-4 cu.m with all accessories	OPM , UNHCR	1,020,000					1020000							
3.6.4	Procuring and allocating 65 tri-cycle gulpers to all zones in refugee settlements; gulper capacity ~ 1cu.m x2 no	OPM , UNHCR	195,000					195000							
3.6.5	Providing reusable latrine FS vaults plastic tanks c/w a vent	UNHCR	87,541,200			20385300	20385300	20385300	20385300	1000000	1000000	1000000	1000000	1000000	1000000