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IDA/R2017-0096/1

April 7, 2017

Closing Date: Wednesday, April 26, 2017 at 6 p.m.

FROM: Vice President and Corporate Secretary

Kenya - Water and Sanitation Development Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding proposed credits to Kenya for a Water and Sanitation Development Project (IDA/R2017-0096), which is being processed on an absence-of-objection basis.

Distribution:

Executive Directors and Alternates
President
Bank Group Senior Management
Vice Presidents, Bank, IFC and MIGA
Directors and Department Heads, Bank, IFC and MIGA

Document of
The World Bank

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Report No: PAD2077

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON

PROPOSED CREDITS

IN THE AMOUNT OF EURO 248.1 MILLION
(US$263 MILLION EQUIVALENT)

AND

SDR 27.4 MILLION
(US$37 MILLION EQUIVALENT)

TO THE

REPUBLIC OF KENYA

FOR THE

WATER AND SANITATION DEVELOPMENT PROJECT

April 5, 2017

Water Global Practice
Africa Region

CURRENCY EQUIVALENTS
(Exchange Rate Effective February 28, 2017)

Currency Unit	=	Kenya Shillings (KSh)
KSh 102.8	=	US$1
SDR 0.73861244	=	US$1
Euro 0.9431293	=	US$1

FISCAL YEAR
July 1 – June 30

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
AFD	*Agence Française de Développement* (French Development Agency)
AWSB	Athi Water Services Board
CBK	Central Bank of Kenya
CLTS	Community-led Total Sanitation
CRWSCRP	Coastal Region Water Security and Climate Resilience Project
CWSB	Coast Water Services Board
DA	Designated Account
DMA	District Metered Areas
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
FM	Financial Management
GDP	Gross Domestic Product
ICB	International Competitive Bidding
IDA	International Development Association
IFR	Interim Financial Report
IPF	Investment Project Financing
IPP	Indigenous People's Plan
IRR	Internal Rate of Return
IUWM	Integrated Urban Water Management
KfW	*Kreditanstalt für Wiederaufbau* (Credit Institute for Reconstruction)
KISIP	Kenya Informal Settlements Improvement Project
KIWASCO	Kilifi Water and Sewerage Company
KPWF	Kenya Pooled Water Fund
KSh	Kenya Shillings
KWAWASCO	Kwale Water and Sewerage Company
KWSCRP	Kenya Water Security and Climate Resilience Project
M&E	Monitoring and Evaluation
MAWASCO	Malindi Water and Sewerage Company
MOWASCO	Mombasa Water Supply and Sanitation Company
MTP2	Second Medium-Term Plan
MWI	Ministry of Water and Irrigation
NCB	National Competitive Bidding

NPV	Net Present Value
NRW	Non-revenue Water
NT	National Treasury
O&M	Operations and Maintenance
OAG	Office of the Auditor General
OBA	Output Based Aid
PBF	Performance-based Financing
PCR	Physical Cultural Resources
PCU	Project Coordination Unit
PDO	Project Development Objective
PIM	Project Implementation Manual
PPADA	Public Procurement and Asset Disposal Act
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SA	Social Assessment
SBD	Standard Bidding Document
SDG	Sustainable Development Goal
SoE	Statement of Expenditure
SUF	Scale-Up Facility
TA	Technical Assistance
TAVEVO	Taita Taveta Water and Sewerage Company
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNHCR	United Nations High Commission on Refugees
UNICEF	United Nations Children's Fund
VMG	Vulnerable and Marginalized Group
WA	Withdrawal Application
WAJWASCO	Wajir Water and Sewerage Company
WASREB	Water Services Regulatory Board
WaSSIP	Water and Sanitation Services Improvement Project
WSDP	Water and Sanitation Development Project
WSB	Water Services Board
WSP	Water Services Provider
WTP	Water Treatment Plant

Regional Vice President:	Makhtar Diop
Country Director:	Diarietou Gaye
Senior Global Practice Director:	Guang Zhe Chen
Practice Manager:	Jonathan S. Kamkwalala
Task Team Leader:	Andreas Rohde

REPUBLIC OF KENYA

WATER AND SANITATION DEVELOPMENT PROJECT

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ANNEXES

PAD DATA SHEET

Kenya

Water and Sanitation Development Project (P156634)

PROJECT APPRAISAL DOCUMENT

AFRICA

Water Global Practice

Report No.: PAD2077

Basic Information			
Project ID P156634	EA Category B - Partial Assessment		Team Leader(s) Andreas Rohde
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]		
Project Implementation Start Date April 26, 2017	Project Implementation End Date April 30, 2022		
Expected Effectiveness Date August 31, 2017	Expected Closing Date October 31, 2022		
Joint IFC No			
Practice Manager/Manager Jonathan S. Kamkwalala	Senior Global Practice Director Guang Zhe Chen	Country Director Diarietou Gaye	Regional Vice President Makhtar Diop

Borrower: Government of the Republic of Kenya			
Responsible Agency: Ministry of Water and Irrigation			
Contact:	Lawrence Simitu	Title:	Director Water Services
Telephone No.:	2540202716103	Email:	lawsimitu@yahoo.com

Project Financing Data (in US$, Millions)					
[ ]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[X]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost:	330.00	Total Bank Financing:	300.00
Financing Gap:	00.00		

Financing Source	Amount
BORROWER/RECIPIENT	30.00
International Development Association (IDA)	37.00
IDA Scale Up Facility (IDA-SUF)	263.00
Total	330.00

Expected Disbursements (in US$, Millions)

Fiscal Year	2017	2018	2019	2020	2021	2022	2023
Annual	0.00	20.00	45.00	65.00	85.00	75.00	10.00
Cumulative	0.00	20.00	65.00	130.00	215.00	290.00	300.00

Institutional Data

Practice Area (Lead)

Water

Contributing Practice Areas

Social, Urban, Rural and Resilience Global Practice

Proposed Development Objective(s)

The Project Development Objective (PDO) is to improve water supply and sanitation services in select coastal and northeastern regions in Kenya.

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Components

Component Name	Cost (US$, Millions)
Component 1: Rehabilitation and expansion of urban water supply and sanitation services in the coastal region	176.00
Component 2: Expansion of water supply and sanitation services in underserved northeastern counties	110.00
Component 3: National performance-based financing	40.70
Component 4: Project management	3.30

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	Substantial
7. Environment and Social	Moderate

8. Stakeholders	Substantial
9. Other: Climate Change	Moderate
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04	X	
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11	X	
Indigenous Peoples OP/BP 4.10	X	
Involuntary Resettlement OP/BP 4.12	X	
Safety of Dams OP/BP 4.37	X	
Projects on International Waterways OP/BP 7.50	X	
Projects in Disputed Areas OP/BP 7.60		X

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
National Project Steering Committee. Schedule 2, Section I, A. 1 of the Financing Agreement.		February 28, 2018	

Description of Covenant

The Recipient shall establish, by not later six months after the effective date, and thereafter maintain throughout the project implementation period, a national steering committee, which shall be co-chaired by the Cabinet Secretary of the Ministry of Water and Irrigation (MWT) and the Chair of the committee in charge of water affairs in Council of Governors; with composition satisfactory to the Association, including, *inter alia,* principal secretaries from the relevant line ministries and governors of the Participating Counties, to be responsible for overall oversight and policy guidance to the project, and approving the project's annual work plans budgets.

Name	Recurrent	Due Date	Frequency
Technical Committee. Schedule 2, Section I, A. 2 of the Financing Agreement.		February 28, 2018	

Description of Covenant

The Recipient shall establish, by not later than six months after the effective date, and thereafter maintain throughout the project implementation period, a technical committee, which shall be chaired by the Water Secretary from MWI, with composition satisfactory to the Association, including *inter alia,* the Chief Executive Officer of the Council of Governors, the Chief Executive Officers of the Coast and Northern Water Services Boards and of WASREB, county executive committee members representing in charge of water affairs, and others as appointed by the technical committee.

Conditions

Source of Funds	Name	Type
IDA SUF	Subsidiary agreement. Article V, 5.01 (a) of IDA SUF Financing Agreement.	Effectiveness

Description of Condition

The Subsidiary Agreement has been executed on behalf of the Recipient and the Project Implementing Entity.

Source of Funds	Name	Type
IDA SUF	Financing Agreement. Article V, 5.01 (b) of IDA SUF Financing Agreement.	Effectiveness

The IDA Financing Agreement has been executed and delivered and all conditions precedent to its effectiveness (other than the effectiveness of the IDA SUF Financing) have been fulfilled.

Source of Funds	Name	Type
IDA Credit	Financing Agreement. Article IV, 4.01 of IDA Financial Agreement	Effectiveness

The IDA SUF Financing Agreement has been executed and delivered and all conditions precedent to its effectiveness (other than the effectiveness of the IDA Financing) have been fulfilled.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Andreas Rohde	Team Leader (ADM Responsible)	Sr Sanitary Engineer		GWA09
Carmen Yee Batista	Team Member	Sr. Water and Sanitation Specialist		GWA01
Aissata Z. Zerbo	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist		GGO07

Josephine Kabura Kamau	Financial Management Specialist	Sr Financial Management Specialist		GGO31
Dawit Tadesse Mekonnen	Team Member	Program Assistant		GWA01
Marjorie Mpundu	Lawyer	Senior Counsel		LEGAM
Edward Felix Dwumfour	Safeguards Specialist	Senior Environmental Specialist	Environmental Safeguards	GEN01
James N. Karuiru	Team Member	Consultant		GSU13
Josephine Osea	Team Member	Program Assistant		AFCE2
Pascaline Wanjiku Ndungu	Co-TTL	Water & Sanitation Specialist		GWA01
Wendy S. Ayres	Team Member	Economist and M&E	M&E	GWA01
Smita Misra	Team Member	Lead Water and Sanitation Specialist	Institutional Specialist	GWA06
Violette Mwikali Wambua	Safeguards Specialist	Consultant	Social Safeguards	GSU07
Maximilian Leo Hirn	Economist	Economist	Complaints handling	GWA08

Extended Team

Name	Title	Office Phone	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Kenya	Counties	Kilifi, Mombasa, Kwale, Taita Taveta, Wajir, Garissa, others	X		

I. STRATEGIC CONTEXT

A. Country Context

1. **Although Kenya has experienced strong economic growth in recent years, its structural transformation is not complete.** Growth of gross domestic product (GDP) averaged 5.3 percent during 2004–2014. In 2014, the rebasing of Kenya's national accounts resulted in an upward revision of the GDP per capita and reclassification of Kenya as a lower-middle-income country. In 2015, GDP grew by 5.6 percent, driven primarily by public investment in infrastructure, higher private sector investment, and strong consumer demand. Kenya's GDP grew by 5.9 percent in 2016, exceeding the regional average for the eighth consecutive year. Despite overall economic growth, agriculture remains an important sector of the economy, contributing 30 percent of GDP in 2015, up from 26 percent in 2011.[1] Services account for about 50 percent of GDP and manufacturing for about 10 percent of GDP down from 12 percent in 2011. Kenya's economic growth is driven mainly by services (predominantly based in cities), especially financial services (8.7 percent), information and communication (7.3 percent), and transport and storage (7.1 percent) subsectors. However, despite the strength of Kenya's private sector, the economy continues to perform below its potential due to infrastructure bottlenecks, a poor and deteriorating business environment, outdated agricultural and trade policies, and recurrent droughts. In the coming decades, the structural transformation of the Kenyan economy is expected to continue, coupled with rapid demographic growth and increasing population and economic density.

2. **Poverty remains high**. Economic growth has created a growing middle class, but poverty rates remain high. Some 42 percent of the population lives below the national poverty line, the vast majority in rural areas. Poor households are more likely than the non-poor to depend on income and consumption from crops and livestock.

3. **Economic growth has been accompanied by rapid urbanization, leading to growing gaps in service provision**. In 2014, about 25 percent of the Kenyan population was residing in urban areas and the total urban population was estimated to be about 15.2 million people.[2] It is forecast that in 2050, the population of Kenya will have reached about 80 million people, of which half will reside in cities. But urban services are not keeping pace with urban population growth, with demand for services far outstripping supply in most urban areas. Authorities are unable to keep pace with the growing demand for services because of inadequate financing for capital investments; insufficient capacity for planning, operating, and maintaining urban infrastructure and services; and institutional fragmentation.

4. **Economic growth, urbanization, and ongoing droughts are placing increasing pressure on Kenya's limited water resources.** Kenya is classified as a chronically 'water scarce' country in absolute and relative terms. The country's annual freshwater availability of 526 cubic meters per capita places it in the bottom 8 percent of countries globally. Over 80 percent of the country is arid or semiarid lands. A further complicating factor is that approximately 54 percent of Kenya's water resources are shared with neighboring countries. Severe degradation of the country's key water catchment areas, due primarily to deforestation and unsuitable agricultural

[1] Kenya National Bureau of Statistics, 2016. "Economic Survey 2016."

[2] United Nations Department of Economic and Social Affairs, Population Division, 2014. *World Urbanization Prospects: The 2014 Revision, Highlights.* ST/ESA/SER.A/352. New York.

practices, has exacerbated the situation. At the subnational level the spatial mismatch between water availability and rising demands, is in many cases, even more extreme, with areas around the major cities of Nairobi, Mombasa, and some western Kenya urban centers most critically water stressed. Kenya also suffers from frequent droughts, and as of early 2017 was facing a severe drought. On February 10, 2017, Kenya's President declared a national disaster as a result of the ongoing drought and famine that is affecting the poorest counties located in the arid and semi-arid lands.

5. **Kenya's urbanization is taking place within a major shift toward political, fiscal, and administrative devolution**. The 2010 constitution provides for two autonomous but interdependent levels of government: national and 47 county governments with mainly elected assemblies, elected governors, and governor-appointed cabinet members ratified by the assembly. The constitution eliminated the previous third tier of government, the urban and rural local authorities, and transferred their revenues and functions to the county governments. With a guaranteed unconditional transfer of national revenue, called the 'equitable share,' the county governments are expected to address local needs for devolved services, including water and sanitation services. The institutional arrangements in the context of devolution are still evolving, including intergovernmental structures and mechanisms for intergovernmental cooperation and transfer of resources to deliver on policy priorities. For example, some counties have expressed a desire to work with the existing water services boards (WSBs), while others are developing alternative arrangements for cross-county infrastructure development.

B. Sectoral and Institutional Context

6. **The Kenya Water Act 2002 introduced important reforms in the sector.** It separated the functions of water resource management, asset ownership, water service delivery, policy, regulation, and financing; provided for the ring-fencing of revenues within the sector; and established a framework for utilities and other service providers to move toward cost-reflective tariffs. It established eight WSBs—owned by the national government—to develop infrastructure in their respective regions. It created commercially-oriented water services providers (WSPs) to be responsible for service delivery under a contract with their WSBs. The Water Act 2002 also established an independent Water Services Regulatory Board (WASREB) tasked with reviewing and approving tariff applications and with monitoring and reporting on sector performance.

7. **The 2010 constitution brought major reform to the country's institutional setup and thus a need for new water legislation**. The constitution shifted many of the functions formerly held by national ministries to county governments, leaving ministries—including the Ministry of Water and Irrigation (MWI)—primarily with policy making, regulatory, and capacity-building roles. County governments are now responsible for providing water and sanitation services in the counties (through their WSPs), protecting the environment, and implementing county-specific public works, including for stormwater management. The current WSBs (which will be transformed to water works development agencies) will remain responsible for developing inter-county bulk water systems, but not for county-specific infrastructure. The Water Act 2016, which was approved in September 2016, brings the water legislation in line with the constitution and clarifies the roles of the two levels of government and the water institutions. There is also a need to develop a new water policy to reflect the changes introduced by the constitution. The World Bank through the ongoing Kenya Water Security and Climate Resilience Project (KWSCRP,

P117635) supports the development of this policy and the operationalization of the Water Act 2016 through support to relevant water sector institutions.

8. **Provision of urban water and sanitation services has not kept pace with Kenya's high urbanization rates**. The urban population rose from about 4 million in 1990 to over 15 million in 2011. Over the same period, the proportion of the urban population with access to improved water sources declined from 92 percent to 82 percent, while the proportion with access to improved sanitation (excluding shared sanitation) increased by only 5 percentage points from 26 percent to 31 percent. Today, only about 18 percent of the urban population is served by a sewerage system. Existing wastewater treatment facilities operate at low efficiencies (about 16 percent of design capacity for 15 plants assessed in 2010), leading to discharge of untreated effluents. The wastewater in the coastal area is often discharged through inadequate stormwater systems, resulting in septic water and sludge spilling into the environment, creating a health hazard for the residents and a threat to the coastal environment.

9. **Achieving universal access to improved water and sanitation requires significant capital expenditure**. The National Water Master Plan 2030 estimates that about US$14 billion in investment in water supply and US$5.4 billion in urban sewerage infrastructure are needed over the next 15 years. Given that development partners now contribute more than half of financing, a sharp increase in mobilizing new sources of financing, including commercial financing for commercially-viable investments, will be required. Thus, achieving the Sustainable Development Goal (SDG) of universal access to water and sanitation will require strong institutions, huge investments, tapping different sources of financing, including commercial financing, much improved operational efficiencies, and innovative technologies.

10. **The World Bank is supporting the development of water and sanitation services in Kenya, some of them supported by other donors**. Currently, the World Bank is supporting the KWSCRP, the Coastal Region Water Security and Climate Resilience Project (CRWSCRP, P145559); the Water and Sanitation Services Improvement Project (WaSSIP, P096367), and the Kenya Informal Settlements Improvement Project (KISIP, P113542). It also supports two programs financed with grants from the Global Partnership on Output Based Aid, the Nairobi Sanitation Project (P131512), and the Urban Water and Sanitation OBA Fund for Low Income Areas. Collectively, these are financing major investments in water storage, water and wastewater treatment, trunk water and sewerage infrastructure, distribution networks, and last mile connections. The Water and Sanitation Development Project (WSDP, P156634) builds on and scales up the achievements of the ongoing projects. Several development partners are co-financing the World Bank-led projects or supporting complementary activities. The French Development Agency (*Agence Française de Développement*, AFD) is cofinancing WaSSIP and KISIP. The German bank *Kreditanstalt für Wiederaufbau* (KfW) is providing parallel financing for WaSSIP and the KWSCRP.

11. **The World Bank and development partners are supporting the development of commercial financing for delivery of water and sanitation services.** With support of the World Bank, WASREB has introduced a creditworthiness index assessing the financial performance of the larger WSPs and has created and delivered tool kits and best practices on financial management (FM) to county governments, the WSPs, and local lenders to facilitate access to commercial finance. The World Bank has also provided technical assistance (TA) to help the WSPs prepare

investment plans and identify bankable projects and assist banks in evaluating proposals from the WSPs. The United States Agency for International Development has established partial credit guarantees for three local banks lending to the WSPs. The Government with support from the Embassy of the Netherlands is currently establishing a pooled bond facility to allow the WSPs to tap longer-term resources from pension funds and insurance companies.[3] By pooling risk, the intention is to increase the volume of commercial financing available, make more efficient use of credit enhancements, and encourage a larger pool of the WSPs to explore commercial financing.

12. **The coastal region—which serves as a transport hub and an important tourist destination—is a vital economic region for Kenya and for all of east Africa**. However, the coastal counties face serious challenges in providing water supply and sanitation services to their residents. Mombasa County, which is home to nearly 1 million people, has a huge water deficit of over 100,000 cubic meters per day and non-revenue water (NRW) of over 50 percent. The coastal region relies on a bulk water system which connects four main sources—the Baricho wellfield (Kilifi County), Mzima springs (Taita Taveta County), and Marere springs and Tiwi boreholes (Kwale County)—through about 400 kilometers of pipeline. Under WaSSIP and a project financed by the AFD, all four water sources were rehabilitated to sustain and slightly increase the yield of these sources. However, major new source development is needed to address the water shortage.

13. **The World Bank is financing investments identified in the water resources masterplan for the coastal region as the first priority.** WaSSIP is supporting improvements in the operations of the Baricho wellfield and rehabilitation of the pipelines serving Malindi, Kilifi, and Mombasa, which were identified as immediate measures in the masterplan. However, these measures are small and will bring only an additional 28,000 cubic meters per day to these towns. The CRWSCRP is financing the construction of Mwache Dam, which is the second priority identified in the masterplan. This is a multipurpose dam (irrigation and water supply) and is expected to supply 186,000 cubic meters per day to the WSPs in the coastal counties, once fully operational (detailed designs for the dam are expected in late 2017 and construction is expected to be complete in June 2022, with full operations to begin a year later). At the time the CRWSCRP was approved, resources from the International Development Association (IDA) were not available for the downstream infrastructure (water treatment, bulk water conveyance, and distribution networks). However, the World Bank made a commitment to finance the downstream infrastructure once funds become available. The proposed WSDP will support the downstream infrastructure for Mwache Dam, in addition to priority investments in water and sanitation in other coastal urban areas.

14. **When Mwache Dam becomes fully operational, the coastal region will have sufficient water supply sources for the medium term**. Water from Mwache Dam will mainly serve Mombasa, allowing water from the other current sources to serve other urban areas through the existing bulk water system. However, the distribution networks in all the urban areas of the coastal region are dilapidated and will not be able to cope with the increased network pressure. This is why the World Bank, when committing to support the construction of the Mwache Dam also

[3] Design work on the pooled fund is continuing with a tentative offering being explored for the fourth quarter of fiscal 2017.

committed to support the rehabilitation of water supply and sanitation networks in the entire coastal region, not only in Mombasa.

15. **The ongoing WaSSIP is already financing two service contracts for the bulk water service provider, which has substantially increased the efficiency of the operation**. The bulk water system is currently operated by the Coast WSB (CWSB), but negotiations between the coastal counties and the national government are underway to establish the most efficient and effective mechanism to provide these services in devolved systems. Ultimately, it is expected that the two levels of the Government will agree on a joint authority to manage cross-county operations as provided for in the 2010 constitution and the Water Act 2016. The Water and Sanitation Program has been supporting the dialogue between the national and county governments and will continue to do so.

16. **The World Bank is supporting the government's initiative to boost the economic Gperformance of its north and northeastern counties.** These counties—which comprise Mandera, Wajir, Isiolo, Marsabit, Garissa, Tana River, Lamu, Turkana, West Pokot, and Samburu—have been historically underserved. Some 80 percent of the residents of the region are living in poverty and have poor access to basic services. Frequent droughts create additional vulnerabilities for the population, 90 percent of whom rely on livestock, as large numbers of animals can die during droughts. The World Bank has recently launched the Northeastern Development Initiative which is focused on transformative and integrated infrastructure investments in energy, transport, and water and aims to connect the region to national and global markets. Climate change poses an additional threat to the already fragile region.

17. **The WSDP will support investments in water and sanitation and drought mitigation measures for selected priority areas in the northeastern counties.** The Frontier Counties Development Council, which represents the northeastern counties, together with the national government have identified Wajir town (Wajir County) and Dadaab host communities (Garissa County) as the first priorities, as they are facing critical water supply and sanitation challenges due to pollution, depletion of the water resources upon which they rely, and an ongoing drought. Wajir and Garissa counties are classified in the alert and alarm stages, respectively, in the current drought phase classification.

18. **Wajir town is the main urban center and headquarters for Wajir County, with a population of about 100,000 inhabitants**. The town is experiencing rapid population growth, with commercial developments and more people settling within the core urban center and the peri-urban areas due to infrastructure development and improved service provision within the town since the establishment of the county government. Wajir is a water-deficient county with no perennial rivers. The town has a shallow water table which is diminishing and is also being contaminated with untreated waste water. The main source of water for Wajir town is groundwater from a shallow aquifer as low as five meters below the ground. Most of the town's households rely on shallow hand-dug wells within their compounds from where they draw water through simple systems like containers attached to ropes. Wajir town has an estimated 20,000 shallow wells scattered in the entire town, of which only about 1,235 are protected and about 10 percent have dried up. Water from these shallow wells is saline and has also shown bacteriological contamination due to lack of a proper sanitation system for the town. As a result, there are frequent cholera outbreaks, particularly during the rainy seasons.

19. **Garissa County hosts a large refugee camp at Dadaab, with over 340,000 people**. In addition, about 160,000 inhabitants live within a 50 kilometer radius of the five refugee camps. Of these, about 60,000 inhabitants live in and around the town of Dadaab, many working directly or indirectly for the United Nations or nongovernmental organizations that provide services to the refugees. The main source of water for the residents of Dadaab for both the host communities and the refugee camps is groundwater from the Merti aquifer. There are about 56 boreholes supplying water to the host communities. There is concern that the Merti aquifer is becoming depleted in the vicinity of Dadaab area, although the status is not clear. Current water systems for the host communities comprise boreholes, pumps, ground masonry or elevated steel tanks, and some reticulation networks and water kiosks. Most of the infrastructure is dilapidated and is in dire need of rehabilitation and expansion.

20. **The Government of Kenya has expressed its intent to close down the Dadaab refugee camp complex in a phased manner**. Operational modalities and support measures for the voluntary repatriation of Somali refugees have been articulated in a tripartite agreement between the Government of Kenya, United Nations High Commission on Refugees (UNHCR), and the Government of Somalia, highlighting safe, dignified, and voluntary return. The Government and UNHCR are working closely together to ensure that the current infrastructure in the Dadaab refugee camp complex will be converted for use by the host communities once the camps are closed. The World Bank-financed Kenya Development Response to Displacement Impacts Project, which is under preparation, has launched a study to explore options for host communities to use the infrastructure. Because the host communities are spread over a wide distance of about 35 kilometers, all existing boreholes will be required.

21. **In Wajir County, about 83 percent of inhabitants defecate in the open; none of the 127 villages has been certified to be open-defecation free**.[4] The 2014 Sanitation Benchmarking report ranked Wajir County 44 out of 47 on sanitation performance, with stunting rates for children under five at 50.7 percent. In Wajir town, about 5 percent of residents depend on septic tanks, 20 percent use bucket latrines, and 75 percent defecate in the open.[5] The bucket latrine system was introduced to avoid contamination of the shallow aquifer. However, the management of the system has continued to deteriorate with increasing population within the town and its surrounding areas. Poor sludge emptying practices by inadequately or entirely untrained personnel, who lack proper protective gear, have contributed to outbreaks of waterborne diseases. For example, between July and December 2015, Wajir County reported 2,000 cases of cholera, with more than 30 deaths.[6]

22. **In Garissa County, about 77 percent of people defecate in the open, and no single village has been certified as open-defecation free**.[7] The 2014 Sanitation Benchmarking report put the stunting rate in Garissa at approximately 50 percent. Although sanitation statistics do not exist for Dadaab and Fafi subcounties as the host communities of the refugee camps, county officials estimate 30 percent latrine coverage and 70 percent open defecation. Sanitation-related disease outbreaks often spread between the refugee camps and the host communities, due to the

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4 Kenya Rapid (Resilient Arid Lands Partnership for Integrated Development) Baseline Survey Report, Millennium Water Alliance (June 2016).

5 Wajir Town Sewerage Project, Final Design Report. Ministry of Water and Irrigation (2009).

6 Technical Report on Wajir Cholera Outbreak Response, Ministry of Health, 2015.

7 Kenya Rapid (Resilient Arid Lands Partnership for Integrated Development) Baseline Survey Report, Millennium Water Alliance (June 2016); Ministry of Health/ United Nations Children's Fund (UNICEF) 2015.

frequent interactions of their residents. For example, the 2015 cholera outbreak (index case reported in camp), had 1,798 reported cases, of which 719 cases were from the host communities.[8]

C. Higher Level Objectives to which the Project Contributes

23. **The proposed WSDP will contribute to the goals of the Government's Vision 2030 and its Second Medium-Term Plan (MTP2).** The Government's Kenya Vision 2030 and its MTP2 2013–2017 focus on promoting inclusive economic growth and achieving the United Nation's SDGs. Aligned to Vision 2030, the MTP2 identifies key policy actions, reforms, and programs that will enable Kenya to achieve accelerated and inclusive economic growth. As a priority the Government aims to increase access to clean water and sanitation services in the major urban centers and their suburbs, expanding access to the poor in underserved areas, including informal settlements, and strengthening sector institutions. The MTP2 also supports activities to ensure that devolution is a success, including helping counties develop their capacity to deliver infrastructure and services and improving coordination between the two levels of government.

24. **The proposed project is aligned with the World Bank's Kenya Country Partnership Strategy 2014–2018 (Report number 88940).** The Country Partnership Strategy for Kenya, discussed by the World Bank's Board of Directors on June 4, 2014, has three strategic results areas: (a) competitiveness and sustainability—growth to eradicate poverty; (b) protection and potential—human resource development for delivering shared prosperity; and (c) consistency and equity—delivering a devolution dividend. The proposed WSDP supports all three strategic results areas supporting the ongoing sector reforms and increasing the equitable access and sustainability of water supply and sanitation services. It helps to enhance the competitiveness of one of Kenya's most important city, Mombasa, by eliminating water shortages and addressing the problems with the discharge of untreated septic sludge and sewage, both of which discourage investment and tourism. It will also improve the competitiveness of other cities by helping them meet their needs for adequate water supplies. It assists in bringing water supply and sanitation services to the residents of the underserved northeastern counties, including women and children who bear most of the cost of water scarcity. It helps to foster consistency and equity by helping counties develop the capacity to manage their new responsibilities for delivering water and sanitation services.

25. **The project supports achievement of the World Bank's twin goals of eliminating extreme poverty and promoting shared prosperity in several ways**. First, investments in water infrastructure act as catalysts for local development and economic activity, by providing water for agriculture, animal husbandry, food processing, and other businesses. Bringing higher quantities and more reliable water to households enhances their quality of life by (a) reducing the time and effort—especially of women and children—to collect water; (b) reducing the incidents of waterborne diseases caused by contact with contaminated water; and (c) diminishing absenteeism from work and school and the costs associated with these, including lost income and opportunities.

26. **The proposed WSDP will also leverage development impacts of ongoing World Bank programs and projects**. It will ensure that the CRWSCRP meets its development objectives. It

[8] County public health officer, Garissa.

will also build on the achievements of WaSSIP in improving performance of the water institutions in a devolved context.

II. PROJECT DEVELOPMENT OBJECTIVE

A. Project Development Objective

27. **The Project Development Objective (PDO) is to improve water supply and sanitation services in select coastal and northeastern regions in Kenya.**[9] This will be achieved by investing in water supply and sanitation infrastructure in urban centers in coastal counties and two counties in Kenya's arid northeastern region. The project will also improve services by strengthening institutional capacity in areas, such as reducing NRW, improving billing and revenue collection systems, and developing medium-term business plans. In addition, the WSDP will establish a results-based financing mechanism at the national level to provide incentives to the WSPs to accelerate access to water supply and sanitation services and improve operational and financial performance.

B. Project Beneficiaries

28. **The primary beneficiaries of the WSDP will be the residents of the coastal and northeastern counties who will receive most of the investments in infrastructure under the project.** The residents of the coastal counties will benefit from a much more regular supply of water and from improved wastewater and septic sludge collection and treatment services. Residents of Wajir town and people living in the communities surrounding the Dadaab refugee camp in Garissa County will benefit from supply of higher-quality water and from more regular services. Both Wajir town residents and Dadaab host communities will also benefit from improved sanitation services, including access to on-site sanitation facilities and campaigns for community-led total sanitation (CLTS). WSPs that receive support under the project and their staff will benefit from TA and investments that strengthen their performance. People living in towns with WSPs that strengthen their capacity to deliver services will benefit in the medium to long term from more reliable and efficient water supply and sanitation services.

C. PDO Level Results Indicators

29. **Key project outcome indicators include:**

- People in urban areas provided with access to improved water sources under the project (number) (core indicator).
- People provided with access to improved sanitation services under the project—urban (number) (core indicator).

[9] Improved water services means increased access to and reliability of water services. Improved sanitation services means expanded household connections to centralized wastewater systems or on-site sanitation facilities.

- People benefiting under the project from a connection to the sewage system or from improved septic sludge management (number).[10]

- People with existing connections benefiting from more hours per week of water services (number).

- Direct project beneficiaries (number), of which female (percentage) (core indicator).

III. PROJECT DESCRIPTION

A. Project Components

30. The proposed WSDP will comprise four components, as presented in the following paragraphs. Annex 2 presents a detailed project description.

Component 1: Rehabilitation and expansion of urban water supply and sanitation services in the coastal region (US$176 million equivalent, of which IDA Scale-Up Facility (SUF) US$160 million equivalent)

Subcomponent 1.1: Support to coastal counties (US$132 million equivalent of which IDA-SUF US$120 million equivalent)

31. This subcomponent will finance a program of activities designed to improve water supply and sanitation services in urban areas, including (a) construction and rehabilitation of water supply, sanitation, and stormwater infrastructure investments including construction or rehabilitation of offices for WSPs; and (b) capacity-building and institutional-strengthening activities, including customer identification surveys, improving billing and collection systems, and NRW reduction, to support improved water and sanitation performance of the participating county governments and their WSPs.

Subcomponent 1.2: Support to the coast bulk water services provider (US$44 million equivalent of which IDA-SUF US$40 million equivalent)

32. This subcomponent will finance a program of activities designed to improve the interconnected coast bulk water system, including (a) construction and rehabilitation of water mains and boreholes; (b) TA to the CWSB, including financing a management or service contract for the operation of the coast water bulk system; and (c) partial financing of ongoing construction contracts of water transmission mains from Kakuyuni to Kilifi and from Kakuyuni to Gongoni for the Baricho wellfield.

Component 2: Expansion of water supply and sanitation services in underserved northeastern counties (US$110 million equivalent, of which IDA US$37 million equivalent and IDA-SUF US$63 million equivalent)

[10] People benefiting from improved septic sludge management are those whose sludge is taken to a sludge treatment facility.

33. This component will finance a program of activities designed to improve water supply and sanitation services in the northeastern counties, such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County, such program to include (a) construction and rehabilitation of water supply, sanitation, and stormwater infrastructure investments, including construction and rehabilitation of offices for the WSPs; (b) capacity-building and institutional strengthening activities of the participating counties and the WSPs, including NRW reduction, billing and revenue collection systems, and developing and implementing a utility business plan; and (c) operations and maintenance (O&M) of the water supply and sanitation services.

Component 3: National performance-based financing (US$40.7 million equivalent of which IDA-SUF US$37 million equivalent)

Subcomponent 3.1: Support for water and sanitation infrastructure investments and services (US$38.5 million equivalent of which IDA-SUF US$35 million equivalent)

34. This subcomponent will finance a program of activities designed to support the preparation and implementation of the national performance-based financing (PBF) for participating counties, WSBs, and WSPs, including (a) construction of new or rehabilitation of existing water and sanitation infrastructure; (b) support toward the preparation of applications, final designs, bidding documents, and construction supervision; and (c) TA for improving water and sanitation services, and monitoring and evaluation (M&E).

Subcomponent 3.2: Technical assistance for national performance-based financing (US$2.2 million equivalent of which IDA-SUF US$2 million equivalent)

35. This subcomponent will finance a program of activities designed to strengthen WASREB's capacity for management, implementation and coordination, and M&E of the National PBF, including (a) evaluation of proposals (to identify high-return investments and activities); (b) establishment and implementation of a comprehensive M&E system; and (c) provision of training to the participating county governments, WSBs and WSPs involved in implementation of subcomponent 3.1 on issues such as implementation of safeguards, procurement, and FM.

Component 4: Project management (US$3.3 million equivalent of which IDA-SUF US$3 million equivalent)

36. This component will finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and M&E, including (a) establishment and implementation of a comprehensive M&E system; (b) training of the implementing agencies and county governments on implementation of safeguards, procurement, and financial management; and (c) financing studies identified during implementation and preparation of follow-up on projects as needed.

B. Project Financing

37. **The lending instrument for the proposed WSDP is Investment Project Financing (IPF).** IPF is the appropriate instrument for the WSDP because it will support activities that require intensive design and implementation support of technical, financial, economic, environmental, and

institutional issues. The support offered by the World Bank under the IPF will also help to ensure that the investments benefit the targeted groups.

38. **The WSDP is estimated to cost US$330 million.** The project will be financed through an IDA-SUF Credit of US$263 million equivalent and an IDA Credit of US$37 million equivalent. The Government will add US$30 million as counterpart financing. **The Government will be responsible for budgeting for counterpart financing to cover some operating costs, the acquisition of land, and any compensation due to project-affected people**. Land and compensation costs associated with proposed subprojects will be identified and budgeted for on an annual basis.

Table 1: WSDP Project Costs (US$330 million)

Component 1	IDA	IDA-SUF	Government	Total
Component 1: Rehabilitation and expansion of urban water supply and sanitation services in the coastal region		**160.0**	**16.0**	**176.0**
Subcomponent 1.1: Support to the coastal counties		120.0	12.0	132.0
Subcomponent 1.2: Support to the coast bulk water services provider		40.0	4.0	44.0
Component 2: Expansion of water supply and sanitation services in underserved northeastern counties	**37.0**	**63.0**	**10.0**	**110.0**
Component 3: National performance-based financing		**37.0**	**3.7**	**40.7**
Subcomponent 3.1: Support for water and sanitation infrastructure investments and services		35.0	3.5	38.5
Subcomponent 3.2: Technical assistance for national performance-based financing		2.0	0.2	2.2
Component 4: Project management		**3.0**	**0.3**	**3.3**
Total Project Cost	**37.0**	**263.0**	**30.0**	**330.0**

C. Lessons Learned and Reflected in the Project Design

39. **Having subprojects ready for implementation helps avoid delays in project execution.** The Kenya portfolio is experiencing problems of slow disbursement, including to some extent the World Bank-financed water projects. The WSDP builds on the experience of the WaSSIP and WaSSIP additional financing (AF), which have been disbursing very well. Investments to be financed under the WaSSIP AF (designs, bidding documents, and safeguard documents) were prepared under the previous project, allowing implementation to proceed as soon as the WaSSIP AF became effective. The design of the WSDP reflects this lesson, and the WaSSIP AF is financing the ongoing preparation of studies, designs, bidding documents, and safeguard documents for the great majority of Components 1 and 2 investments. Some of the detailed technical designs have already completed and most of the others will be completed by effectiveness.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

40. **Overall responsibility**. The Recipient is the Government of the Republic of Kenya. The National Treasury (NT) will be responsible for ensuring that project resources are budgeted for and released. The Office of the Auditor General (OAG) will be responsible for auditing of project accounts. The project financing will be a mix of IDA-SUF Credit and an IDA Credit to the NT.

41. **Overall implementation arrangements**. The WSDP will be implemented using existing organizational structures in line with the constitution, incorporating lessons learned and experience gained in the implementation of the KWSCRP and WaSSIP. Thus, counties will implement county-specific activities, and WSBs (or their legal successors), which are owned by the national government, will implement activities that involve more than one county.

42. **A National Project Steering Committee, which will be established within six months after Project effectiveness, will provide overall project oversight, policy guidance, and approve the project's annual workplans and budgets**. The Cabinet Secretary of the MWI and the Chair of the Committee in charge of Water Affairs at the Council of Governors will co-chair the steering committee. Other members of the committee will include representatives (at the chief executive/Principal Secretary level) of the National Treasury, Ministry of Devolution and Planning, and the chief executive of the Council of Governors, governors of the participating counties and any other appropriate representatives identified and appointed by the committee. The State Department of Water Services at the MWI and the secretariat of the Council of Governors will provide joint secretariat services to the committee.

43. **A Technical Committee, which will be established within six months after Project effectiveness, will be responsible for addressing any cross-cutting technical issues and challenges in project implementation.** It will review project progress reports, financial management and audit reports, and provide technical guidance on project implementation. The Water Secretary at the MWI will chair the committee. Its members will include Chief Executive Officer of the Council of Governors, the Chief Executive Officers of the Coast and Northern Water Services Boards and of WASREB, County Executive Committee members representing in charge of water affairs, and others as appointed by the technical committee. The State Department of Water Services at the MWI will provide secretariat services to the committee.

44. **Executing agency.** The State Department of Water and Sanitation Services in the MWI is the executing agency. A Project Coordination Unit (PCU) has been established and fully staffed. The PCU is responsible for overall project management, and for monitoring and reporting. The PCU is headed by a project coordinator who reports to the Principal Secretary through the Water Secretary. Given that all participating entities are procuring, implementing, and monitoring their own project activities, the PCU is lean and integrated within existing structures. The executing agency will be strengthened with teams of consultants who will help to build the capacity of counties and their WSPs for procurement, FM, M&E, safeguards management, and utility reform.

45. **Implementing agencies.** Counties and their WSPs will be the main implementing agencies, because according to the Water Act 2016, they are responsible for all county water

supply and sanitation infrastructure and services. WSBs (or their legal successors) will, in future, only be responsible for implementing inter-county activities. Therefore, the CWSB will be the implementing agency for the bulk water subcomponent under Component 1, because the bulk water system runs across four counties. The WSPs will do most of the procurement, because they will be in charge of all procurement for countywide water supply and sanitation infrastructure. The counties will procure contracts to support functions which are not delegated to the WSPs, such as enforcing construction codes for septic tanks, and the like. Counties will, therefore, procure small contracts (mostly TA) up to a threshold in accordance with the findings of the procurement capacity assessment for counties. The MWI and WASREB will do any procurement needed to carry out their responsibilities under the project. Each implementing agency will appoint a dedicated PCU, headed by a coordinator and including specialists in engineering, procurement, FM, environment and social safeguards, and M&E. The staff of the PCU may be delegated from the WSP or the county.

Table 1: Overview of the Implementing Agencies

Component	Implementing Agencies
Subcomponent 1.1	• Mombasa County and Mombasa Water and Sanitation Company (MOWASCO) • Kwale County and Kwale Water and Sewerage Company (KWAWASCO) • Taita Taveta County and Taita Taveta Water and Sewerage Company (TAVEVO) • Kilifi County, Kilifi Water and Sewerage Company (KIWASCO), and Malindi Water and Sewerage Company (MAWASCO)
Subcomponent 1.2	CWSB
Component 2	• Wajir County and Wajir Water and Sewerage Company (WAJWASCO) • Garissa County and Garissa Water and Sewerage Company
Component 3	• Various counties and their WSPs. The counties and their WSPs will only be known when WASREB has selected the investments. The selection will be done for annual programs. Therefore, the participating counties and WSPs will change during the project implementation period. • WSBs can also apply to WASREB for financing inter-county infrastructure. Therefore, it is also possible that a WSB might become an implementing agency under this component. • WASREB will implement activities related to the development and implementation of the program, but will not be engaged in any implementation of infrastructure.
Component 4	• MWI

46. **The NT will enter into subsidiary agreements with the CWSB and any other WSBs that are selected under Component 3, and into participation agreements with the participating counties.** In turn, counties will enter into WSP agreements to ensure that the project funds flow directly to their WSPs to cover expenditures for water supply and sanitation services. The agreements will specify the amount to be allocated to each implementing agency to undertake specific activities and the terms under which counties and WSBs repay the funds to the NT (if applicable). Signed subsidiary or participation agreements for each implementing agency are a condition of disbursement to the entity entering into the agreement. The same arrangements will apply to any implementing agency whose proposals are selected under Component 3.

47. **Additional specific implementation arrangements for the PBF component.** WASREB will oversee the activities under the PBF program this component is supporting. WASREB will be responsible for designing and announcing the program, inviting applications, and reviewing proposals. However, the MWI will have to approve the program design and periodic changes to it.

WASREB will also be responsible for reviewing progress of the activities, including approving the financial support for the accepted applications. The MWI will be the budget holder of the funds under this component and, based on the applications accepted by WASREB, will request the NT to release the funds to the counties of the WSPs or directly to the WSBs whose applications have been approved. WASREB will receive TA under the component to conduct independent financial and technical audits of the supported activities, review the achievements of the activities, conduct training for their staff, and provide assistance for applicants to write their proposals. The counties and WSBs will be responsible for monitoring activities carried out under the program, including reporting progress to WASREB.

B. Results Monitoring and Evaluation

48. **Objectives and design**. The M&E specialists responsible for preparing the project's quarterly progress reports will be part of the WSDP PCU at the MWI. They will be responsible for establishing the M&E system, and training and backstopping M&E specialists at the level of the implementing agencies. They will also prepare quarterly WSDP progress reports, based on the information from the M&E specialists at the implementing agencies. In addition, they will coordinate the participation of the implementing agencies in a midterm review scheduled for 2019.

49. **The main responsibility for monitoring and reporting will be with the implementing agencies**. The M&E specialists at the implementing agencies will be responsible for monitoring and collecting information on implementation progress and contribution of specific activities to the project's intermediate results and PDO-level outcomes. They will submit quarterly progress reports to the M&E specialist at the MWI.

50. **Data generation and reporting**. The data to track many of the key performance indicators will come from national sources, the implementing agencies, and from project-specific data collection efforts. The MWI PCU is responsible for submitting quarterly project progress reports to the World Bank, and to the relevant government officials at the MWI within 45 days of the end of each quarter. The Government and World Bank will discuss the findings of the reports during each implementation support mission and agree on actions to address issues raised in the reports.

51. **Beneficiary assessment**. Six months prior to the closing of the project, the MWI PCU will recruit an independent firm to conduct a beneficiary assessment. The objective of the beneficiary assessment will be to produce information on the benefits of the infrastructure investments and capacity-building support provided under the project. The assessment will review issues such as the relevance of the infrastructure to people living and working in the places that benefited from the investments, the number of people benefiting (disaggregated by gender and vulnerable people), and the performance of the relevant agencies in operating and maintaining the infrastructure. The assessment will also explore the quality and relevance of the studies in informing the design of the overall project interventions and the extent to which the capacity-building support has achieved its objectives.

52. **Capacity building for M&E**. Although some of the WSPs have benefited from support under WaSSIP for strengthening capacity for M&E, many have not, and overall capacity for M&E is inadequate. The project will provide support to strengthen capacity for the WSPs benefiting from the project. Specifically, the project will finance consultants who will work with the WSPs

to prepare a detailed M&E and reporting system plan, provide on-the-job and other training for M&E specialists (at both the implementing agency level and the MWI PCU level), and provide other capacity support required to establish and operate an effective M&E system. The project will also finance follow-on training and workshops to enable M&E specialists to ensure that normal staff turnover does not disrupt the M&E effort.

C. Sustainability

53. **Sustainability of investments in infrastructure and service delivery depends on incentives and availability of resources for O&M.** The WSDP will finance infrastructure investments only if the WSPs, WSBs, or county administrations take the responsibility for operating and maintaining the assets. Counties undertaking investment in infrastructure outside their WSPs will include an O&M plan in the design of infrastructure projects (such as for drainage), before submission to the World Bank for no objection. Similarly, the WSPs and CWSB's bulk water operation will recover the O&M costs of water and sanitation services through tariffs imposed on users. Kenya has a well-functioning independent regulator for water supply and sewerage, which reviews tariff applications from the WSPs and advises them on their adequacy. One of the Component 3 performance measures designed to encourage the WSPs to improve operational efficiency is that their O&M costs are recovered from customers. Component 3 will also support efforts by the WSPs to improve performance in this area. However, recognizing that coverage of the O&M cost for larger investments, right from the beginning, will be a challenge in Wajir and Garissa Counties, the project will provide operating costs to Wajir and Garissa WSPs for starting the new operations.

D. Role of Partners

54. **The AFD will finance the bulk water infrastructure related to Mwache Dam (water treatment plant (WTP)), pumping stations, reservoirs, and one of the three clean water transmission mains)**. In addition, the AFD will finance the water supply network rehabilitation and extension in Likoni (which is part of Mombasa). The AFD Board approved the project in October 2016. Under the WSDP, the World Bank will finance the construction and rehabilitation of water supply systems in the coastal cities (without Likoni) to improve their efficiency and effectiveness in preparation of an increase in bulk water from Mwache Dam.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

55. **The project risk is rated substantial**. This is based on a high rating for institutional capacity for implementation and sustainability; substantial ratings for stakeholders, sector strategies and policies, fiduciary, political and governance, and technical design of project; and moderate ratings for climate, macroeconomic, and environment and social risks.

56. **Institutional capacity for implementation and sustainability - High risk.** A major risk is that the capacity of some of the implementing agencies may not be adequate to implement the investment projects in accordance with World Bank guidelines and procedures. The WSPs will be undertaking much larger infrastructure projects than they have in the past, yet they have no

experience in implementing a World Bank-financed project. Counties are only starting to implement World Bank-financed projects, and their experience remains very limited. This risk will be mitigated through support to build the capacity of counties (including the ones participating in the WSDP) under the World Bank-financed Kenya Devolution Support Program for Results (the project became effective in September 2016). It will also be mitigated by offering support under the proposed WSDP to build the capacity of the WSPs, the county administrations, and the other implementing agencies, depending on need. This will include mobile teams supporting capacity building in procurement, FM, environmental and social safeguards, M&E, and utility reform, which will be available to all implementing agencies upon request.

57. **Stakeholders - Substantial risk.** The national and county governments are still working out the institutional arrangements for delivery of water and sanitation services in the context of devolution. Although the new Water Act 2016 has aligned the roles of the national government and the county governments in the water and sanitation sector, it will take quite some time to align all sector institutions and the entire legal framework to the Water Act 2016. The counties have to translate the Water Act 2016 into their policies and regulations at the county level. The independent regulator (WASREB) also has to align its own guidelines to the Water Act 2016. It is important that counties continue to respect the autonomy of their WSPs, allowing them to retain their revenues for provision of services, for O&M, and for investment in new infrastructure. However, the risk of political interference in their operational decisions remains. The project contains several measures to mitigate the stakeholders' risk. First, it provides support to several implementing agencies in accordance with their constitutional mandates. Therefore, WSPs will receive access to resources for investment in distribution networks and counties can obtain resources for investment in drainage systems. WSBs will receive resources only for investments in cross-county infrastructure and only with the consent of the relevant county administrations. Second, the WSDP offers support to amend policy and legislation to bring them in line with the constitution.

58. **Sector strategies and policies - Substantial risk.** The design of Component 3 is intended to promote (a) improved operational performance of the WSPs and (b) the selection and implementation of investments to increase access to water supply and sanitation services to the extent possible given the funding available. The use of performance-based approaches in Kenya is new and the optimal design of such an approach is not known. This risk will be mitigated through regular reviews of responses to the incentives offered and quick adjustments in the design if warranted to improve the incentives and achieve the desired results.

59. **Fiduciary - Substantial risk.** There is potential risk that project funds are not used for the intended purposes, are not properly recorded and accounted for, or do not achieve value-for-money. An FM review of the counties and WSPs, undertaken during project preparation, identified inadequacies in the FM arrangements, including inadequacies in internal controls around cash management, allowances, and other expenditures. In addition, most of the WSPs have ineffective internal audit units. With respect to procurement, key risks include (a) procurement staff at counties and the WSPs having no experience in implementing World Bank-funded projects; (b) record keeping being inadequate; (c) the qualifications of procurement staff being inadequate; and (d) there being a lack of clear procedures and guidelines spelled out in manuals. Therefore, the overall unmitigated FM and procurement risks are assessed as substantial. To mitigate the FM risks, the World Bank's FM team will undertake supervision twice a year. Additional supervision activities will include desk review of quarterly interim financial reports (IFRs) and internal audit

reports, audited financial statements and management letters, and timely follow-up of issues that arise. To mitigate the procurement risks, counties and the WSPs will undertake intensive customized procurement training on World Bank procurement procedures and contract management; prepare and monitor implementation of detailed procurement plans with time lines; and establish and maintain a record keeping and filing system on contract-by-contract basis.

60. **Political and governance - Substantial risk.** The elections scheduled for August 2017 may bring into power many new governors and county officials, who may have different ideas of county priorities and overall project design. This risk will be mitigated by ensuring that PCUs are established in each implementing agency. In addition, the World Bank will engage the new county leadership team shortly after they take office to introduce them to the project objectives and design. The World Bank will continue to maintain an active dialogue throughout the project implementation period.

61. **Technical design of project - Substantial risk.** Completion of the Mwache Dam could be delayed and water will not flow until after the WSDP is closed. The Mwache Dam is currently scheduled to be operating by 2022; however, delays are common with large infrastructure projects in Kenya. If the dam is not completed on time, then some of the benefits expected from the WSDP will be delayed. This risk will be mitigated through the rehabilitation of the Baricho wellfield under subcomponent 1.2 which will produce an additional 17,000 cubic meters per day to bridge the supply gap until Mwache Dam becomes operational and to increase the climate resilience of the bulk water system. The designs, bidding documents, and safeguards documents are ready for the investment in Baricho, and construction can start shortly after effectiveness.

62. **Other risks: Climate change - Moderate**. A climate risk screening was carried out at the project concept note stage and the results are in the project file. To mitigate the climate risk, the WSDP under subcomponent 1.2 supports operational improvements to the bulk water system so that if one of the five main sources of the system fails, the other sources can partially substitute for the loss of water to the system.

63. Although the WSDP contains robust measures to mitigate foreseeable risks, the project will be implemented under conditions of great uncertainty. The risks will be addressed through a close dialogue with the MWI and the implementing entities to jointly devise solutions for the issues that arise.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

64. **Component 1 - Financial analysis.** The financial analysis analyzes all cash flows associated with the investment (including capital costs, O&M costs, and revenues) and the financial sustainability of the participating WSPs. The financial analysis includes a lifetime projection of O&M costs, together with a demonstration of how these will be financed. The financial analysis consists of (a) assessing the financial performance of WSPs, taking into account previous loans and the planned investment costs under the WSDP and (b) assessing the impact of project investments on O&M and financial viability of the WSP, cost drivers (including different loan terms), and future revenue streams and cash flows available to repay the loan. The

Government of Kenya has decided to pass on the funds under Component 1 at the IDA-SUF terms it is receiving from the World Bank. However, 25 percent of the credit will be passed on as a grant to ease the financing cost for sanitation investments, which are not income generating, but provide important public health and environmental benefits.

65. For Component 1, the financial analysis includes the coastal WSPs of Mombasa, Malindi, Kwale, Kilifi, and Tavevo, and the bulk water operation. The financial net present value (NPV) and the financial internal rate of return (IRR) are estimated based on the stream of investment and O&M costs and operating revenues for a period of 40 years. The discounted rate of annual cash flow is 12 percent. The financial IRR is about 12.1 percent and the financial NPV is at about US$1.7 million (see Table 2). The financial projection for the period of the economic life of the investments shows a stable positive cash flow, and therefore, the investments are financially justified.

66. **Economic analysis.** The economic analysis demonstrates the economic viability of the project investments. The cost-benefit analysis estimates the economic feasibility of the project by calculating the present value of cost and benefit streams and by determining the NPV and economic rate of return of the project. The net benefit of the project is estimated as the incremental benefit of the 'with' and 'without' project scenarios. A summary of the economic analysis for the water supply investments is presented in Table 2. The IRR is about 14.9 percent, and the NPV is at about US$208.7 million. Detailed results of the economic and financial IRR and NPV for each WSP are presented in Tables 2 and 3.

Table 2: Summary of Cost-benefit Analysis with Project (US$, millions)

	Economic Analysis	Financial Analysis
NPV	208.7	1.7
IRR (%)	14.9	12.1

Table 3: Summary of Cost-benefit Analysis with Project (KSh, millions)

	Mombasa		Malindi		Kwale	
	Economic Analysis	**Financial Analysis**	**Economic Analysis**	**Financial Analysis**	**Economic Analysis**	**Financial Analysis**
NPV	43.1	19.8	15,614	3,277	3,080	2,602
IRR (%)	21.0	16.0	17.3	12.0	21.1	18.5
	Kilifi		**Tavevo**		**Bulk Water Operation**	
NPV	4,375	977	3,304	3,526	238,857	307,580
IRR (%)	20.5	13.8	12.5	16.2	10.3	12.7

67. **Component 2.** Currently, neither Wajir nor Dadaab are recovering the full cost of water and sanitation services from consumers. County subsidies fill the gap. This is mainly due to the high cost of diesel to run the borehole pumps. In Dadaab, which serves the population through eight boreholes, about 90 percent of the average monthly revenues is used to pay for diesel. With the remaining 10 percent of the operating revenues, the cost for staff and repair and maintenance cannot be covered. In Wajir, the boreholes that rely solely on diesel generators incur higher costs than those which also draw on solar panels for energy. For example, in Khorof Harar, where pumps

are powered by a mix of generators and solar panels, the water production cost was estimated to be KSh 22 per cubic meter, while at Haandaki which relies on the generators only, the production cost is KSh 44 per cubic meter.[11] The WSDP will equip all boreholes in Wajir and Dadaab with solar panels. This is expected to reduce the cost of energy by about 50 percent, helping to make the operation of boreholes financially self-sustaining.

68. A comprehensive economic and financial analysis will be performed for Component 2 as part of the ongoing feasibility studies for proposed investments in Wajir and Garissa Counties. The economic and financial analysis will follow the approach outlined above for Component 1.

69. **Component 3.** While the specific investments to be supported under Component 3 are not known at this time, financial analyses for potential investments have been carried out. The following paragraphs are summaries of analyses for two investments.

- For three possible energy savings investments, the payback periods varied between 13 and 29 months, making them all financially viable investments. The one with the shortest payback period is superior to the others, and will be financed first.

- Ruiru had approached the Kenya Pooled Water Fund (KPWF) seeking funding of about US$8 million for proposed water supply and sanitation investments. KPWF declined to finance the proposed investment because they would not generate adequate returns to repay the loan under KPWF lending terms. The financial model, laid out in Annex 5, shows that the proposed investments would generate adequate returns if they were financed with a mix of KPWF and WSDP funds, which come with more favorable lending terms. However, it must be noted that this is only an example to show the potential of mixing WSDP and KPWF funds.

B. Technical

70. The project will finance rehabilitation and construction of water distribution and sanitation systems, involving, among others, the rehabilitation and construction of wastewater treatment plants, sewerage systems, and septic sludge treatment facilities in urban areas; extension of parts of the bulk water system that serves more than one county and the operation of the system. It will also finance development of new water sources and rehabilitation of existing sources, rehabilitation and construction of distribution systems, and construction of new sanitation facilities in Wajir town and in the communities near the Dadaab refugee camp in Garissa County. The project will provide TA for strengthening the various implementing agencies to enable them to fulfill their responsibilities. It will also finance the start-up costs for the Garissa WSP to establish and begin operations of a regional office in Dadaab. All designs will follow Kenyan design standards which are consistent with appropriate international standards. The construction and rehabilitation of water supply and sanitation systems together with TA and capacity-building support is appropriate, as the objective is to reduce NRW, increase water supplies to consumers, and improve environmental sanitation. The expansion of the water supply and sanitation systems will lead to increased access to services and higher revenues to sustain the services.

[11] On average, most of the water points rely on generators only for production.

71. The proposed investments at the coast are based on masterplans defining the priority investments, feasibility studies, and detailed designs. The investments in the northeastern counties will be informed by a detailed study of the potential water sources in the area and benefits and costs of various options. This approach has proven to be effective in Kenya and in other countries at similar levels to Kenya's institutional and economic development. The designs of the water supply and wastewater systems supported under the project will be similar to those already being implemented in Kenya by the WSBs, the WSPs, and the Government in urban centers. Moreover, the project's design conforms to international standards by systemically strengthening institutions at both the central and local levels of government and in the water and sanitation sector. It also conforms to international standards by combining institutional reforms and capacity building with finance for investment.

C. Financial Management

72. The World Bank's FM team conducted an FM assessment of all the identified implementing entities, including Mombasa, Kwale, Taita Taveta, Kilifi, Wajir, and Garissa Counties and their WSPs, CWSB, WASREB, and the MWI. The objective of the FM assessment was to determine whether the implementing entities financial arrangements (a) are capable of correctly and completely recording all transactions and balances relating to the project; (b) facilitate the preparation of regular, accurate, reliable, and timely financial statements; (c) safeguard the project's entity assets; and (d) are subject to auditing arrangements acceptable to the World Bank. The assessment complied with the Financial Management Manual for World Bank-Financed Investment Operations that became effective on March 1, 2010 (retrofitted on February 4, 2015). The assessment covered the six FM elements of budgeting, funds flows, accounting, internal controls, financial reporting, and auditing. The overall residual FM risk is, therefore, assessed as substantial mainly because of the complexity of the project and capacity challenges of some of the WSPs that will be implementing the project. Details of the assessment are included in Annex 3.

73. The MWI is assessed as having adequate FM capacity and has no outstanding audit reports with the World Bank project (KWSCRP) which it is currently implementing. The audit report for the financial year ending on June 30, 2016, was qualified for the KWSCRP. The MWI is addressing the qualification issues. WASREB and the CWSB have been assessed as having adequate FM capacity. The CWSB is already implementing the World Bank-financed WaSSIP.

74. The FM review of the counties and WSPs identified inadequacies in the FM arrangements, including qualified audit reports and inadequate staff capacity. It is expected that the World Bank-financed Kenya Devolution Support Project (P149129) will provide support to address the inadequacies. At the county level, the department of water will implement activities under the guidance of the county executive committee member for water. The county governments are legal entities and accounting units and will be accountable for the funds and compliance. The county treasury will be responsible for the FM arrangements at the county level, including disbursement of funds to the WSPs (as appropriate), monitoring use of funds, and accounting for disbursed funds.

75. The project will adopt the statements of expenditure method of disbursement. Two Designated Accounts (DAs) in Euros will be opened by the NT at the Central Bank of Kenya

(CBK): one for county activities (DA-A) and the other for all other activities (DA-B) at the national level (for MWI, WASREB, and WSB) activities.

- For the county-level activities, funds will be disbursed to the counties, upon request by the MWI,[12] from the DAs to a segregated county special purpose account at the CBK through the exchequer account and county revenue fund.[13] From the county special purpose account, the funds will be disbursed to existing project accounts for the WSPs to cover expenditures for water supply and sanitation. Expenditures for stormwater management or for any other activities that counties implement directly (not through the WSPs) will be covered by the county from the county special purpose account. The counties will have the option of opening accounts for expenditures at the county level or incur expenditures directly from the special purpose account.

- For national-level activities, funds will be disbursed from the DA-B to a project account in Kenya shillings which will be opened by the MWI at the CBK from which payment will be made for the MWI activities. For WASREB and WSB activities, funds will be disbursed from the DA-B to a project account in Kenya shillings which will be opened by WASREB or the respective WSB at a commercial bank acceptable to IDA from which payment will be made. The DAs will be replenished on the basis of a withdrawal application (WA) submitted to the World Bank by the MWI through the NT.

76. Three key issues need to be fast tracked:

- The WSDP allocations to counties should be factored in the County Revenue Allocation Act to facilitate the transfer of allocation made to counties from a consolidated account to a county revenue fund.

- A project implementation manual (PIM) has been prepared and approved by the World Bank which includes an FM manual. The PIM is a living document that will be updated from time to time as the project evolves.

- An FM specialist should be deployed to the MWI PCU according to the terms of reference prepared by the MWI and cleared with the World Bank.

D. Procurement

77. A procurement capacity assessment of the proposed project implementing agencies was carried out. The agencies being assessed include counties and their WSPs. The assessment reviewed the organizational structure for implementing the project, functions, staff skills and experiences, adequacy for implementing the project, and the interaction between the project's staff responsible for the procurement and the relevant government agencies. Based on the assessment

[12] This is agreed mechanism between the national government and counties for donor funds.

[13] Each county will have one county special purpose account. The chief officer for water and the chief officer for finance will be co-signatories for the account. The county special purpose account will avoid co-mingling of project funds in the county operating accounts and minimize risk of project funds being used on non-project activities at the county level.

undertaken, it is noted that the agencies have established functioning procurement units and the capacity of these units varies from one county/WSP to another. However, there is a need for strengthening and capacity building. Procurement in the counties is faced with some challenges identified during the World Bank's capacity assessment and appropriate mitigation measures to address these inadequacies are included in the project design.

78. Based on the assessment, the overall unmitigated risk for procurement is Substantial. Proposed risk mitigation measures include (a) providing intensive customized procurement training to relevant staff in counties and water companies on World Bank procurement procedures and contract management; (b) preparing a realistic procurement plan which could include detailed activity time lines tied to disbursement and status of implementation/delivery particularly for monitoring purposes; and (c) establishing and maintaining a record keeping and filing system on contract-by-contract basis. A detailed procurement assessment and the mitigation measures are included in Annex 3.

79. Procurement under the WSDP will be carried out in accordance with the World Bank's 'Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers' dated January 2011, revised July 2014, and 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers' dated January 2011, revised July 2014, and the provisions stipulated in the Financing Agreements. In addition, the project will carry out implementation in accordance with the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants' (the Anticorruption Guidelines) dated October 15, 2006 and revised in January 2011 and July 1, 2016 and the provisions stipulated in the Financing Agreements.

E. Environment and Social (including Safeguards)

80. **The project is assigned an Environmental Category B, on the assumption that subprojects may result in potential adverse environmental and social impacts that are reversible, temporary in nature and scope, and can be easily and cost-effectively mitigated**. It is also assumed that impacts may be site-specific and may not affect an area broader than the sites or facilities of the physical works. The project triggers safeguards policies on Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Physical Cultural Resources (OP/BP 4.11), Involuntary Resettlement (OP/BP 4.12), Safety of Dams (OP/BP 4.37), International Waterways (OP/BP 7.50), and Indigenous Peoples (known as vulnerable and marginalized groups (VMGs) in Kenya) (OP/BP 4.10). The potential subprojects include rehabilitation, expansion, and development of water supply systems, rehabilitation of a wastewater treatment plant, and construction of sanitation and sewerage infrastructure.

81. **As most of the locations/sites of the subprojects have not yet been identified, the client has focused on preparing framework documents in a consultative manner**. These include (a) an Environmental and Social Management Framework (ESMF) to ensure that a process of identifying, assessing, and mitigating environmental and social impacts is integrated in the development of the specific subprojects; (b) a Resettlement Policy Framework (RPF) to clarify the principles and legal and institutional procedures for resettlement and rehabilitation to be applied to investments; and (c) Social Assessments (SAs), specifically for Wajir and Garissa counties, to

ensure that the project interventions benefit as well as avoid any potential adverse effects on VMGs. The majority of project beneficiaries in Wajir and Garissa Counties are ethnic Somalis who qualify as VMGs, and therefore, the criteria for OP 4.10 is met. According to the requirements of the policy, when indigenous peoples are the sole or the overwhelming majority of direct project beneficiaries it is not required to prepare an Indigenous Peoples Plan (IPP). However, SAs need to be prepared, consulted upon, and disclosed. The elements of an IPP should be included in the overall project design. The ESMF, RPF, and SAs have been prepared in accordance with the World Bank's Operational Policy on Safeguards and the requirements of the Kenya National Environment Management Authority and National Land Commission. These documents have been consulted upon, approved by the World Bank and disclosed in February 2017 in-country and on the World Bank's external website. The recommendations of the SAs are summarized in Annex 3 and they will inform the technical studies and designs being conducted by the client.

82. **Four subprojects have been identified for immediate urgent works.** These are (a) rehabilitation and expansion of the Mombasa Lot 2B pipelines; (b) Kipevu wastewater treatment plant immediate works and extension; (c) improving the existing stormwater outlets, outfalls, and combined sewer overflows in Mombasa Island; and (d) additional rehabilitation of the Baricho well field. The client has developed detailed designs for these subprojects and their sites/locations have been identified. Therefore, the client prepared site-specific safeguards instruments, which have been consulted upon and approved by the World Bank. Once the additional subprojects and their locations/sites are identified for financing under the WSDP, the client will prepare additional, supplementary site-specific safeguard instruments, including an Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plans (ESMPs) and Resettlement Action Plans (RAPs) or abbreviated RAPs, which will be consulted upon, cleared by the World Bank, and then disclosed in-county and on the World Bank's external website before commencement of any civil works.

83. **The capacity to manage safeguards issues will be built at all the agencies that will be implementing the project**. The project will be implemented at the county level through WSBs and WSPs who have been overseeing and implementing various donor-supported projects. A rapid assessment of the capacity of entities, such as the MWI, selected WSBs and WSPs, revealed acceptable and satisfactory levels of technical know-how within these entities for planning, design, and implementation of water and sanitation investments. Also, capacity to process and oversee the preparation of safeguard reports at the MWI, WSBs, and most of the WSPs has been found to be good, albeit needing enhancement, particularly in ensuring implementation of safeguard instruments and compliance with relevant national regulations and requirements such as the Environmental and Management Coordination Act (Number 8 of 1999, as amended in 2015). The capacity challenges arise from limited filled positions for environmental and social safeguard experts at the implementing agencies and the limited experience of those already in positions to satisfactorily identify risks and implement remediation measures. Under the WSDP, the client has committed to appoint or hire experienced environmental and social safeguard officers to support implementation of the safeguard instruments and monitor and enforce compliance. In addition, the WSPs will appoint or recruit safeguard experts at the county level to support implementation of the project. The project will prepare a safeguard capacity-building plan to train and expose old and new safeguard officers on various aspects of environmental and social sustainability, including national regulations and requirements, World Bank Operational Policies on Safeguards, preparation, implementation of safeguard instruments, and compliance monitoring and reporting.

This plan will be financed through the project. The World Bank will complement client internal capacity-building/strengthening efforts through the implementation support missions and other monitoring visits that will be carried out in collaboration with the client on a regular basis.

F. Citizen Engagement

84. The WSDP will build on the experience gained during implementation of WaSSIP in promoting accountability to citizens in the water and sanitation sector and formulating mechanisms for citizen feedback.[14] It will also build on the WaSSIP training provided to staff of the WSPs and WSBs on gender equality, which generated gender policies and action plans in sector institutions.[15] The following actions are proposed under the project with respect to citizen engagement and gender inclusion:

- A gender disaggregated analysis and consultations on water and sanitation issues will be undertaken in the targeted counties in the underserved northeastern region as part of understanding how the project can best provide access to improved services. The analysis will identify actions to address the issues faced by men and women in accessing water and sanitation services, with particular attention to gaps between men and women in decision making. The design of sanitation facilities to be supported under the project in Wajir and Garissa will be informed by the findings of the analysis and consultations.

- The project will support the WSPs to prepare and implement gender action plans.

- The project will review the capacity of the counties in the coastal regions and their WSPs to efficiently handle complaints. This will be done against the framework of the requirements for 'MajiVoice' the system piloted under WASSIP, which has shown its potential to enable oversight on complaint handling by the utility management.

G. Climate Mitigation and Adaption Co-benefits

85. While a full climate mitigation and adaption co-benefits assessment, including greenhouse gases, can only be carried out during project implementation when the vast majority of investments have been designed, a qualitative assessment of the climate mitigation and adaption co-benefits shows that the project will contribute to the reduction of greenhouse gas emissions and, therefore, reduce the risk of climate change. The project will also lower the current and future risks and vulnerabilities posed by climate change. The details are presented in Annex 3.

[14] See a short video clip on MajiVoice on Nairobi Water Company's YouTube channel https://www.youtube.com/watch?v=jmGkcte7TWE. See publication on MajiVoice: https://wsp.org/sites/wsp.org/files/publications/WSP-MajiVoice-New-Accountability-Tool-to-Improve-Public-Services.pdf.

[15] http://imagebank.worldbank.org/servlet/WDSContentServer/IW3P/IB/2011/11/07/000333038_20111107011654/Rendered/PDF/652790BRI0IFC00Lesson0Truly0Teaming.pdf.

H. World Bank Grievance Redress

86. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Kenya: Water and Sanitation Development Project (P156634)

Results Framework

Project Development Objective: To improve water supply and sanitation services in select coastal and northeastern regions in Kenya.

PDO Level Results Indicators	Core	Unit of Measure	Cumulative Target Values							Frequency	Data source/ methodology	Responsibility for data collection	Comments
			Baseline in 2016	2017	2018	2019	2020	2021	2022				
People in urban areas provided with access to improved water sources under the project.	X	Number	0	0	2,500	18,400	50,900	70,000	90,000	Semi-annually	Project reports on construction and operation of infrastructure. WSP data on connections.	WSPs	Coast counties, Wajir and Garissa. One household connection serves 5 people, one community water point serves 30 people, and one kiosk serves 400 people.
People provided with access to improved sanitation services under the project—urban.	X	Number	0	0	0	10,000	30,000	40,000	50,000	Semi-annually	Project reports on construction and operation of infrastructure. WSP data on connections.	WSPs	Primarily, Wajir and Garissa.

Project Development Objective: To improve water supply and sanitation services in select coastal and northeastern regions in Kenya.													
PDO Level Results Indicators	**Core**	**Unit of Measure**	**Cumulative Target Values**							**Frequency**	**Data source/ methodology**	**Responsibility for data collection**	**Comments**
			Baseline in 2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**				
People benefiting under the project from a connection to the sewage system or from improved septic sludge management.		Number	0	0	0	0	240,000	330,000	415,000	Semi-annually	Project reports on construction and operation of infrastructure. WSP data on connections.	WSPs	Coast counties and Wajir. People benefiting from improved septic sludge management are those whose sludge is taken to a sludge treatment facility. The number of people benefiting from septic sludge management will be calculated as: total dry solids divided by per capita production = number of people.
People with existing connections benefiting from more hours per week of water services.		Number	0	0	0	0	1.900,000	2,030,000	2,100,00	Semi-annually	Project reports on construction and operation of infrastructure. WSP data on	WSPs	Coast counties residents to benefit from rehabilitation of the distribution network.

Project Development Objective: To improve water supply and sanitation services in select coastal and northeastern regions in Kenya.													
PDO Level Results Indicators	**Core**	**Unit of Measure**	**Cumulative Target Values**							**Frequency**	**Data source/ methodology**	**Responsibility for data collection**	**Comments**
			Baseline in 2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**				
											connections.		
Direct project beneficiaries	X	Number	0	0	2,500	24,700	2,022,000	2,100,000	2,200,000	Semi-annually	Calculated based on the people benefitting from various interventions.	MWI to compile data from WSPs, and counties	
of which female (beneficiaries)	X	Percentage	0	0	50%	50%	50%	50%	50%	Semi-annually			

Intermediate Results Indicators	Core	Unit of Measure	Cumulative Target Values							Frequency	Data source/ methodology	Responsibility for data collection	Comments
			Baseline in 2016	2017	2018	2019	2020	2021	2022				
Component 1: Rehabilitation and expansion of urban water supply and sanitation services in the coastal region													
Piped household water connections that are benefiting from rehabilitation works undertaken under the project.		Number	0	0	0	15,000	26,000	40,0000	60,000	Semi-annually	Project reports on construction and operation of infrastructure. WSP data on connections.	WSPs	Coastal WSPs by service area.
New piped household water connections under the project.		Number	0	0	500	3,500	10,000	12,000	13,000	Semi-annually	WSP data on connections.	WSPs	
Water delivered by WSPs to customers (as reflected in water bills).		Million cubic meters per day	39.3	46.2	46.2	51.6	51.6	51.6	51.6	Semi-annually	WSP operational data	WSPs	Source development Baricho and NRW.
People provided with access to improved shared sanitation facilities under the project.[16]		Number	0	0	0	7,200	7,200	7,200	7,200	Semi-annually	WSP and county data	WSPs and counties	All coastal towns will receive at least one ablution block
Quantity of septic sludge treated in facilities supported under the project.		Tons per year (dry solids)	0	0	1,000	13,000	13,500	14,000	14,500	Semi-annually	Project reports on construction and operation of infrastructure. WSP	WSPs	0.04 cubic meters per day per person per year

[16] WSDP is financing 48 ablution blocks, with an average of eight toilets per block. Each ablution block will serve an estimated 150 people.

Intermediate Results Indicators	Core	Unit of Measure	Cumulative Target Values							Frequency	Data source/ methodology	Responsibility for data collection	Comments
			Baseline in 2016	2017	2018	2019	2020	2021	2022				
											data on services.		
Volume of biological oxygen demand pollution loads removed by treatment plants supported under the project.		Tons per year	0	0	600	900	1,400	2,100	3,100	Semi-annually	Project reports on construction and operation of infrastructure. WSP data on operations	WSPs	Kipevu wastewater treatment plant
Hours of service per week provided by coastal WSPs benefiting from the project.		Hours	15	15	15	16	16	16	16	Semi-annually	WSP data on operations	WSPs	
Non-revenue water (% of water that a service provider supplies to its distribution system that is not reflected in revenues).		Percentage	50	45	40	35	35	35	35	Semi-annually	WSP data on operations	WSPs	
Operations and maintenance costs of coastal WSPs benefiting from the project recovered from customers.		Percentage	100	100	110	110	110	120	120	Semi-annually	WSP data on operations	WSPs	
Component 2: Expansion of water supply and sanitation services in underserved northeastern counties													

Intermediate Results Indicators	Core	Unit of Measure	Cumulative Target Values							Frequency	Data source/ methodology	Responsibility for data collection	Comments
			Baseline in 2016	2017	2018	2019	2020	2021	2022				
New piped household water connections that are resulting from the project intervention.		Number	0	0	0	90	90	1,000	2,500	Semi-annually	Project reports on construction. WSP data on connections	WSPs	The targets here are highly uncertain and will be revised during the midterm review. The target is for Wajir town only.
Improved community water points constructed or rehabilitated under the project.		Number	0	0	12	12	12	12	12	Semi-annually	Project reports on construction.	WSPs	
New water supplied to northeastern WSPs under the project (m^3/day).		Number	0	0	0	0	0	3,000	3,000	Semi-annually	Project reports on construction.	WSPs	Wajir and Garissa. To be revised at midterm review.
Quantity of septic sludge treated in facilities supported under the project.		Tons per year	0	0	0	0	2,000	2,100	2,200	Semi-annually	Project reports on construction and operation of infrastructure. WSP data on services.	WSPs	Garissa and Wajir calculated as 0.04 cubic meter per person per year x population served.
Volume of biological oxygen demand pollution loads removed by treatment plants		Tons per year (dry solids)	0	0	0	0	0	1,100	1,200	Semi-annually	Project reports on construction and operation	WSPs	Will be calculated once the investment

Intermediate Results Indicators	Core	Unit of Measure	Cumulative Target Values							Frequency	Data source/ methodology	Responsibility for data collection	Comments
			Baseline in 2016	2017	2018	2019	2020	2021	2022				
supported under the project.											of infrastructure. WSP data on operations		plans are known.
Gender action plans developed and under implementation.		Number	0	0	0	1	2	3	3	Semi-annually	WSP data	WSPs	
Component 3: National performance-based financing													
Guidelines for results-based financing adopted.		Yes/No	No	Yes	Yes	Yes	Yes	Yes	Yes	Semi-annually	WASREB reports	WASREB	
Results-based financing mechanism established and operational.		Yes/No	No	Yes	Yes	Yes	Yes	Yes	Yes	Semi-annually	WASREB reports	WASREB	Operational means disbursements to utilities are being made.
Complaints handling system (MajiVoice) operational in WSPs supported under the project.		Number	0	0	0	1	1	2	2	Semi-annually	WSP data	WSPs	MOWASCO and one other.

Notes:

a. The WSDP is financing 48 ablution blocks, with an average of eight toilets per block. Each ablution block will serve an estimated 150 people.

b. Indicators and targets for access and operational and financial performance for activities to be supported under Component 3 will be introduced during implementation of the project, once it becomes clear what investments and WSPs will be supported.

Annex 2: Detailed Project Description

KENYA: Water and Sanitation Development Project

A. Project Components

1. The proposed WSDP will comprise four components, as presented in the following paragraphs.

2. **Component 1: Rehabilitation and expansion of urban water supply and sanitation services in the coastal region (US$176 million** *equivalent***, of which IDA-SUF US$160 million** *equivalent***)**

Subcomponent 1.1: Support to coastal counties (US$132 million equivalent of which IDA-SUF US$120 million equivalent)

3. This subcomponent will finance a program of activities designed to improve water supply and sanitation services in urban areas, including (a) construction and rehabilitation of water supply, sanitation, and stormwater infrastructure investments including construction or rehabilitation of offices for WSPs; and (b) capacity-building and institutional strengthening activities, including customer identification surveys, improving billing and collection systems, and NRW reduction, to support improved water and sanitation performance of the participating counties and their WSPs.

4. **This subcomponent will support counties and their WSPs that are connected to the bulk water system for the construction and rehabilitation of water distribution and sanitation systems in urban areas**. This will ensure that they can distribute the additional amount of water that the World Bank-financed Mwache Dam (the project is ongoing and the dam is at final design stage) will provide. Although the dam will only directly supply water to Mombasa and Kwale Counties, the other areas connected to the bulk water system will also receive additional water once Mwache Dam becomes operational and starts supplying water to Mombasa, because that will free up other bulk water sources currently used by Mombasa. In total about 800 kilometers of pipes will be rehabilitated, about 400 kilometers of pipes for extension will be laid. This will include Mombasa County with almost 500 kilometers of rehabilitation, 174 kilometers of extension; Kilifi County with 140 kilometers of rehabilitation, 174 kilometers of extension; Taita Taveta County with 35 kilometers of rehabilitation, 52 kilometers of extension; and Kwale County with 35 kilometers of rehabilitation, 43 kilometers of extension.

5. **In addition, this subcomponent will finance investments in sanitation infrastructure so that the additional water supplied will not increase the contamination of coastal waters, the cleanliness of which is vital for the tourism industry**. These investments will include rehabilitation and construction of wastewater treatment plants, sewerage systems, and septic sludge treatment facilities, as well as limited investments in stormwater systems.

6. **This subcomponent will also finance institutional strengthening and capacity-building activities for county governments and their WSPs.** Many counties need to align their water and sanitation regulations with their new responsibilities and need to strengthen their capacity for enforcement of the regulations. The WSDP will support these activities. Counties also need to embark on IUWM activities to improve the sustainability and climate resilience of services.

Therefore, the WSDP will finance studies and TA in areas such as energy audits, wastewater reuse, water meter maintenance, remote water meter reading, leak detection, water wastage reduction, pre-paid water supply, and the like. The TA to the WSPs will focus on measures to reduce NRW and to minimize any increase in NRW which might occur once the water flows from Mwache Dam, which will increase the pressure in the networks (see paragraph 8). Another focus of the TA will be to improve on-site and off-site sanitation services. A challenge has been insufficient revenue generation and insufficient budgeting for sanitation services, which has led to existing wastewater treatment plants, such as the one in Kipevu (Mombasa), not being fully operational. Before financing construction of additional wastewater treatment plants, the existing ones should be made fully functional with sufficient revenue to ensure their sustainable operations. The TA will help the WSPs establish separate cost accounting for water supply and sanitation (including septic sludge collection and treatment), revise tariffs to cover the true cost of sanitation services, and establish a separate budget for sustainable operation of sanitation services.

7. **Strategy for reduction of NRW in the coastal towns**. The reduction of NRW is focusing on two situations: (a) reducing NRW to an acceptable level before Mwache Dam becomes operational to mitigate the current severe shortfall of water supply; and (b) maintaining NRW at an acceptable level when Mwache Dam becomes operational. Once the water from Mwache Dam becomes available, all coastal towns on the bulk water system will have more water. This will lead to increased pressure and longer service hours, both of which contribute to an increase in physical water losses. Active leakage control is needed to ensure that the additional water reaches the customers.

8. **Zoning/district metered areas (DMA) approach to NRW reduction.** The typical approach of establishing and improving DMAs sequentially and keeping the ones established under pressure 24/7 will be followed as much as possible to avoid intermittent supply in these areas. Intermittent supply harms the network through water hammers that lead to substantial increases in NRW. Once the water from Mwache Dam becomes available, all network areas will be pressurized 24/7. Under the WSDP, zones and DMAs will be established in all network areas. This, together with the NRW reduction measures outlined below will reduce NRW and, therefore, mitigate the shortfall until Mwache Dam is operational. These measures will also strengthen the capacity in the WSPs and provide them with the tools to effectively address issues with NRW that might arise once Mwache Dam is operational.

9. **NRW reduction in Mombasa.** MOWASCO already receives support through a partnership arrangement with a large water utility from the Netherlands and also receives support for a utility turnaround program for about US$4 million under the KWSCRP. Both include activities to reduce the current levels of NRW. One of the important measures already completed was to pilot DMAs which led to significant reduction of NRW in these areas. Under the KWSCRP US$20 million is allocated to extend this approach to other areas. The WSDP will provide additional funds to establish DMAs for the entire network of Mombasa and assist the WSP in maintaining these DMAs.

10. **Under the ongoing WaSSIP, consultancies are ongoing to assist the other WSPs connected to the bulk water system to reduce NRW**. These will do the following:

- Establish water supply zoning at the sector and DMA levels

- Establish a baseline for NRW data for zones and a water audit system
- Develop a customer metering program
- Create a database for all the WSP networks
- Carry out a component analysis and calibrate a network analysis for NRW reduction and control
- Prepare for use of water balance software (to be procured under WSDP)
- Prepare performance-based NRW reduction and management contracts for the selected WSPs (to be procured under the WSDP)
- Assist in capacity building of the leak detection and repair teams
- Prepare designs for network rehabilitation and extension which will include investments in pressure management and for universal metering

Subcomponent 1.2: Support to the coast bulk water services provider (US$44 million equivalent, of which IDA-SUF US$40 million equivalent)

11. This subcomponent will finance a program of activities designed to improve the interconnected coast bulk water system, including (a) construction and rehabilitation of water mains and boreholes; (b) TA to the CWSB, including financing a management or service contract for the operation of the coast water bulk system; and (c) partial financing of ongoing construction contracts of water transmission mains from Kakuyuni to Kilifi and from Kakuyuni to Gongoni for the Baricho wellfield.

12. **This subcomponent will support CWSB in the rehabilitation and extension of parts of the bulk water system that serves more than one county and the operation of the system**. Based on the Water Act 2016, the national government (through the Coast WSB and in the future through its legal successor, the Water Services Development Agency) will remain in charge of building inter-county bulk water infrastructure. The counties of Mombasa, Kilifi, Kwale, and Taita Taveta get their water supply mainly from the interconnected bulk water system that extends across counties. The bulk water provider is responsible for selling water in bulk to the WSPs and for the O&M of the bulk infrastructure. The subcomponent will finance investments in bulk water infrastructure which will include Mwache Dam downstream bulk water infrastructure, such as two transmission mains. Additional bulk water infrastructure downstream Mwache Dam will be financed by the AFD, including the WTP. This subcomponent will also finance TA to the bulk water operator, including the continuation of the service contract that is being financed under WaSSIP, or a new management contract for the bulk water operation.

Component 2: Expansion of water supply and sanitation services in underserved northeastern counties (US$110 million equivalent, of which IDA US$37 million equivalent and IDA-SUF US$63 million equivalent)

13. This component will finance a program of activities designed to improve water supply and sanitation services in the northeastern counties such as Wajir town in Wajir County and the Dadaab refugee camp host communities in Garissa County, such program to include (a) construction and rehabilitation of water supply, sanitation, and stormwater infrastructure investments, including construction and rehabilitation of offices for the WSPs; (b) capacity-building and institutional-strengthening activities of the participating counties and the WSPs, including NRW reduction, billing and revenue collection systems, and developing and implementing a utility business plan; and (c) O&M of the water supply and sanitation services.

14. **Measures to improve access to safe drinking water in the medium and long terms differ for Wajir town and the Dadaab host communities because their water sources are different.** For Wajir town, a consultancy has been launched under WaSSIP to assess the potential of groundwater, surface water, rainwater, and other sources to provide adequate and quantity and quality water to the town. The consultants will prepare a water masterplan for Wajir town that specifies the priority investments to address the medium- and long-term needs. The consultants will also prepare the designs and specifications for the short-term interventions. For the Dadaab host communities, priority investments will be identified primarily through the ongoing study of the Merti aquifer, an important source of water for communities near the Dadaab refugee camp. The ongoing consultancy, focusing primarily on Wajir town, will also prepare a water masterplan for the Dadaab host communities and the designs and specifications for the short-term interventions. A detailed description about the different challenges in these areas and proposed short, medium, and long-term measures are presented below.

15. **Short-term interventions under this component will focus on mitigating the impacts of water scarcity and drought and recurrence of waterborne diseases, particularly of cholera**. They include treatment or chlorination of water from existing boreholes, rehabilitation of existing boreholes and equipping them with solar panels, and provision of water bowsers, plastic and collapsible tanks, and mobile water treatment units. In addition, the project will provide water meters and leak detection equipment to the WSPs to help them reduce NRW. Immediate interventions for Wajir town will include support to the Wajir cholera taskforce to review and implement the cholera control strategy and action plan.

16. **Medium and long-term solutions will be developed and implemented to improve access to safe drinking water and provide sustainable sanitation solutions that address the entire service chain, including containment, collection and transportation, treatment, reuse, and disposal**. Under the ongoing WaSSIP, two separate consultancies have been launched to prepare feasibility studies and investment plans (short, medium, and long term) for both water and sanitation in Wajir town and the Dadaab host communities. The interventions will be different for Wajir town and the Dadaab host communities as the challenges are different. For Wajir town, the potential of different water sources, including groundwater, surface water, rainwater, and other sources will be assessed. In addition, innovative sanitation solutions will be assessed to respond to the challenge of a high water table. A detailed description about the different challenges in these areas and proposed short, medium, and long-term measures are described below.

17. **Improving access to sanitation services will require innovative solutions**. Neither Wajir town nor the communities near the Dadaab refugee camp have a piped sewerage network. Wajir town requires innovative sanitation interventions to address the additional challenge of a high

water table and the mix of urban and rural densities within the town. In addition, the component will provide trucks, protective equipment, and training to people who collect waste from the bucket latrines. It will provide exhausters for septic sludge collection. It will also pilot on-site sanitation solutions, such as EcoSan toilets and others to be identified under an ongoing sanitation study to assess their acceptability for residents. Finally, the component will provide bicycles, motorbikes, and other vehicles for use by public health officers in both Wajir and Garissa Counties to roll out CLTS and other initiatives. In the medium term, the component will support the establishment of a proper system for Wajir and the Dadaab host communities for septic sludge collection, treatment, and discharge, including the construction and operation of septic sludge handling facilities. For the center of Wajir town, the project will finance wastewater collection, treatment, and disposal. Finally, the project will finance shared sanitation facilities in public areas, such as health posts, schools, orphanages, and markets in both Wajir town and in the Dadaab host communities.

18. **Component 2 will also provide TA to the counties and their WSPs to build capacity to provide water and sanitation services**. TA will focus on areas such as NRW reduction, billing and revenue collection systems, and developing and implementing a utility business plan. The component will also support activities to enable the Garissa WSP establish a regional office to serve the Dadaab host communities. Until the solar panels are installed at the boreholes (which will reduce the operating cost substantially), the project will also support the WSPs of Wajir and Garissa in financing part of their operating costs.

Area-specific Challenges and Status of Water and Sanitation Services

Wajir Town

Background

19. Wajir town is the main urban center and headquarters for Wajir County. According to the 2009 population census, Wajir town had a population of about 82,800 inhabitants while the total county population was about 730,000 inhabitants. The current population of Wajir town is estimated to be slightly over 100,000 inhabitants. The town is experiencing rapid population growth, with commercial developments and more people settling within the core urban center and the peri-urban areas perhaps due to infrastructure development and improved service provision within the town since the establishment of the county government.

Water and sanitation services

Status of water supply

20. Wajir is a water deficient county with no perennial rivers. The average annual rainfall recorded in Wajir town (1967 to 2003) is 372.8 millimeters at an average yearly total of 30.4 rainy days.[17] The current water demand for Wajir town is estimated at 8,000 cubic meters per day and is expected to double in the next 20 years. This includes demand for livestock which is a huge consumer of water. The main source of water for Wajir town is groundwater from a shallow aquifer as low as five meters below the ground. The majority of the town's population has shallow hand-dug wells within their compounds from where they draw water through simple systems like

[17] Wajir/Habaswein Water Supply Project, Final Design Report. Ministry of Water and Irrigation (2012).

containers attached to ropes. Wajir town has an estimated 20,000 shallow wells scattered in the entire town, of which only about 1,235 are protected and about 10 percent have dried up. Water from these shallow wells is saline and has also shown bacteriological contamination due to lack of a proper sanitation system for the town. As a result, there are frequent cholera outbreaks, particularly during the rainy seasons.

21. Currently, the town has a small water supply and distribution system comprising two boreholes, two shallow wells, some elevated storage tanks, and about five kilometers of distribution pipelines. However, only one borehole and one shallow well are currently operational. The water is treated through chlorination inside the boreholes before distribution. The WSP also delivers water from the wells using water bowsers to some outpost centers. A few institutions have their own boreholes.

Status of sanitation services

22. Wajir County has very low coverage of basic sanitation services, well below the national average. About 83 percent of the county's residents defecate in the open, and none of the county's 127 villages has been certified to be open-defecation free.[18] Poor sanitation—high rates of open defecation and poor personal hygiene, including lack of handwashing with soap—has continuously exposed the communities in Wajir to waterborne diseases. The 2014 Sanitation Benchmarking Report ranked Wajir 44 of 47 counties on sanitation performance, with stunting rates for children under five at 50.7 percent.

23. In Wajir town, about 5 percent of the residents depend on septic tanks, 20 percent use bucket latrines, and 75 percent defecate in the open.[19] The bucket latrine system, introduced by the colonial government to avoid contamination of the shallow aquifer, has, over time, been poorly managed. As the population has increased in Wajir town and its surrounding environs, the bucket system and its management has continued to deteriorate. Poor sludge emptying practices by usually inadequately trained or entirely untrained personnel, who lack proper protective gear, has contributed to increased outbreaks of acute watery diarrhea in the county. For example, between July and December 2015, Wajir County reported 2,000 cases of cholera, with more than 30 deaths.[20] A report conducted at the time pointed at the use and emptying of latrine buckets as one of the key sources of contamination of drinking water. About 95 percent of the septic sludge is not contained and the remaining 5 percent is not delivered to treatment.

24. Wajir County also lacks coordination mechanisms for water, sanitation, and hygiene activities, including lack of an emergency control strategy. A strong, all-inclusive coordination mechanism is critical, especially for a county that is prone to cholera and other acute water disease outbreaks. Similar to other counties in the northeastern part of the country, Wajir faces logistical challenges in implementing and monitoring sanitation programs, given that its population is dispersed over a large territory.

[18] Kenya Rapid (Resilient Arid Lands Partnership for Integrated Development) Baseline Survey Report. Millennium Water Alliance (June 2016).
[19] Wajir Town Sewerage Project, Final Design Report. Ministry of Water and Irrigation (2009).
[20] Technical Report on Wajir Cholera Outbreak Response. Ministry of Health (2015).

25. In 2009, the MWI initiated a sewerage project intended to mainly cover the central business district of Wajir town. The project consisted of construction of trunk sewers, a pumping station, and waste stabilization ponds with a capacity of 9,000 cubic meters per day. The project, however, was not completed and is not operational.

Provision of water and sanitation services

26. In 2013, Wajir County established and registered a limited liability company, WAJWASCO, with the mandate of providing water and sanitation services to the county. Although the WSP is responsible for the whole county, currently it is only managing the small water distribution scheme in Wajir town and about ten small water supply schemes. WAJWASCO has approximately 50 water connections in Wajir town (48 households and two institutions) with an average tariff of KSh 100 per cubic meter. Sanitation is still largely managed by the county through provision of septic sludge and bucket latrine waste collection and disposal, although the county intends to eventually handover full responsibility for water and sanitation services to the WSP. Both billing and revenue collection are done manually. Although, this is sufficient for the current scheme, an increase in the number of connections would require investment in a more efficient billing system.

Dadaab refugee camp host communities in Garissa County

Background

27. Garissa County hosts a refugee population of a total of 343,000 refugees in five camps in Dadaab subcounty. These are Dagahaley, Ifo, Ifo 2, Hagadera, and Kambioos. Kenyan law requires refugees to reside in a camp, and their movements outside the camp are heavily restricted. About 160,000 people have settled within a 50 kilometers radius of the five refugee camps (here called the Dadaab host communities). Of this, about 60,000 inhabitants live in and around the town of Dadaab, where the main office of UNHCR is located. The WSDP will focus on improving water and sanitation services for the communities living in Dadaab town and in settlements within the immediate vicinity of the camps.

28. Due to the presence of the refugees, Dadaab town hosts numerous United Nation agencies and nongovernmental organizations. These include UNHCR, UNICEF, Lutheran World Federation, Care Kenya, Danish Refugee Council, the German Society for International Collaboration, National Council of Churches in Kenya, and Oxfam Handicap. UNHCR manages the provision of basic services at the refugee camps. However, Garissa County is responsible for providing basic services, including water and sanitation, to the Dadaab host communities.

29. The Government of Kenya has expressed its intent to close down the Dadaab refugee camp. A tripartite agreement between the Government of Kenya, UNHCR, and the Government of Somalia was signed to facilitate the repatriation of the refugees. However, the Government is not forcibly repatriating people, and is instead encouraging people to move through provision of a package of assistance. The Government recently extended the closing date from November 2016 to May 2017. Some of the infrastructure in the refugee camps is expected to be used by the host communities once the camps are closed.

Water and sanitation services

Status of water supply

30. The main source of water for the residents of Dadaab for both the host communities and the refugee camps is groundwater from the Merti aquifer. There are about 56 boreholes supplying water to the host communities. There is concern that the Merti aquifer is becoming depleted in the vicinity of Dadaab area, although the status is not clear. A study of the Merti aquifer is currently under way under WaSSIP, which will assess the entire aquifer and develop a plan for its development, monitoring, protection, and overall sustainable management. Other sources of water for the host communities include rainwater collected in about 30 water pans and occasionally collected through roof catchment.

31. Current water systems for the host communities comprise boreholes, pumps, ground masonry or elevated steel tanks, and some small reticulation networks and water kiosks. Most of the infrastructure is dilapidated and is in dire need of rehabilitation and expansion.

Status of sanitation services

32. Garissa County has very low sanitation coverage. About 77 percent of the county's residents defecate in the open, and no single village has been certified as open defecation free.[21] The 2014 Sanitation Benchmarking report put the stunting rate in Garissa at approximately 50 percent. Although sanitation statistics do not exist for Dadaab and Fafi subcounties as the host communities of the refugee camps, county officials estimate that about 30 percent of residents have access to latrines while 70 percent defecate in the open. Sanitation-related disease outbreaks often spread across the refugee camps and the host communities, due to the frequent interactions of their residents. For example, the 2015 cholera outbreak (index case reported in camp), had 1,798 reported cases, of which 719 cases were from the host communities.[22]

33. Although many counties in Kenya have benefited from the Ministry of Health's CLTS approach (5,303 villages had been declared open-defecation free by November 2016), Garissa County has not, due mainly to limited capacity and resources, been able to implement the CLTS and other sanitation promotion approaches. The CLTS program is yet to be introduced in Dadaab and Fafi subcounties.

Interventions to Be Supported under component

34. **Details of the proposed short-, medium-, and long-term activities for Wajir town and Dadaab town and host communities to be supported under Component 2 are presented in Table 2.1**.

[21] Kenya Rapid (Resilient Arid Lands Partnership for Integrated Development) Baseline Survey Report, Millennium Water Alliance (June 2016); Ministry of Heath/UNICEF 2015.

[22] County public health officer, Garissa.

Table 2.1: Proposed Water and Sanitation Activities under Component 2

Wajir Town		
	Short-term Interventions	**Medium and Long-term Interventions**
Water supply	• Treatment or chlorination of water from existing boreholes • Rehabilitation of existing boreholes and equipping them with solar panels • Provision of water bowsers, plastic tanks, and collapsible tanks • Provision of mobile water treatment units • Provision of water meters and leak detection equipment to Wajir WSP to help in reduction of NRW	• Development of additional water sources (to be determined by the masterplan recommendation) • Water treatment, transmission, storage, and distribution infrastructure development
Sanitation	• Pilot different on-site sanitation solutions such as EcoSan toilets and others to be identified under the ongoing sanitation study to assess their acceptability for residents • Support for the Wajir cholera taskforce to implement the cholera control strategy including: o Regular water quality surveillance o Monitoring of environmental health activities o Strengthening of county coordination structures o Continuous community hygiene education • Provision of trucks, protective equipment, and training to bucket latrines waste collectors • Provision of exhausters for septic sludge collection • Provision of bicycles, motorbikes, and other vehicles for use by public health officers for sanitation initiatives • Training of county public health officers and community resource persons on sanitation approaches, including CLTS and sanitation marketing	• Establishment of a proper system for septic sludge management (containment, collection and transportation, treatment, reuse, and disposal) • Construction and operation of septic sludge treatment facilities • Development of a sewerage system and wastewater treatment plant for Wajir town central business district • Construction of shared sanitation facilities in public areas, for example at health posts, schools, orphanages, and markets • Technical support for initiation of CLTS and follow-up activities at the village and household levels • Technical support for design and implementation of behavior change communication campaigns
TA and capacity strengthening	• Training of county water department and the WSP staff • Provision of a budget for operations until solar panels are installed at boreholes which will substantially reduce the operation costs • Conducting a tariff study • Consultancy for a utility turnaround program	• Technical support to Wajir County to develop relevant water and sanitation services policies and regulations • Technical support to Wajir WSP for improvement of their operations (NRW reduction, billing and revenue collection, and the like) based on the utility turnaround program

Dadaab Town and Host Communities		
	Short-term Interventions	**Medium and Long-term Interventions**
Water supply	• Treatment or chlorination of water from existing boreholes • Rehabilitation of existing boreholes and equipping them with solar panels • Provision of water bowsers, plastic, and collapsible tanks • Provision of mobile water treatment units • Training of water user associations on management of community water schemes • Provision of water meters and leak detection equipment to Garissa WSP to help in reduction of NRW • Support Garissa WSP to establish Dadaab regional office	• Drilling and equipping of new boreholes with solar panels/hybrid systems • Establishing a water quality control program and introduce water treatment (chlorination) where necessary • Construction of additional water kiosks • Construction of additional water storage tanks • Construction of water reticulation systems • Construction of animal water troughs
Sanitation	• Provision of exhausters for septic sludge collection • Pilot different on-site sanitation solutions based on the experience of United Nations-supported on-site solution inside the refugee camps to be identified under the ongoing sanitation study to assess their acceptability for residents • Provision of bicycles, motorbikes, and other vehicles for use by public health officers for sanitation initiatives • Consultancy on socio-cultural determinants of sanitation behavior (basis for behavior change campaigns) • Training of county public health officers and community resource persons on sanitation approaches, including CLTS and sanitation marketing	• Establishment of a proper system for septic sludge management (containment, collection and transportation, treatment, reuse and disposal) • Construction and operation of septic sludge handling facilities • Construction of shared sanitation facilities in public areas, for example at health posts, schools, orphanages, and markets • Technical support for initiation of CLTS and follow up activities at the village and household level • Technical support for design and implementation of behavior change communication campaigns • Support for establishment and capacity building of a county third-party certification team for open-defecation free certification
TA and capacity strengthening	• Support to Garissa WSP to establish and operate a regional office to serve the Dadaab host communities • Training of county water department and WSP staff • Provision of a budget for operations until solar panels at boreholes are installed which will significantly reduce the operation costs • Conducting a tariff study for the entire Garissa service area • Consultancy for a utility turnaround program for the Garissa WSP	• Technical support to Garissa WSP for improvement of their operations (NRW reduction, billing and revenue collection, and the like) based on the utility turnaround program • Technical support to Garissa County to develop relevant water and sanitation services policies and regulations

Component 3: National performance-based financing (US$40.7 million equivalent, of which IDA-SUF US$37 million equivalent)

Subcomponent 3.1: Support for water and sanitation infrastructure investments and services (US$38.5 million equivalent of which IDA-SUF US$35 million equivalent)

35. This subcomponent will finance a program of activities designed to support the preparation and implementation of the National PBF for participating counties, WSBs, and WSPs, including (a) construction of new or rehabilitation of existing water and sanitation infrastructure; (b) support towards the preparation of applications, final designs, bidding documents and construction supervision; and (c) technical assistance for improving water and sanitation services, and M&E.

Subcomponent 3.2: Technical assistance for national performance-based financing (US$2.2 million equivalent of which IDA-SUF US$2 million equivalent)

36. This subcomponent will finance a program of activities designed to strengthen the capacity of WASREB for management, implementation and coordination, and M&E of the National PBF, including (a) evaluation of proposals (to identify high-return investments and activities); (b) establishment and implementation of a comprehensive M&E system; (c) and provision of training to participating county governments, WSBs, and WSPs involved in implementation of subcomponent 3.1 on issues such as implementation of safeguard policies, procurement, and FM.

Context

37. The Kenya Water Act (2002) and the 2010 constitution has introduced important reforms in the Water Supply and Sanitation (water and sanitation services) sector, including establishment of commercially oriented WSPs responsible for service delivery and cost-reflective tariffs through an independent WASREB tasked with reviewing and approving tariff applications and monitoring and reporting on sector performance. Also, the Water Act 2016, recently approved by the Parliament and the Senate and signed by the President, now awaiting implementation, intends to bring the water legislation in line with the constitution and further clarify the roles of the two levels of government and the water and sanitation services institutions. However, there has been limited progress in achieving Vision 2030 of universal coverage, with provision of urban water and sanitation services not keeping pace with Kenya's high urbanization rates. The water coverage in urban areas is 82 percent and sewerage coverage is about 31 percent. The status of water and sanitation services vary widely across counties and WSPs, with challenges both in improving coverage as well as in achieving operational and financial sustainability. More than half of the WSPs do not meet their operational costs and NRW presents a huge challenge, ranging from 40 percent to 60 percent across the counties. Thus, achieving the SDG of universal access to water supply and sanitation will require strong institutions, huge investments, tapping different sources of financing, and improving operational efficiencies.

38. **WASREB has identified a cluster of indicators for improving water and sanitation services**. These are (a) quality of services (improving coverage of water supply and sanitation services, drinking water quality, and hours of supply); (b) economic efficiency (reducing staff costs, improving cost coverage, and improving revenue collection efficiency); and (c) operational sustainability (reducing NRW, improving staff productivity, and improving metering ratio).

Supporting WASREB's initiatives, the PBF will encourage the WSPs to improve access to water and sanitation services and improve the operational and financial performance of the WSPs, based on an agreed set of performance measures. In addition, the PBF will encourage counties to design and implement programs and policies to improve water resource management (for example, promoting IUWM programs such as rainwater catchment, wastewater recycling, demand-side management, and the like).

Priority areas of focus: Three windows of financing

39. Focusing on the current challenges in the sector, there are three windows of financing under the PBF component. The WSPs, counties, and WSBs can apply under any one or more of the windows, as described below.[23] The interested sector agencies can leverage other funds, including commercial financing or other donor funds, in combination with the funds allocated through this component. The blend of funds (PBF under the WSDP and commercial or other borrowings) can support rapid achievement of the sector targets along with improving service delivery.

(a) Improving access to water and sanitation services (sewerage and fecal sludge management). This includes the expansion of water supply and sanitation services by construction of new or rehabilitation of existing water supply/sanitation infrastructure.

(i) Improving water supply services includes:

- Network extensions to connect new customers to water services, including household water points and kiosks;
- Water source augmentation, treatment, and distribution works; and
- Source protection.

(ii) Improving sewerage services and fecal sludge management includes:

- Network extension to connect new customers to sewer services; and
- Sewerage and septic sludge treatment augmentation, including decentralised treatment facilities.

(b) Reducing NRW. NRW reduction to address physical and commercial losses, according to WASREB NRW management standards.

(c) Improving revenue and/or reducing costs of supply. Proposed interventions for improving revenue will ensure that all connections are metered, with volumetric tariffs. The proposals will include the improvement of:

- Customer database through customer identification survey and standard computerized systems;
- Billing and collection efficiency; and

[23] Individual WSPs can submit their proposals, duly approved by their respective county. However, in case there is a joint proposal by two or more WSPs, the county will be responsible for preparing and submitting the proposal.

- Collection of revenue from informal settlements.

40. The proposals will include programs to manage capital expenditures and/or reduce costs of O&M through various measures, including

- Adoption of energy-efficient pumps through energy audits;
- Reduction of staff costs; and
- Use of appropriate technology.

41. The abovementioned three priority areas and windows of financing will be reviewed by WASREB and the World Bank during implementation and adjusted, if needed.

PBF subcomponents

42. The PBF component will comprise the following two subcomponents:

- **Subcomponent 3.1: Support for water and sanitation infrastructure investments (US$38.5 million equivalent of which IDA-SUF US$35 million equivalent).** This subcomponent will finance a program of activities designed to support the preparation and implementation of the national performance-based financing (PBF) for participating counties, WSBs, and WSPs, including (a) construction of new or rehabilitation of existing water and sanitation infrastructure; (b) support toward the preparation of applications, final designs, bidding documents, and construction supervision; and (c) TA for improving water and sanitation services, and monitoring and evaluation (M&E).

- **Subcomponent 3.2: Technical assistance for performance-based financing (US$2.2 million equivalent of which IDA-SUF US$2 million equivalent).** This subcomponent will finance a program of activities designed to strengthen WASREB's capacity for management, implementation and coordination, and M&E of the National PBF, including (a) evaluation of proposals (to identify high-return investments and activities); (b) establishment and implementation of a comprehensive M&E system; (c) provision of training to the participating county governments, WSBs and WSPs involved in implementation of subcomponent 3.1 on issues such as implementation of safeguards, procurement, and FM.

43. Based on the proposals accepted by WASREB, the baseline will be established for the proposed indicators and targets agreed with the selected agencies. The PBF will support the following, building on good practices in the water and sanitation services sector:

- **Promoting cost efficient investments.** The PBF will award proposals which support cost efficient investments, reflecting the maximum output that can be achieved per dollar invested. WASREB will carry out due diligence for selecting the most cost efficient proposals for financing under this component. This is reflected under the selection criteria presented below.

- **Incentivizing performance improvements**. The PBF component is designed to encourage both the expansion of access to services and improvements in delivery of services, and thereby support the Government in achieving its 2030 water and sanitation services targets.

- **Leveraging additional funds.** The interested sector agencies can leverage other funds, including commercial financing or other donor funds or both, in combination with the funds allocated through this component. The blend of funds (PBF under the WSDP and commercial or other borrowing) can support rapid achievement of the sector targets along with improving service delivery. For example, Ruiru WSP can avail funds from the KPWF (bond facility under preparation)[24] only if its proposal for water and sanitation services is financially viable. The 'viability gap funding' can be achieved through this PBF component.

44. The WSPs will have to provide evidence that at least 80 percent of the performance targets have been achieved. WASREB will carry out an independent verification of results achieved.

Project eligibility criteria

45. The following eligibility criteria apply to the WSPs and counties.

WSP and counties eligibility criteria

46. The WSPs must meet the following criteria:

(a) Legal status: The WSP should hold a valid license.

(b) Robust performance of the WSP

- The WSP has recorded positive and/or improving cash flow over recent financial years.

(c) Governance and management capacity

- The WSP and county meet corporate governance guidelines set by the regulator.

- The WSP management, Board of Directors, and counties support the WSP borrowing and participation in the PBF fund.

[24] Over the last year the World Bank's Water Global Practice has been working with the Dutch Government and the Government of Kenya to explore the possibility of establishing a privately financed pooled water bond. In 2007, over 30 WSPs and community-based organizations secured commercial finance from KRep Bank and in 2010 five additional commercial banks started providing longer-term financing to the WSPs. The pooled bond facility is an important next step in that it will tap longer-term resources from pension funds and insurance companies. By pooling risk, the intention is to increase the volume of commercial financing available, extend the tenor, make more efficient use of credit enhancements, and encourage a larger pool of WSPs to explore commercial financing. Design work on the pooled fund is continuing with a tentative offering being explored for the fourth quarter of fiscal 2017.

- Management of the WSP has sufficient technical and financial capabilities including project management skills (successful completion of projects funded under the Water Services Trust Fund is a good indicator).

(d) Cost recovery tariff

- The WSPs are charging connection fees and consumer tariffs approved by the regulator.
- Tariff levels are adequate to cover O&M costs, maintain existing assets, and meet debt obligations.
- If a tariff increase is required during the life of the loan, as indicated in the financial model, the WSP will capture this intention in the business plan and financial projections.

Proposal eligibility criteria

47. **Proposals must fit under one of the three windows identified as priority areas and need to demonstrate sustainability**. They must fulfil the following criteria:

(a) **Expansion of water supply services**.

- The proposed intervention must be source sustainable.
- The technical design should sustain the proposed intervention.
- The financial analysis should demonstrate sustainability of the proposed project.

(b) **Expansion of sanitation including sewerage and fecal management.**

- The technical design should reflect a cost-effective system (conventional versus decentralized versus on-site systems).
- The proposal should include the introduction of 'ring-fenced sewerage accounts' for cost accounting.
- The proposal should include the introduction of cost-reflective sanitation user charges as part of the water bill.

(c) **Reduction of NRW**. Proposal should be based on an NRW strategy addressing physical and commercial losses, according to WASREB NRW management standards. Eligible activities (among others) would be improvements in customer database and billing and collection efficiency, performance-based NRW reduction contracts, and works contracts to establish DMAs, and the like.

(d) **Improving revenue and/or reducing costs of supply**. Eligible activities (among others) would be:

- Reducing energy used per unit of water delivered.
- Establishing metered connections.
- Introducing volumetric tariffs.
- Improving customer database through customer identification survey and/or standard computerized systems.
- Increasing billing and collection efficiency.
- Increasing revenue from informal settlements through use of "water ATMs" (water dispensers operating with prepaid cards) or other means.
- Analyzing tariffs for justifying tariff proposals.

(e) Technical feasibility.

- Technical designs and documentation for the subprojects shall be in accordance with design standards issued by the MWI.
- Effective public consultation at the feasibility stage with the necessary stakeholder groups.
- Legal due diligence report satisfactory on all the land issues as assets will be built on already identified land. Land costs will not be included in the proposal.

(f) **Financial feasibility and economic viability**.

- The proposal demonstrates the project's financial and economic viability.
- The project is capable of generating positive cash flow.
- Customers have capacity and willingness to pay for services rendered.
- The WSPs demonstrate capability to translate additional water supply and new customers from the project into augmented revenue.

Project selection criteria

48. The project selection criteria will prioritize the following:

(a) Expanding access to water supply, sewerage services, fecal sludge management: Priority will be given to projects which:

- Provide the lowest ratio between investment costs per person gaining access.
- Improve reliability of water supply (moving towards 24/7 supply).

(b) Reducing NRW: Priority will be given to projects which:

- Provide lowest ratio between investment cost and cubic meters of NRW reduced.
- Improve reliability of supply (moving towards 24/7 supply).

(c) Improving revenue and/or reducing costs of supply:

- Interventions which provide lowest ratio between investment costs per person gaining access.

Financial incentives for successful implementation of PBF activities

49. IDA will provide funding for the PBF through the IDA-SUF, on the terms the Government has selected.[25] In addition, the Government will include additional incentives for good performance. On-lending terms under this component would be attractive compared to the market commercial financing at a 15 percent interest rate payable from year two. Also, the potential revenue stream under the proposed investments could be sufficient pay back a 'blend' of the soft loans (on IDA terms) along with commercial borrowings, enabling a faster achievement of the sector targets. The financial incentive of the World Bank's actual rate of interest can then be applicable to those agencies which achieve a minimum of 80 percent of the agreed targets.

50. The PBF can gradually evolve into a sectorwide approach that is applying the PBF program to the entire water supply and sanitation sector, irrespective of sources of financing.

Independent reviews, technical, and social audits

51. WASREB will carry out independent reviews of the projects, including technical and social audits. Technical audits will be carried out to review technical aspects during implementation and post completion of projects. Social audits will be carried out to get feedback from customers on the services delivered. These reviews can be supported under the TA program.

Funding arrangements and loan repayment

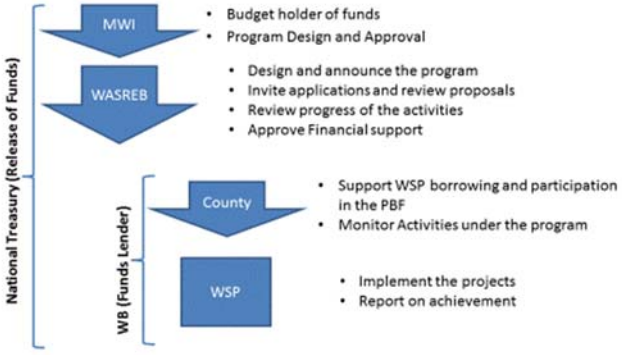
52. The funding threshold for proposals is a minimum of US$1 million under each window of financing. The commitment of funds will be 100 percent up-front, disbursed through direct payments and statements of expenditures (SoEs). The Recipients of PBF funds will have ring-fenced accounts as described in the FM section of this project appraisal document.

[25] IDA-SUF provides various options of maturity limit, amortization profile, and use of fixed or variable interest rates. These options, in the range of LIBOR + 0.67 percent to LIBOR + 1.6 percent of interest, with grace periods of 5 to 9 years and maturities between 24 and 30 years, are much more attractive compared to the market rate of interest of 15 percent to be paid back from the first or second year of taking loan.

Implementation arrangements

53. WASREB will oversee the activities under the PBF program. WASREB will be responsible for designing and announcing the program, inviting applications, and reviewing and accepting proposals for funding. However, the MWI will approve the program design and any changes. WASREB will also be responsible for reviewing progress of the activities, including approving the financial support for the accepted applications. The MWI will be the budget holder of funds under this program. Based on the applications accepted by WASREB, the MWI will request the NT to release the funds to the counties of the WSPs or directly to the WSPs. WASREB will be provided with TA under the component to conduct independent financial and technical audits of the supported activities, review the achievements of the activities, conduct training for their staff, and the like. The counties will be responsible for monitoring activities carried out under the program, including reporting progress to WASREB. WASREB will have a small program support unit for managing the PBF program, comprising its own staff and consultants. WASREB would like to hire two financial consultants and two technical consultants for supporting the management of this program.

Figure 2.1: Flow Chart on Institutional Arrangements



Processing steps

54. The WASREB processing steps are provided in Table 2.2, including sensitizing, inviting, and awarding proposals. The workshop introducing the WSPs to the PBF component was carried out on December 5, 2016.

Table 2.2: WASREB Processing Steps

Activity	Time Frame
WSP sensitization	December 5, 2016 (complete)
Advertise for proposals	December, 30 2016 (complete)
Identification of participating WSPs	End of January 2017 (complete)
TA provided to the short listed candidates	End of February 2017 (complete)
Submission of proposals to WASREB	End of April 2017
Evaluation of proposals by WASREB	End of June 2017
Award of the projects	July 2017

Readiness for PBF

55. WASREB has identified preliminary proposals to be funded under the PBF component, with a total estimated cost of US$38 million. In addition, the eligible WSPs will be identified by WASREB as up-front eligible candidates for submission of proposals under any of the three windows of financing.

Component 4: Project management *(US$3.3 million equivalent, of which IDA-SUF US$3 million equivalent).*

56. This component will finance a program of activities designed to strengthen the capacity of the Recipient for project management, implementation and coordination, and M&E, including (a) establishment and implementation of a comprehensive M&E system; (b) training of the implementing agencies and county governments on implementation of safeguards, procurement, and financial management; and (c) financing studies identified during implementation and preparation of follow-on projects as needed.

B. Financing Plan

Table 2.3: WSDP Project Costs (US$330 million)

Component 1	IDA	IDA-SUF	Government	Total
Component 1: Rehabilitation and expansion of urban water supply and sanitation services in the coastal region		**160.0**	**16.0**	**176.0**
Subcomponent 1.1: Support to the coastal counties		120.0	12.0	132.0
Subcomponent 1.2: Support to the coast bulk water services provider		40.0	4.0	44.0
Component 2: Expansion of water supply and sanitation services in underserved northeastern counties	**37.0**	**63.0**	**10.0**	**110.0**
Component 3: National performance-based financing		**37.0**	**3.7**	**40.7**
Subcomponent 3.1: Support for water and sanitation infrastructure investments and services		35.0	3.5	38.5
Subcomponent 3.2: Technical assistance for national performance-based financing		2.0	0.2	2.2
Component 4: Project management		**3.0**	**0.3**	**3.3**
Total Project Cost	**37.0**	**263.0**	**30.0**	**330.0**

57. **The NT will enter into subsidiary agreements with the CWSB and into participation agreements with the participating counties.** In turn, counties with autonomous WSPs will enter into participation agreements with them to ensure that the project funds flow directly to them to cover expenditures for water supply and sanitation services (counties with non-autonomous WSPs will not do so). The agreements will specify the amount to be allocated to each implementing agency to undertake specific activities and the terms under which counties and WSBs repay the funds to the NT (if applicable). At least one subsidiary agreement will be executed before effectiveness. Signed subsidiary or participation agreements for each implementing agency are a condition of disbursement to the entity entering into the agreement.

Annex 3: Implementation Arrangements

KENYA: Water and Sanitation Development Project

A. Project Institutional and Implementation Arrangements

1. **Overall responsibility.** The Recipient is the Government of the Republic of Kenya. The NT will be responsible for ensuring that project resources are budgeted for and released. The OAG will be responsible for auditing project accounts. The project financing will be a mix of IDA-SUF Credit and an IDA Credit to the NT. The IDA Credit will be used to support activities to mitigate the impact of the drought currently affecting Wajir and Garissa Counties, and to help the counties become more resilient in the face of future droughts.

2. **Overall implementation arrangements.** The proposed WSDP will be implemented using existing organizational structures in line with the constitution, incorporating lessons learned and experience gained in the implementation of the KWSCRP and WaSSIP. Thus, counties will implement county-specific activities, and WSBs (or their legal successors), which are owned by the national government, will implement activities that involve more than one county.

3. **A National Project Steering Committee, which will be established within six months after Project effectiveness, will provide overall project oversight, policy guidance, and approve the project's annual workplans and budgets**. The Cabinet Secretary of the MWI and the Chair of the Committee in charge of Water Affairs at the Council of Governors will co-chair the steering committee. Other members of the committee will include representatives (at the chief executive/Principal Secretary level) of the National Treasury, Ministry of Devolution and Planning, and the chief executive of the Council of Governors, governors of the participating counties and any other appropriate representatives identified and appointed by the committee. The State Department of Water Services at the MWI and the secretariat of the Council of Governors will provide joint secretariat services to the committee.

4. **A Technical Committee, which will be established within six months after Project effectiveness, will be responsible for addressing any cross-cutting technical issues and challenges in project implementation.** It will review project progress reports, financial management and audit reports, and provide technical guidance on project implementation. The Water Secretary at the MWI will chair the committee. Its members will include Chief Executive Officer of the Council of Governors, the Chief Executive Officers of the Coast and Northern Water Services Boards and of WASREB, County Executive Committee members representing in charge of water affairs, and others as appointed by the technical committee. The State Department of Water Services at the MWI will provide secretariat services to the committee.

5. **Executing agency.** The State Department of Water and Sanitation Services in the MWI is the executing agency. A PCU has been established and will be responsible for overall project management and for monitoring and reporting. The PCU is headed by a project coordinator who is reporting to the Principal Secretary through the Water Secretary. The ministry has informed the World Bank about the structure and staffing of the rest of the PCU. Given that all participating entities are procuring, implementing, and monitoring their own project activities, the PCU is lean and integrated within existing structures. The executing agency will be strengthened with teams of

consultants who will help to build the capacity of counties and their WSPs for procurement, FM, M&E, safeguards management, and utility reform.

6. **Implementing agencies.** Counties and their WSPs will be the main implementing agencies, because according to the Water Act 2016, they are responsible for all county water supply and sanitation infrastructure and services. WSBs (or their legal successors) will, in future, only be responsible for implementing inter-county activities. Therefore, the CWSB will be the implementing agency for the bulk water subcomponent under component 1, because the bulk water system runs across four counties. The WSPs will do most of the procurement, because they will be in charge of all procurement for countywide water supply and sanitation infrastructure. The counties will procure contracts to support functions that are not delegated to the WSPs, such as enforcing construction codes for septic tanks and the like. Counties will, therefore, procure small contracts (mostly TA) up to a threshold in accordance with the findings of the procurement capacity assessment for counties. The MWI and WASREB will do any procurement needed to carry out their responsibilities under the project. Each implementing agency will appoint a dedicated PCU. Table 3.1 gives an overview of the implementing agencies.

Table 3.1: WSDP Implementing Agencies

Component	Implementing Agencies
Subcomponent 1.1	• Mombasa County and MOWASCO • Kwale County and KWAWASCO • Taita Taveta County and TAVEVO • Kilifi County, KIWASCO, and MAWASCO
Subcomponent 1.2	• CWSB
Component 2	• Wajir County and WAJWASCO • Garissa County and Garissa Water and Sewerage Company
Component 3	• Various counties and their WSPs. The counties and their WSPs will only be known when WASREB has selected the investments. The selection will be done for annual programs. Therefore, the participating counties and WSPs will change during the project implementation period. • WSBs can also apply to WASREB for financing inter-County infrastructure. Therefore, it is also possible that a WSB might become an implementing agency under this component. • WASREB will implement activities related to the development and implementation of the program, but will not be engaged in any implementation of infrastructure.
Component 4	• MWI

7. **Implementation arrangements for the PBF component.** WASREB will oversee the activities under the PBF program this component is supporting. WASREB will be responsible for designing and announcing the program, inviting applications, and reviewing proposals. However, the MWI will have to approve the program design and periodic changes to it. WASREB will also be responsible for reviewing progress of the activities, including approving the financial support for the accepted applications. The MWI will be the budget holder of the funds under this component and, based on the applications accepted by WASREB, will request the NT to release the funds to the counties of the WSPs or directly to the WSBs whose application has been accepted. WASREB will receive TA under the component to conduct independent financial and technical audits of the supported activities, review the achievements of the activities, conduct training for their staff, and provide assistance for applicants to write their proposals. The counties and WSBs

will be responsible for monitoring activities carried out under the program, including reporting progress to WASREB.

B. Project Financing

8. The proposed terms of the IDA funds are as follows:

- *Component 1*: Some 75 percent of the funds for Component 1 will be onlent on IDA-SUF terms, while 25 percent will be on-granted to cover the investments in sanitation.
- *Component 2*: IDA and IDA-SUF funds will be on-granted.
- *Component 3*: IDA-SUF funds will be on-lent on the selected IDA-SUF terms and will include incentives for good performers.

C. Financial Management, Disbursements, and Procurement

Financial Management

9. The World Bank's FM team conducted an FM assessment of all the identified implementing entities including Mombasa, Kwale, Taita Taveta, Kilifi, Wajir, and Garissa Counties and their WSPs; CWSB; WASREB; and the MWI. The objective of the FM assessment was to determine whether the implementing entities' financial arrangements (a) are capable of correctly and completely recording all transactions and balances relating to the project; (b) facilitate the preparation of regular, accurate, reliable, and timely financial statements; (c) safeguard the project's entity assets; and (d) are subject to auditing arrangements acceptable to the Bank. The assessment complied with the Financial Management Manual for World Bank-Financed Investment Operations that became effective on March 1, 2010 (retrofitted on February 4, 2015). The assessment covered the six FM elements of budgeting, funds flows, accounting, internal controls, financial reporting and auditing. The overall residual FM risk is therefore assessed as substantial mainly because of the complexity of the project and capacity challenges of some of the WSPs that will be implementing the project. Details of the assessment are included below.

10. The MWI is assessed as having adequate FM capacity and has no outstanding audit reports with the World Bank-financed KWSCRP that it is currently implementing. The audit report for KWSCRP for the financial year that ended on June 30, 2016, was qualified. The MWI is addressing the issues that led to the qualified opinion. WASREB and the CWSB have been assessed as having adequate FM capacity. The CWSB is implementing the World Bank-financed WaSSIP. The audit report for WaSSIP for the financial year that ended on June 30, 2016 was qualified. The CWSB is addressing the issues.

11. The FM review of the counties and WSPs identified weaknesses in the FM arrangements including qualified audit reports and weak staff capacity. It is expected that the World Bank-financed Kenya Devolution Support Program for Results will provide support to address the weaknesses. At the county level, the department of water will implement activities under the guidance of the county executive committee member for water. The county governments are legal entities and accounting units and will be accountable for the funds and compliance. The county

treasury will be responsible for the FM arrangements at the county level, including disbursement of funds to the WSPs (as appropriate), monitoring use of funds, and accounting for disbursed funds.

12. **Overview.** The project will adopt the SoEs method of disbursement. The NT will open two DAs in U.S. dollars at the CBK: one for county activities (DA-A) and the other for all other activities (DA-B) at the national level (for the MWI, WASREB, and WSB activities).

(a) For county-level activities, funds will be disbursed to the counties, upon request by the MWI, from the DAs to a segregated county special purpose account at the CBK through the exchequer account and county revenue fund.[26] From the county special purpose account, the funds will be disbursed to existing accounts for the WSPs to cover expenditures for water supply and sanitation. Expenditures for stormwater management or for any other activities that counties implement directly (not through the WSPs) will be covered by the county from the county special purpose account. The counties will have the option of opening accounts for expenditures at the county level or incur expenditures directly from the special purpose account.

(b) For national-level activities, funds will be disbursed from the DA-B to a project account in Kenya shillings, which will be opened by the MWI at the CBK from which payment will be made for the MWI activities. For the WASREB and WSB activities, funds will be disbursed from the DA-B to a project account in Kenya shillings, which will be opened by WASREB or the respective WSB at a commercial bank acceptable to IDA from which payment will be made. The DAs will be replenished on the basis of a WA submitted to the World Bank by the ministry through the NT.

Detailed FM Arrangements

Planning and Budgeting

13. Budgeting will follow the Government of Kenya budgeting procedures. The MWI will budget for funds destined to the counties as conditional grants, transfers to the counties, and funds for use at the national level. The county allocations should also be factored in the County Allocation Revenue Act to facilitate the transfer of allocation made to counties from the consolidated account to the county revenue fund.

14. Counties will budget for the project funds as conditional grants revenue from the national government. This will constitute funds for the WSP and the respective county. The project budgets will be included as part of the county budget by the respective county treasuries and approved by the respective county assembly. Each county will be responsible for the preparation of its own annual work program and will incorporate an annual work program for the respective WSP.

15. For the coastal WSPs that operate independently of the county, the internal budgetary process involves user departments submitting their proposed budgets for consolidation to the

[26] Each county will have one county special purpose account. The chief officer for water and the chief officer for finance will be cosignatories for the account. The county special purpose account will avoid comingling of project funds in the county operating accounts and minimize the risk of the project funds being used on non-project activities at the county level.

finance manager. The budget has to comply with tariffs set by WASREB, that is 30 percent for staff, 30 percent for operations, 30 percent for investment, and 10 percent for administrative costs. The previous year's budget is used as a basis for departmental ceilings. The budget is discussed by heads of departments before being submitted to the finance committee for further deliberation and approval. The budget is then forwarded to the full board of the WSP for approval. The approved budget is shared with WASREB and the county. WASREB gives its final review and amendments. The budget is then submitted to the county administration for information and at times for action where policy issues are concerned. For the northeastern counties, the WSPs are not independent of the county. Their budget process is, therefore, different. The process starts with a letter from the county chief officer for finance to the managing director of the WSP asking the WSP to start budgeting. The economic planning unit of the county provides the template for budgeting. The managing director and accountant consolidate the budget from the various user departments. This is forwarded to the county budget committee and the process then follows the county budgetary procedures as laid down in the public FM regulations.

16. The MWI will be the budget holder of funds under this program. It will request the NT to release funds to the counties for the use of the counties and WSPs. For Component 3, this will be based on WASREB's notification of whose proposal has been accepted for funding.

Accounting

17. At the national level, the MWI will maintain an adequate accounting system using the integrated FM information system in addition to manual records for the project, such as cashbooks, bank reconciliations, and imprest registers. The MWI has a qualified and experienced head of accounting unit and a chief finance officer. However, due to the size and design of the project, the MWI will be required to deploy/designate a dedicated FM specialist for the project on the basis of terms of reference prepared by the national PCU and cleared by the World Bank. This FM specialist will work closely with the county and the WSP deployed project accountants and offer financial support to them as required.

18. Similarly, the counties, WSPs, CWSB, and WASREB will each maintain separate cashbooks for recording project expenditures incurred at their entities. All the counties are using the integrated FM information system. WASREB is using SAP Business One. Most of the WSPs are using the QuickBooks information accounting system, which does not have inbuilt budgetary controls. In the coast region, under WaSSIP, the CWSB hired a consultant to develop enterprise resource planning specifications for all the WSPs in the region. However, the system was never implemented. There is a need to revisit this under the WSDP so that the WSPs can have an integrated system for all the important parts of their operations.

19. The counties have qualified and experienced staff at the senior level. They will be required to designate qualified and experienced project accountants on the basis of terms of reference prepared by the national PCU in consultation with the counties and cleared by the World Bank. The accountants at some of the counties assessed (especially the northeastern counties) have very weak capacity, and their WSPs are not independent of the county. As such, the Wajir and Garissa Counties will be required to deploy/designate a project accountant for the WSP and for the county on the basis of terms of reference prepared by the national PCU in consultation with the counties

and cleared by the World Bank. Both WASREB and the CWSB have qualified and experienced accountants.

20. A comprehensive FM manual has been prepared for the project. The manual will be used to provide guidance in payment processing and financial reporting under the project. This is part of the PIM.

Internal control and internal audit

21. The MWI is currently implementing several World Bank-financed projects, including the KWSCRP, and maintains elaborate internal control arrangements in line with the Government of Kenya financial regulations and procedures. These include approval and authorization of payments, segregation of duties, and imprest management. The MWI also has an internal audit department that is effective and will ensure effective internal audit oversight of project activities. The audit committees at all government ministries were, however, to be reconstituted to comply with the Public Financial Management Act and regulations for ensuring that not all committee members were executive. This process has not been completed.

22. At the county and WSP levels, the internal controls will require strengthening. A review of the counties' audited reports revealed internal control weakness around cash management, allowances, and other expenditures (see external auditing). In addition, most of the WSPs have ineffective internal audit units. Most of the assets in use by the WSPs are owned by the counties, and there is no complete fixed assets register.

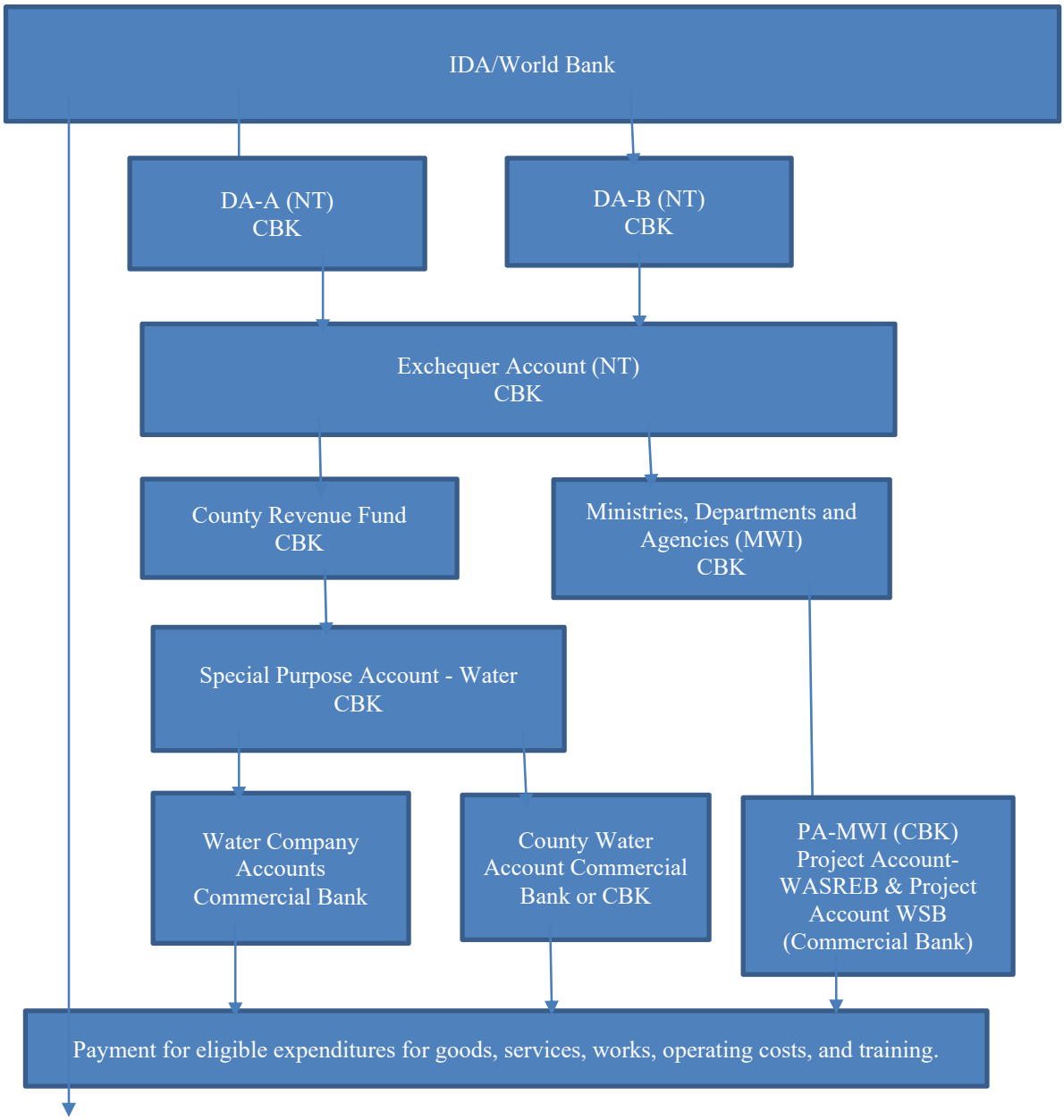
23. The project FM procedures manual will set out the detailed internal control procedures for the project at the national and county levels.

Disbursements

24. **Banking arrangements.** The NT will be required to open two DAs denominated in Euros at the CBK, one for funds destined to the counties and the other for funds to be channeled through the MWI at the national level. The two DAs will receive funds from both the IDA-SUF and regular IDA. The WSPs and counties will open project accounts denominated in Kenya shillings either in the CBK or in commercial banks based in Kenya and acceptable to IDA.

25. **Funds flow.** Funds destined to the water companies will flow from IDA to the DA at the CBK and into the county revenue fund (the MWI will trigger the movement of funds from the DA to the county revenue fund) using the Government exchequer requests systems to a Special Purpose Account at the CBK opened for ring-fencing water project funds. From the Special Purpose Account, funds will flow to the project accounts opened by the WSPs as well as to the counties that will be implementing the project. Counties can also opt to spend their portion of funds directly from the special purpose account. Details of these accounts once opened and the signatories are to be submitted to the World Bank to facilitate disbursements once the credit is declared effective. Funds for the MWI will flow from IDA to the DA at the CBK through the MWI's development account and into the MWI project account.

Figure 3.1: Funds Flow Chart



26. **Disbursement.** The project will use the transaction-based SoE disbursement method. The World Bank will initially give an initial advance with a ceiling as set out in the Disbursement Letter. The initial advance will be determined by the initial three months' work plan. Subsequently, the implementing entity will submit its SoE, and the World Bank will process the electronic WAs and advance funds into the DA. Funds will then be transferred from the DA at the NT into the project accounts of the various implementing entities as shown in the funds flow chart, and payments in relation to project eligible expenditures can be made from these accounts. The national PCU will submit the WAs to the World Bank through the NT. Replenishment of the DA will

follow World Bank procedures. Requests for replenishment of the DA will be submitted on a monthly basis or as required. The movements in the DA will be audited during the annual audit of the project.

27. The following tabled specify the categories of eligible expenditures that may be financed out of the proceeds of the Credits, the allocations of the amounts of the Credits to each category, and the percentage of expenditures to be financed for eligible expenditures in each category.

Table 3.2: IDA SUF allocations by category

Category	Amount of the Credit allocated (expressed in EUR)	Percentage of expenditures to be Financed (inclusive of Taxes)
(1) Goods, works, non-consulting services, consultants' services, training and operating costs for Component 1 (a) of the project	112,800,000	100%
(2) Goods, works, non-consulting services, consultants' services, operating costs and training for Component 1 (b) of the project	37,800,000	100%
(3) Goods, works, non-consulting services, consultants' services, training, operating costs and recurrent costs for Component 2 of the project	59,204,000	100%
(4) Goods, works, non-consulting services, consultants' services, operating costs and training for Component 3 (a) of the project	32,975,0000	100%
(5) Goods, non-consulting services, consultants' services, training and operating costs for Component 3 (b) and Component 4 of the project	4,700,000	100%
(6) Front-end fee	621,000	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 3.01 (a) of the General Conditions
TOTAL AMOUNT	**248,100,000**	

Table 3.3: IDA allocations by category

Category	Amount of the Credit allocated (expressed in EUR)	Percentage of expenditures to be Financed (inclusive of Taxes)
(1) Goods, works, non-consulting services, consultants' services, training, operating costs and recurrent costs for Component 2 of the project	27,400,000	100%
TOTAL AMOUNT	27,400,000	

28. Apart from the advance method of disbursement described above, reimbursements can be requested from the Bank for eligible costs incurred by the implementing agency. The third method is direct payment that may be used for payments to contractors or service providers upon recommendations of their satisfactory performance by the project authorized officials. Payments may also be made to the commercial bank for expenditures against IDA special commitments covering the commercial bank's Letter of Credit. All these options are detailed in the World Bank disbursement guidelines for projects, dated February 2017, and will also be stipulated in the Disbursement Letter.

29. If ineligible expenditures are found to have been made from the designated and/or operating bank accounts, the implementing entities will be obligated to refund the same. If the DA remains inactive for more than six months, the implementing entities may be requested to refund to IDA the amounts advanced to the DA. All disbursements are subject to the conditions of the Financing Agreements and the procedures defined in the Disbursement Letter.

30. **Financial reporting.** The MWI will be responsible for the preparation of IFRs, which will be submitted to the World Bank within 45 days after the end of the quarter. An FM specialist will be deployed to be based at the national PCU on the basis of terms of reference developed by the national PCU cleared by the World Bank. Each participating county will send a consolidated IFR of the county and its WSPs to the NT and MWI within 30 days of the end of the quarter to enable consolidation at the MWI and submission to the World Bank within 45 days after the end of the quarter. The implementing entities will indicate in the IFR the amount received and the corresponding utilization of the funds. They will have full responsibility for FM, including managing the project accounts, accounting, and financial reporting. The format and content of the IFRs was agreed with the implementing entities before negotiations. Templates for SoEs are attached to the Disbursement Letter. Reporting templates form counties to MWI is included as annexes in the PIM.

31. IFRs will be submitted to the Bank not later than 45 days after the end of the calendar quarter. The main schedules for the IFR will include:

(a) Statement of Sources and Uses of Funds (by category and by major components/activity),

(b) Statement of Cash Position for Project Funds,

(c) Statements reconciling the balances on the project bank accounts (U.S. dollars and Kenyan shillings) to the bank balances shown on the Statement of Sources and Uses of funds, and

(d) SoE Withdrawal Schedules listing individual WAs relating to disbursements by the SoE-based method, by reference number, date, and amount.

32. The MWI will also prepare the project consolidated annual financial statements within three months after the end of the accounting year in accordance with accounting standards acceptable to the World Bank, either the International Public Sector Accounting Standards or International Financial Reporting Standards as appropriate. The financial statements will be submitted to the auditors within three months after the end of the financial year to facilitate the conduct of annual audits of the project. The financial year of the implementing entities runs from July 1 to June 30 of the following year.

33. **External audit.** The OAG is mandated by the constitution to audit the use of all public funds. As such, the OAG will audit the use of WSDP funds. The OAG audited the 2015/2016 financial statements for World Bank-funded projects being implemented by the MWI. The auditor issued a qualified audit opinion on the financial statements for the KWSCRP as well as for WaSSIP. Both MWI and CWSB are addressing the audit qualification issues and the World Bank team is following up.

34. The OAG is also responsible for auditing the financial statements of the WSPs, WASREB, and of the counties.

- The last audit done for the counties was for financial year 2014/2015, where most of the audit reports received either a disclaimer or an adverse opinion reflecting major fiduciary weaknesses. The Kenya Devolution Support Project is working with the counties and the OAG to improve the quality of the reports and to deal with some of the qualification issues that touch on capacity.

- Most WSPs received a qualified audit opinion on the financial statements for financial year 2014/2015. Weaknesses included (a) impropriety of some travel expenditures, (b) payments to staff with expired contracts, (c) anomalies in payments for board sitting allowances, and (d) irregular cash payments among others.

- WASREB has received unqualified audit opinion since 2005 when it was established, save for financial year 2015/2016 when the audit report was qualified for non-collection of penalties from WSBs.

35. Each of these implementing entities will be required to prepare an action plan specifying how they will address the issues raised in the audit report, especially in relation to internal controls. This will be done during implementation.

Table 3.2: Audit Report and Timeline

Audit Report	Due Date
The WSDP annual consolidated audited financial statement and management letter for the project (including reconciliations of the DAs with appropriate notes and disclosures and management letter responses).	Within six months after the end of each fiscal/financial year

36. **Conclusion and supervision plan.** Some aspects of project's FM arrangements require improvements for the systems to be adequate to provide, with reasonable assurance, accurate and timely information on the project's status as required by IDA. The residual FM risk is assessed as substantial requiring World Bank supervision twice a year. FM supervision will be consistent with a risk-based approach and will involve a collaborative approach with the task team, including loans/disbursement and procurement staff. This will cover all aspects of FM. Additional supervision activities will include desk review of quarterly IFRs and internal audit reports, audited financial statements, and management letters as well as timely follow-up of issues arising and updating the FM rating in the implementation status reports and the portfolio and risk management system.

Table 3.3: FM Action Plan

	Action	Responsibility	Due Date
1	Internal audit to audit the project activities	MWI	During implementation
3	Deploy/designate an FM specialist for the national PCU	MWI/counties/WSPs	During implementation
4	Internal audit to draw an action plan on how to improve their internal control systems based on the audit qualifications issues of the last audited report	All	During implementation

Procurement

37. Procurement under the WSDP will be carried out in accordance with the World Bank's 'Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers' dated January 2011, revised July 2014, and 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers' dated January 2011, revised July 2014, and the provisions stipulated in the Financing Agreements. The various items under different expenditure categories are described below. For each contract to be financed by the credit and grants, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior-review requirements, and time frame are agreed between the Recipient and the World Bank in the procurement plan. The procurement plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements to institutional capacity. The project will carry out implementation in accordance with the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants' (the Anticorruption Guidelines) dated October 15, 2006 and revised in January 2011 and July 1, 2016 and the provisions stipulated in the Financing Agreements.

Procurement implementation arrangement

(a) **Use of national procurement procedures.** All contracts other than those to be procured on the basis of International Competitive Bidding (ICB) and consulting services shall follow the procedures set out in the Public Procurement and Asset Disposal Act (PPADA) of 2015. The PPADA 2015 governs the purchase of works, goods, and services using public resources by the Central Government entities, county governments, state corporations, education institutions, and other government institutions. Under the PPADA, the Public Procurement Oversight Authority has been established in addition to the Public Procurement Directorate in the NT. The PPADA sets out the rules and procedures of public procurement and provides a mechanism for the enforcement of the law. Some provisions of the PPADA are not fully consistent with the World Bank Procurement and Consultant Guidelines, and, therefore, these may not be applied for the implementation of this project without modification. These provisions and their respective modifications are as follows:

(i) PPADA 89 (c). Instead, the tender submission date shall be set as to allow a period of at least 30 days from the later of the date of advertisement and the date of availability of the tender documents.

(ii) PPADA 4(2) (c). Instead, the Recipient's government-owned enterprises shall be allowed to participate in the tendering only if they can establish that they are legally and financially autonomous, operate under commercial law, and are an independent agency of the Recipient's government.

(iii) The Borrower shall use, or cause to be used, bidding documents and tender documents (containing, among others, draft contracts and conditions of contracts, including provisions on fraud and corruption, audit, and publication of award) in form and substance satisfactory to the Association.

(iv) PPADA 89 (f). Instead, no domestic preference shall be used in the evaluation of tenders. Therefore, as a result of the non-application of PPADA 89 (f), contracts shall be awarded to qualified tenderers having submitted the lowest evaluated substantially responsive tender.

(v) PPADA 108. Instead, the shopping procedure will apply for each low-value contract except as otherwise previously agreed in writing by the Association.

(vi) Regulation 47. Instead, the two envelope bid opening procedure shall not apply. Under the National Competitive Bidding (NCB) contracts, the World Bank's Standard Bidding Documents (SBDs) for goods and works shall be used with appropriate modifications.

(b) **Procurement of goods**. Goods to be procured under the project will include office equipment and utility management, vehicles, bulk and consumer meters, supply of pipes and fittings, laboratory equipment, and ICT goods (hardware and software). The procurement will be carried out using the World Bank's SBDs for all ICB and NCB contracts.

(c) **Procurement of works.** Works to be procured under the project include construction or rehabilitation of water and sewerage infrastructure, including water mains, distribution lines, treatment plants, and small and minor rehabilitation works.

(d) **Procurement of non-consulting services**. Non-consulting services envisaged under the project include printing of training materials, renting/leasing of ICT services and workshop venues, and leasing of office premises. The procurement will be carried out using the World Bank's SBDs for all ICB and NCB contracts. The type and budget for such services will be defined and agreed upon between the Recipient and IDA before their inclusion in the updated annual procurement plans.

38. **Use of framework agreements.** Framework contracting is permitted as an alternative to the Shopping and NCB methods and may be used to implement procurements such as (a) goods that can be procured off-the-shelf or are common use with standard specifications; (b) non-consulting services that are of a simple and non-complex nature and those that may be required from time to time by the same agency or agencies of the Recipient; or (c) small-value contracts for works under emergency operations. Such arrangements should not restrict foreign competition and should be restricted to a maximum duration of three years. The nature and budget for such goods, including the circumstances and justification for its use, the particular approach and model to be adopted, the procedures for selection and award, and the terms and conditions of contracts, will be defined and agreed upon between the government and the World Bank before their inclusion in the updated procurement plan.

39. **Selection of consultants**. Consulting services under the project include selection of firms and individuals for the provision of training services, supervision of infrastructure works/rehabilitation, procurement 'mobile team', external financial audit, and TA services. All consulting services will be procured using the World Bank's Consultant Guidelines.

40. **Capacity building, training programs, and workshops.** For all training activities, the project team shall prepare and submit for World Bank approval annual training plans and budgets including the objectives of the training, the target participants, format of delivery, and the qualifications of the resource persons as well as the expected impact of the training before the training can be undertaken. In case the training is to be outsourced, the procurement of the trainer or of the training institution shall be integrated into the project procurement plan and agreed with the World Bank. Similarly, the procurement of venues for workshops and training materials will be done by comparing at least three quotations.

41. **Operating costs.** Operating costs for the implementing agencies will include project implementation-related expenditures such as in-country travel; office materials and supplies (stationary and other consumables, but not the purchase of equipment); office rentals and maintenance; utilities (including electricity and water); communication costs (including telephone and Internet charges); equipment rental; vehicle operation, maintenance, and repair; and travel and transport cost of the staff associated in the project implementation (including per diem for project supervision activities in the field). These items will be procured using the procedures detailed in the manual of procedures, which was reviewed and found acceptable to the World Bank. Operating costs for Wajir and Garissa WSPs will include cost for electricity; gasoline and diesel; vehicle

O&M and repair; recurrent telecommunication cost; and accommodation and per diem for travelling staff.

42. **PIM.** The procurement procedures and SBDs to be used for each procurement method, as well as model contracts for works and goods procured are presented in the manual.

43. **Assessment of the agency's capacity to implement procurement.** Procurement activities under the project will be carried out by the WASREB, WSBs, county governments, and WSPs, under the overall coordination and management of the MWI. County governments will be responsible for procurement activities below the World Bank Shopping threshold.

44. The procurement team conducted a procurement capacity assessment of the following selected counties: Kiambu, Mombasa, and Garissa. The team also held discussions with Mombasa CWSB, MOWASCO, Thika Water Company, Ruiru-Juja Water Company, and Kiambu Water Company. The assessment reviewed the organizational structure for implementing the project, functions, staff skills and experiences, adequacy for implementing the project, and the interaction between the project's staff responsible for the procurement and the relevant government agencies.

45. All counties and water services assessed have procurement units that have been established according to the PPADA, and the procurement units highly depend on the inputs and expertise of the staff of the technical departments in the administration of procurement processes and decision making. The assessment revealed that the water companies are operational and staffed and some technical staff are knowledgeable in national procurement procedures. However, there is a need for strengthening and capacity building. Procurement in the counties is faced with some challenges identified during the World Bank's capacity assessment, and appropriate mitigation measures to address these weaknesses are part of the PIM.

46. The key issues and risks concerning procurement for the implementation of the project have been identified and include (a) procurement staff having no experience in implementing World Bank-funded projects—staff experience is limited to the procurement of goods and works through NCB and Shopping procedures, with no experience in ICB procedures of selection of large-value consultancy contracts; (b) the record keeping being inadequate; (c) the qualification of procurement staff being inadequate; (d) there being a lack of clear procedures and guidelines spelled out in manuals; (e) government officials likely to be involved in project procurement through tender and evaluation committees not being familiar with procurement procedures according to World Bank guidelines and rules; (f) existing capacity in counties and water companies not being sustainable; and (g) although established under the same law, the counties differing in the manner they carry out procurement activities as well as the capacity of their staff.

47. **The overall unmitigated risk for procurement is Substantial.** Proposed risk mitigation measures include provision of intensive customized procurement training to relevant staff in counties and water companies on World Bank procurement procedures and contract management; preparation of a realistic procurement plan that could include detailed activity time lines tied to disbursement and status of implementation/delivery particularly for monitoring purposes; establishment and maintenance of a record keeping and filing system on a contract-by-contract basis. Taking into account the mitigation measures, the residual risk for procurement is Moderate.

48. To address the above risks areas, the following actions are included in the project design:

- Intensive capacity building for procurement staff and city engineers including staff involved in the procurement decision-making process and members of evaluation committees and customized and hands-on training on procurement focusing on procurement planning, preparation of bidding documents, evaluation of bids or proposals, and procurement documents filing.

- Preparation of SBDs for NCB procurement under World Bank Procurement Guidelines that incorporate a list of identified exceptions to the Public Procurement Code that take account of the World Bank's fraud, anticorruption, and other procurement provisions.

- Appointment of two additional, proficient and experienced procurement specialists to support and enhance the capacity of city governments through a 'mobile team' funded under the project; the consultants would have specific performance criteria in their terms of reference to measure the effective knowledge transfer to staff within counties and other implementing entities when necessary. However, the overall responsibility for procurement performance lies with each participating county.

- Capacity appraisal of all participating counties during the first year of the project. These appraisals will help identify core gaps and specific weaknesses for each participating council in procurement and suitable training to be provided.

- Setting up of adequate records management for project documents, including adequate spaces and office furniture for filing.

- Exposure of the local government staff to best practices elsewhere and/or other counties.

49. The major actions planned to ensure the project's smooth implementation, their related responsible unit, and proposed time frame are captured in Table 3.4.

Table 3.4: Procurement Action Plan

Action	Timeframe	Responsibility
Intensive capacity building for procurement staff and engineers including staff involved in the procurement decision-making process and members of evaluation committees.	To commence before effectiveness with completion no later than six months after effectiveness	Procurement consultants/MWI
Preparation of standard bidding documents for NCB procurement under World Bank Procurement Guidelines.	For project implementation	
Appointment of two additional proficient and experienced procurement specialists to support and enhance the capacity of county governments and their WSPs through a "mobile team"	To commence before effectiveness with completion no later than three months after effectiveness	MWI
Conduct the project launch workshop dedicated to the specific procurement and the used of the simplified procurement manual	To commence before effectiveness with	MWI

Action	Timeframe	Responsibility
	completion no later than three months after effectiveness	
Capacity appraisal of all county governments and their WSPs during the first year of the project	One year after project implementation	MWI
Set up adequate records management for projects' documents	During project implementation	All entities
Exposure of the staff of county governments and their WSPs to best practices	During project implementation	County governments

50. **Procurement plan**. The Recipient developed a simplified procurement plan indicating procurements to be carried out over the first 18 months of the project. The procurement plan consists of the procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, and prior-review requirements and was agreed between the Recipient and the World Bank at negotiations. The procurement plan will be updated at least annually, or more frequently as required, to reflect the actual project implementation needs and improvements in institutional capacity.

51. **Prior-review thresholds.** The procurement plan shall set forth those contracts which shall be subject to the World Bank's prior review. All other contracts shall be subject to post review by the World Bank. However, relevant contracts below prior-review thresholds listed below that are deemed complex and/or have significant risk levels will be prior reviewed. Such contracts will also be identified in the procurement plan. A summary of prior-review and procurement method thresholds for the project are indicated in Table 3.5. All terms of reference for consultants' services, regardless of contract value, shall also be subject to the World Bank's prior review.

Table 3.5: Thresholds for Procurement Methods

Expenditure Category	Contract Value (Threshold) (US$, thousands)	Procurement Method	Contract Subject to Prior Review (US$, thousands)
1. Works	10,000 or more	ICB	All
	Below 10,000	NCB	First contract per entity
	Below or equal to 200	Shopping	None unless contract specified in the Procurement Plan
	No threshold	Direct Contracting	All
2. Goods	1,000 or more	ICB	All
	Below 1,000	NCB	First contract per entity
	Below or equal to 100	Shopping	None unless contract specified in the Procurement Plan
	No threshold	Direct Contracting	All
3. Consultancy	Firms	Quality and Cost-Based Selection, Least Cost Selection, Selection Based on Fixed Budget, Quality-Based Selection	All contracts of 200 and more
	Individual	Selection of Individual Consultants (at least 3 curriculum vitae)	All contracts of 100 and more

Expenditure Category	Contract Value (Threshold) (US$, thousands)	Procurement Method	Contract Subject to Prior Review (US$, thousands)
	No threshold	Single Source	All

Note: All terms of reference for consulting services will be subject to IDA's prior review.

52. **Frequency of procurement supervision.** In addition to the prior-review supervision to be carried out from World Bank offices, the capacity assessment of the implementing entities has recommended (a) supervision missions every six months to visit the field; (b) monitoring of implementation progress and identification of any emerging risks; (c) helping the Government mitigate risks; and (d) carrying out post review of procurement actions undertaken. Missions in the first 18 months shall include a World Bank procurement specialist or a specialized consultant.

Environmental and Social (including Safeguards)

53. **The project is assigned an Environmental Category B on the assumption that subprojects may result in potential adverse environmental and social impacts that are reversible and temporary in nature and scope and can be easily and cost-effectively mitigated.** It is also assumed that impacts may be site-specific and may not affect an area broader than the sites or facilities of the physical works. The project triggers safeguards policies on Environmental Assessment (OP/BP 4.01), Natural Habitat (OP/BP 4.04), Physical Cultural Resources (OP/BP 4.11), Involuntary Resettlement (OP/BP 4.12), Safety of Dams (OP/BP 4.37), International Waterways (OP/BP 7.50), and Indigenous Peoples (known as VMGs in Kenya) (OP/BP 4.10). The potential subprojects include rehabilitation, expansion, and development of water supply systems; rehabilitation of a wastewater treatment plant; and construction of sanitation and sewerage infrastructure.

54. **The client has prepared, in a participatory and consultative manner, an ESMF.** This establishes a process of environmental and social screening and permits the institutions in charge of the implementation of the projects to identify, assess, and mitigate the environmental and social impacts of subproject investments. The ESMF also determines the institutional measures to be taken during implementation, including capacity-building activities to ensure that environmental and social impacts are identified and assessed and that mitigation measures are incorporated in the designs and development of the specific subprojects.

55. **The client has also prepared an RPF to clarify the principles and legal and institutional procedures for resettlement and rehabilitation and design criteria to be applied to investments.** The RPF provides overall guidelines and procedures on how the subprojects will avoid, minimize, manage, or mitigate all these project-related displacement risks.

56. **The majority of project beneficiaries in Wajir and Garissa Counties are ethnic Somalis who qualify as VMGs, and, therefore, the criteria for OP 4.10 is met.** According to the requirements of the policy, when indigenous peoples are the sole or the overwhelming majority of direct project beneficiaries, it is not required to prepare an IPP. However, SAs need to be prepared, consulted upon, and disclosed. The elements of an IPP should be included in the overall project design. The client has undertaken SAs for Wajir and Garissa Counties, to ensure the project benefits VMGs of these counties and that any potential adverse effects on vulnerable and marginalized people are averted.

57. **Some of the key findings from the SAs are that:**

- The nomadic ethnic Somali pastoralists (indigenous peoples) constitute the overwhelming majority of direct project beneficiaries. They are mainly camel, livestock, and goat herders and their reliance on natural resources renders them vulnerable to the devastating impacts of frequent droughts that afflict the region.

- School attendance in both counties is well below the national average. The main reasons given for children not attending school included fetching water and grazing livestock. It was noted that the proposed project can add value to school attendance by availing water in much closer proximity.

- A majority of the respondents accessed water for domestic use from shallow wells. These were usually hand-dug and manually operated and were widely contaminated with human waste because of the open defecation among the vulnerable and marginalized community members. The proposed project can make a difference by availing potable water in water kiosks around the *bulas* in vulnerable and marginalized communities.

- Water was difficult to access, expensive, and of poor quality. This points to a collapsed water supply system that seems to have fallen beyond the reach of the majority of the vulnerable and marginalized community members. The proposed project will make water affordable, clean, and distributed closer to the homes of vulnerable and marginalized community members.

- The majority of the residents dispose of their human waste in the open fields and bushes or through bucket toilets. These are emptied in the open fields or in the bushes. Therefore, the proposed project will respond to these factors by offering small-scale water treatment works around major water points or training people to treat their water at source if they are off the supply grid.

- Many respondents reported that members of their households had suffered from a waterborne disease. This confirms data indicating widespread prevalence of waterborne diseases in the project area borne out of the human waste disposal practices among the vulnerable and marginalized community members.

- Women were more vulnerable within the communities because they are responsible for household water supply and sanitation. The project will reduce the distances that women have to travel in search of water for domestic use. The reduction of distances will have a positive impact on household incomes as women can engage in economically productive activities. In addition, school attendance for girls, who are usually tied up with domestic chores, may increase.

- While the counties do attract a large number of nongovernmental organizations, most of them are involved more in providing relief assistance and less in water supply and sanitation. The health and water and sanitation sectors are mainly supported by county governments.

58. **Some key recommendations of the SAs are:**

- Inclusion of VMGs, in culturally appropriate and responsive methods and through existing leadership structures and community-based organizations, in project consultations, design, and implementation processes;

- Building of the capacity and competence of VMGs to enable effective participation in water governance;

- Support for the involvement of female VMGs in leadership and decision making within water user associations;

- Provision of water for small-scale farming and other livelihood promoting uses should be considered and included in the water design;

- Support for social welfare during project design stage in the form of assistance to local health facilities, schools, and agricultural enterprises and subsidized provision of water and sanitation facilities to VMGs; and

- Provision of watering points for livestock around water sources and along water pipelines.

59. **The recommendations of the SAs will be availed by the consultants undertaking subproject designs in both the Wajir and Dadaab host communities.** This will ensure that the issues of importance to VMGs are taken into account in the technical studies and overall project design.

60. **For the locations/sites of subprojects that have been already identified or carried over from the ongoing WaSSIP and have been scheduled for immediate urgent works, specific safeguard instruments have been prepared for these locations as follows:**

- **Rehabilitation and expansion of the Mombasa Lot 2B pipelines.** This subproject intends to increase the water supply to Mombasa County through the expansion and rehabilitation of water pipelines within Mombasa west mainland, Mombasa south mainland, Mombasa north mainland and Mombasa island within Mombasa County. An update of the RAP has been prepared, consulted upon, and disclosed in-country and in the World Bank's external website in February 2017. Because the scope and nature of the subproject have not been modified nor realignment/rerouting has occurred since the original ESIA was prepared, there will be no further work needed on the ESIA.

- **Improving the existing stormwater outlets, outfalls, and combined sewer overflows in Mombasa island.** The subproject's objective is to reduce pollution of the Indian Ocean, by the removal of floatables and grit from seven stormwater outlets, one outfall at Kizingo wastewater treatment plant, and four combined sewer overflows in Mombasa island. The improvements will involve the construction of grit removal chambers and coarse and fine screens to reduce the amount of floatables and grits

making its ways to the Indian Ocean. An ESIA and an RAP were prepared, consulted upon, and disclosed in-country and in the World Bank's external website in February 2017.

- **Kipevu wastewater treatment plant immediate works and extension.** The subproject includes the rehabilitation of the existing wastewater treatment plant and rehabilitation of existing pumping stations, targeted trunk sewers, and main secondary sewers. The wastewater system is located in Mombasa west mainland service area. An ESIA and an RAP have been prepared, consulted upon, and disclosed in-country and in the World Bank external website in February 2017.

- **Additional rehabilitation of the Baricho well field.** An ESIA was already prepared for the extension of the Baricho well field under the ongoing WaSSIP for the full capacity of the well field. The rehabilitation will not go beyond the capacity established in the existing ESIA; therefore, no update of the ESIA is foreseen. An RAP was done under WaSSIP, and no new RAP is required because the rehabilitation is on the existing guarded well field. All these safeguards documents are within the validity period. These five documents were consulted upon and disclosed in-country and on the World Bank's external website in February 2017.

61. **Capacity to manage safeguards issues will be built at all the agencies that will be implementing the project.** The project will be implemented at the county level through WSBs and WSPs that have been overseeing and implementing various donor-supported projects. A rapid assessment of the capacity of entities such as the MWI and selected WSBs and WSPs revealed acceptable and satisfactory levels of technical know-how within these entities for planning, design, and implementation of water and sanitation investments. Also, capacity to process and oversee the preparation of safeguard reports at the MWI, WSBs, and most of the WSPs has been found to be good, although needing enhancement, particularly in ensuring implementation of safeguard instruments and compliance with relevant national regulations and requirements such as the Environmental and Management Coordination Act (No. 8 of 1999, as amended in 2015). The capacity challenges arise from limited filled positions for environmental and social safeguard experts at the implementing agencies and the limited experience of those already in position to satisfactorily identify risks and implement remediation measures. The MWI has committed to appoint or hire experienced environmental and social safeguard officers to support implementation of the safeguard instruments and to monitor and enforce compliance. In addition, the WSPs will appoint or recruit safeguard experts at the county level to support the implementation of the project. The project will prepare a safeguard capacity-building plan to train and expose old and new safeguard officers on various aspects of environmental and social sustainability, including national regulations and requirements, World Bank Operational Policies on safeguards, preparation and implementation of safeguard instruments, and compliance monitoring and reporting. This plan will be financed through the project.

62. Public consultations of the RPF and ESMF were held in January 2017 with stakeholders from the six WSDP focus counties: Wajir, Garissa, Kwale, Mombasa, Kilifi, and Taita Taveta to discuss the contents of this RPF. In addition, the client conducted consultations in December 2016 on the site-specific safeguards instruments through public meetings and individual interviews with local officials. The results of the consultations are captured in the safeguards instruments. Overall,

community members were supportive of the project and indicated that they hoped to see the completion of the works on time. Key stakeholders expressed concerns about the potential of political interference, not having a consultation process during implementation, the need to conduct water sources studies (that is, the Merti aquifer), odor issues at wastewater facilities, and clarification on compensation mechanisms, among others. Stakeholder feedback gathered through these workshops informed the final version of the SA and ESMF.

Table 3.6: Safeguard Policies Triggered

Safeguard Policies	Description
Environmental Assessment (OP/BP 4.01)	The investment will finance the construction and rehabilitation of water distribution and sanitation systems, involving, among others, the rehabilitation and construction of wastewater treatment plants, sewerage systems, and septic sludge treatment facilities in urban areas; extension of parts of the bulk water system that serves more than one county and the operation of the system; and an increase in access to water and sanitation services in Wajir town and in host communities near the Dadaab refugee camp in Garissa County. These civil works will lead to environmental risks and social impacts, including health and safety concerns. Therefore, the Environmental Assessment assigned to this project is Category B. Because the scope and nature of most works as well as their specific locations are unknown at this stage of project preparation, the framework approach has been proposed, and the client has prepared an ESMF and an RPF. In addition, the client prepared ESIAs for subprojects that have sites/locations identified and detailed designs. The project will follow the World Bank Environmental, Health, and Safety Guidelines for Water and Sanitation. The ESMF and site-specific ESIAs have been publicly consulted upon and disclosed in-country and on the World Bank's external website.
Natural Habitats (OP/BP 4.04)	While no significant negative impacts on natural habitats, including mangroves, are anticipated by project works, this policy is triggered given the types of works and the potential locations and associated environmental conditions. Depending on the subprojects and potential negative impacts to the natural habitats (flora and fauna), these subprojects will require special studies to protect or preserve the species identified at risk of being affected. If a subproject can cause irreversible damages, it will be excluded.

Safeguard Policies	Description
Physical Cultural Resources (OP/BP 4.09)	The policy is triggered due to the possibility of chance finding of physical cultural resources (PCR) during construction. Any potential chance finds will be addressed by incorporating reporting and handling procedures as part of site-specific ESIA and dealt with in the context of the ESMF. The project will screen for PCR and chance finds and will include appropriate plans in the ESIAs, and measures will be put in place during the preparation and implementation of the ESIAs so as to protect PCR. The ESIA that will be prepared for such projects will include a PCR management plan that includes (a) measures to avoid or mitigate adverse impacts on PCR; (b) provisions for managing chance finds; (c) any necessary measures for strengthening institutional capacity for the management of PCR; and (d) a monitoring system to track progress of these activities. Mombasa island is home to Mombasa old town, which is a heritage site recognized by United Nations Educational, Scientific, and Cultural Organization (UNESCO). Existing pump stations to be improved under the stormwater outfall subproject are located in Mombasa old town. Although the improvements will not affect any cultural site, because the site is located within the old town, care must be taken to ensure construction methods do not affect cultural sites within the area. Adequate procedures are included in the site-specific ESIAs. In addition, all works and activities in the old town will be in line with any existing UNESCO Management Plan as coordinated with the UNESCO Secretariat. These provisions will be included in works bidding documents.
Involuntary Resettlement (OP/BP 4.12)	It is assumed that the proposed civil works would result in land take and displacement (both economic and physical) of people. The client has prepared an RPF, which has been publicly consulted upon and disclosed in-country and on the World Bank's external website. The client also prepared and disclosed specific RAPs for the immediate works indicated above. The RAPs indicate that about 341 project affected persons (PAPs) for Mombasa Lot 2B subproject, 116 PAP for the Mombasa outlet subproject and 93 PAP for the Kipevu wastewater treatment plant will be affected by the proposed works. The RAPs include specific recommendations and guidelines to mitigate the impacts on the affected population.

Safeguard Policies	Description
Indigenous Peoples (OP/BP 4.10)	This is triggered because indigenous peoples have been identified in Wajir and Garissa Counties. Given that the overwhelming majority of the project beneficiaries in Wajir and Garissa Counties are ethnic Somalis, the client has prepared SA reports, and the findings and recommendations will be incorporated into the detailed designs and technical studies, which will ensure that project benefits accrue to these groups as well. Some of the SA recommendations include (a) building the capacity and competence of VMGs to enable effective participation in water governance being part of the TA provided and also being part of the consultations about the proposed technical interventions; (b) support for the involvement of female VMGs in leadership and decision making within water user associations being part of the TA provided to strengthen the water user associations; (c) provision of water for small-scale farming and other livelihood promoting uses being considered and included in the water design; and (d) provision of watering points for livestock around water sources and along water pipelines. The SA reports have been publicly consulted upon and disclosed. Component 1 of the project is not expected to affect or encounter people considered as VMG/indigenous peoples as it is entirely in urban areas, cities, or towns - Mombasa (Mombasa County), Kilifi, Malindi, Mariakani (Kilifi County), Kwale, Ukunda (Kwale County), and Voi and Taveta (Taita Taveta County) of the coast. Component 3 will only work in a few select larger towns that have water utilities regulated under the WASREB. None of these urban areas/towns is considered to have VMGs/indigenous peoples.
Safety of Dams (OP/BP 4.37)	The project will finance a transmission water main that will take drinking water from the Mwache Dam, which is under design. The construction will be financed through the World Bank-financed CRWSCRP. Thus, the WSDP will rely on the performance (storage and operation) of a potential dam under construction. The relevant safeguard reports on the Mwache Dam have been prepared by the client, consulted upon, and disclosed in-country and on the World Bank's external website. Thus, conditions in OP/BP 4.37 paragraphs 8–9 have been met. Nonetheless, before commencement of any civil works relating to the transmission water main, the client will arrange for one or more dam specialists to (a) inspect and evaluate the safety status of the dam under construction (Mwache Dam); (b) review and evaluate the owner's O&M procedures; and (c) provide a written report of findings and recommendations for any remedial work or safety-related measures necessary to upgrade the dam under construction (Mwache Dam) to an acceptable standard of safety.
Projects on International Waterways (OP/BP 7.50)	This policy is triggered because parts of the project will be implemented in the area of the Merti aquifer, which extends from Kenya into Somalia. On December 12, 2016, the Government of Kenya delivered a notification letter regarding the project to the Government of Somalia through the Embassy of Somalia in Nairobi. Because of an error in the notification letter, the Government of Kenya sent a revised letter to the Embassy of Somalia and to Somalia's Ministry of Water Resources on February 17 with a response date of March 6, 2017. No response has been received. The combined abstraction from the Merti aquifer is currently at 21,000 cubic meters per day. When the proposed water supply investments in Wajir town and Dadaab host communities are implemented there would be an increase in water abstraction of approximately 4,000 cubic meters per day, representing a 19 percent increment. Planned investments and aquifer abstraction decisions will be informed by recommendations of several ongoing technical studies, including the Merti aquifer assessment and management plan and a specific environmental and social impact assessment (ESIA) for the proposed activities. The studies will be made public and consultations will be conducted to get feedback from all stakeholders. The Regional Vice President cleared a memo summarizing the results of Riparian Notification under OP 7.50 on March 17, 2017.

Monitoring and Evaluation

63. **Objectives and design.** The objective of the M&E system is to generate timely and relevant feedback on the project's implementation progress and achievement of expected outcomes to enable the Government and World Bank teams to address issues as quickly as possible once they arise. The M&E specialists responsible for preparing the project's quarterly progress reports will be part of the WSDP PCU at the MWI. They will be responsible for establishing the M&E system and training and backstopping M&E specialists at the level of the implementing agencies. They will also prepare quarterly WSDP progress reports, based on the information from the M&E specialists at the implementing agencies, and submit this to the World Bank within 45 days of the end of the quarter. They will also coordinate the participation of the implementing agencies in a midterm review scheduled for 2019.

64. **The main responsibility for monitoring and reporting will be with the implementing agencies.** The M&E specialists at the implementing agencies will be responsible for monitoring and collecting information on implementation progress and contribution of specific activities to the project's intermediate results and PDO-level outcomes. They will submit quarterly progress reports to the M&E specialist at the MWI.

65. **Data generation.** The data to track many of the key performance indicators will come from national sources, the implementing agencies, and project-specific data collection efforts. For example, information on the number of people benefiting from the project will come from the national census (most recently carried out in 2009) and projections of the National Bureau of Statistics of expected population growth. Data on operational performance of the WSPs will come from the WSPs themselves, with oversight and confirmation by WASREB. Information on the creation of project-financed infrastructure will come from reports of the independent supervision consultants.

66. **Reporting.** The MWI PCU is responsible for submitting quarterly project progress reports to the World Bank and to the relevant government officials at the MWI within six weeks of the end of each quarter. The Government and World Bank teams will discuss the findings of reports during each implementation support mission and agree on actions to address issues raised in the reports.

67. **Beneficiary assessment.** Within six months of the closing of the project, the MWI PCU will recruit an independent firm to conduct a beneficiary assessment. The objective of the beneficiary assessment will be to produce information on the benefits of the infrastructure investments and capacity-building support provided under the project. The assessment will review issues such as the relevance of the infrastructure to people living and working in the places that benefited from the investments, the number of people benefiting (disaggregated by gender and vulnerable people), and the performance of the relevant agencies in operating and maintaining the infrastructure. The assessment will also explore the quality and relevance of the studies in informing the design of the overall project interventions and the extent to which the capacity-building support achieved its objectives.

68. **Capacity building for M&E.** As mentioned above, most of the information on project implementation performance and progress toward results will come from the WSPs. Although

some of the WSPs have benefited from support under WaSSIP for strengthening capacity for M&E, many have not, and overall capacity for M&E is weak. The project will provide support to strengthen the capacity of the WSPs benefiting from the project. Specifically, the project will finance consultants who will work with the WSPs to prepare a detailed M&E and reporting system plan, provide on-the job and other training for M&E specialists (at both the implementing agency levels and the MWI PCU level), and provide other capacity support required to establish and operate an effective M&E system. The project will also finance follow-on training and workshops to enable M&E specialists to ensure that normal staff turnover does not disrupt the M&E effort.

Role of Partners

69. The AFD will finance the bulk water infrastructure related to Mwache Dam (WTP, pumping stations, reservoirs, and one of the three clean water transmission mains). In addition, the AFD will finance the water supply network rehabilitation and extension in Likoni (which is part of Mombasa). The AFD Board approved the project in October 2016. Under the proposed WSDP, the World Bank will finance the water supply and sanitation systems in the coastal cities (without Likoni) and two transmission mains related to Mwache Dam.

Citizen Engagement

70. A gender-disaggregated analysis and consultations on water and sanitation issues will be undertaken in the targeted counties in the underserved northeastern region as part of understanding how the project can best provide access to improved services. The analysis will identify actions to address the issues faced by men and women in accessing water and sanitation services, with particular attention to gaps between men and women in decision making. The design of sanitation facilities to be supported under the project in Wajir and Garissa will be informed by the findings of the analysis and consultations.

71. The project will support the WSPs to prepare and implement gender action plans.

72. The project will review the capacity of the counties in the coastal regions and their WSPs to efficiently handle complaints. This will be done against the framework of the requirements for 'MajiVoice', the system piloted under WASSIP, which has shown its potential to enable oversight on complaint handling by the utility management.

Climate Mitigation and Adaption Co-benefits

73. While a full climate mitigation and adaption co-benefits assessment, including greenhouse gases, can only be carried out during project implementation when the vast majority of investments have been designed, a qualitative assessment of the climate mitigation and adaption co-benefits shows the following:

- The project will contribute to the reduction of greenhouse gas emissions and, therefore, reduce the risk of climate change through:
    - The rehabilitation and construction of wastewater and septic sludge treatment facilities. This will reduce the uncontrolled anaerobic digestion of organic

material contained in wastewater and fecal sludge and, therefore, reduce greenhouse gas emissions, especially the release of methane.

- The reduction of NRW and the replacement of pumps and other equipment with more energy-efficient equipment will reduce the energy consumption per unit of water supplied to customers.

74. The coastal area and the north and northeastern areas of Kenya are experiencing severe droughts every few years, while in other years, extensive flooding can also occur. The project will lower the current and future risks and vulnerabilities posed by climate change through the following activities:

- In the coastal areas, the project will assist in making Mwache Dam fully operational by contributing to the downstream infrastructure. In addition, it will contribute to the improvement of another bulk water source, the Baricho wellfield. These interventions are based on a water supply masterplan covering the entire coastal area. Because these activities will contribute to the diversification of water sources of the interconnected bulk water system, it will decrease the vulnerability of the system against climate risk. While some of the wellfields will respond quickly during and after droughts, Mwache Dam can store water for a longer period, and Mzima springs has a very long response time to droughts and the yield is usually only declining after the drought has ended and the wellfield production is restored.

- The project will also identify and promote activities of the IUWM that will increase the climate resilience of the participating towns.

- NRW reduction will increase the efficiency of the systems covered under the project.

- Especially in the north and northeastern regions where open defecation is dominant and existing on-site facilities are prone to flooding, the improved sanitation will lower the risk of spreading of cholera during periods of flooding.

- In Wajir, where many people rely on shallow wells that are negatively affected by both droughts and floods, a more climate-resilient water resource will be developed under the project.

Annex 4: Implementation Support Plan

KENYA: Water and Sanitation Development Project

Strategy and Approach for Implementation Support

1. The WSDP includes a number of measures aimed at ensuring implementation proceeds as expected.

- First, the World Bank will maintain a sizable WSDP core team in Nairobi. The team includes specialists in institutions, operations, engineering, and M&E. Having the core team based in Nairobi facilitates frequent dialogue with the Government counterpart teams and permits ongoing implementation support. The core team will be supplemented with specialists in social accountability, gender, and others as needed.

- Second, the World Bank will conduct at least two formal missions per year for the WSDP. The missions will include the World Bank's FM and procurement staff, safeguards, M&E, results-based financing, engineers, and other specialists as required.

- Third, considerable safeguards have been put into place to guard against procurement fraud risk. These are presented in the procurement section of Annex 3.

Implementation Support Plan

Time	Focus	Skills Needed	Resource Estimate
First 12 months	• Quality of terms of reference • Procurement of key contracts • Execution of contracts • Development and implementation of EMPs and RAPs • Selection of subprojects • Quality of detailed designs of subprojects • Developing mechanisms for social accountability	• Core team skills • Procurement • FM • Environment and social safeguards • Social accountability	Country management unit standard supervision budget for high-risk projects
12–60 months	• Quality of terms of reference • Procurement of key contracts • Execution of contracts • Application of the EMPs and RAPs • Selection of subprojects • Quality of detailed designs of subprojects • Implementing mechanisms for social accountability • Quality and timeliness of construction	• Core team skills • Procurement • FM • Environment and social safeguards • Social accountability	Country management unit standard supervision budget for high-risk projects

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task team leader	15	2 international	Staff time shared with other water projects
Co-task team leader	30		Based in Nairobi, staff time shared with other water projects
Results-based financing	4	2 international	Staff time shared with other water projects
Institutional	10		Based in Nairobi, staff time shared with other water projects
Engineering	15		Based in Nairobi, staff time shared with other projects
Utility financial and operational issues	4	2 international	Staff time shared with other water projects
Social accountability and citizen engagement	4		Based in Nairobi
M&E and implementation support	5		Core team based in Nairobi, staff time shared with other urban projects
Procurement	4		Based in Nairobi
FM	4		Based in Nairobi
Environmental and social safeguards	8		Based in Nairobi

Partners

Name	Institution/Country	Role
Sebastien Valleur, Deputy Head of Nairobi Office	AFD - Kenya	Parallel financing of infrastructure in coastal area

Annex 5: Financial and Economic Analysis

KENYA: Water and Sanitation Development Project

Economic and Financial Analyses

Component 1

1. **Financial analysis.** The financial analysis analyzes all cash flows associated with the investment (including capital costs, O&M costs, and revenues) and the financial sustainability of the participating WSPs. The financial analysis includes a lifetime projection of O&M costs, together with a demonstration of how these will be financed. The financial analysis consists of (a) assessing the financial performance of the WSPs, taking into account previous loans and the planned investment costs under the WSDP; and (b) assessing the impact of project investments on O&M and financial viability of the WSP, cost drivers (including different loan terms), and future revenue streams and cash flows available to repay the loan. The Government of Kenya has decided to pass on the funds under Component 1 with the IDA-SUF terms it is receiving them from the World Bank. However, 25 percent of the credit will be passed on as a grant to ease the financing cost for sanitation investments, which are not income generating, but provide important public health and environmental benefits.

2. For Component 1 the financial analysis includes the coastal WSPs of Mombasa, Malindi, Kwale, Kilifi, and Tavevo and the bulk water operation. The financial NPV and the financial IRR are estimated based on the stream of investment and O&M costs and operating revenues for a period of 40 years. The discounted rate of annual cash flow is 12 percent. The financial IRR is about 12.1 percent, and the financial NPV is at about US$1.7 million (see Table 5.14 and 5.15). The financial projection for the period of the economic life of the investments shows a stable positive cash flow, and, therefore, the investments are financially justified.

3. A sensitivity analysis was performed, with assumptions presented in Table 5.1.

Table 5.1: Sensitivity Analysis of Financial IRR

Scenario	Assumption	Financial IRR (%)
Component 1		
Base case scenario A	The bulk water supply will operate as one operation unit together with Mwache Dam and related infrastructure, and Mombasa will benefit 100 percent from Mwache Dam, while four other coastal WSPs will be supplied increased bulk water from increased production from bulk water operation unit sources.	12.1
Collection rates scenario A, risk (a)	The collection rate will drop by 10 percent from the level of the base case scenario, that is from 95 percent to 85 percent.	9.5
Purchase of bulk water scenario A, risk (b)	All five WSPs will purchase less 10 percent of the anticipated amount, due to the lower-than-anticipated demand from the tourism sector.	9.7
Investments scenario A, risk (c)	If NRW does not decrease as anticipated, that would increase the O&M costs by 15 percent.	9.6

Results of the financial analysis for the coastal WSPs of Mombasa, Malindi, Kwale, Kilifi, and Tavevo, and the bulk water operation

4. The improvements of the performance of six coastal WSPs is based on the anticipated impact of capital investments and management improvements on operational and financial indicators such as increased volume of water produced and sales, increased billing and collection revenues, increased tariffs to cover O&M costs and debt service costs, increased sewerage connections and sewerage treatment, and reduced NRW due to the reduction of technical and non-technical losses. The detailed financial analysis of the costs and revenues is provided below for each WSP under the project.

5. **Bulk water service provider.** The financial analysis of the bulk water service provider is based on the approach that the new bulk water system (Mwache Dam, WTP, pump station, and downstream infrastructure) will merge with the existing bulk water system (which is currently operating under the CWSB) and both systems will operate under one management. Based on this approach, the water production, loans repayment costs, capital investments, and O&M costs of the new bulk water system are added to the existing bulk water service provider. Therefore, the bulk water service provider (merged in one management) will incur a very high capital investments cost of about US$299 million and a corresponding high amount of IDA-SUF credits and AFD loans (under the KWSCRP AF and WSDP), which will affect the annual O&M costs and annual debt service costs upward.

6. Tables 5.2 and 5.3 display the key output and result indicators of the utility from 2018 (2017 base year) to 2035.

Table 5.2: Summary of Performance Indicators for Bulk Water Service Provider (2018–2035)

Indicator	2017	2018	2019	2020	2021	2022
	Base Year	Forecast				
1. Bulk water production (m^3 000)	53,747	53,747	59,952	59,952	59,952	93,897
2. Bulk water sales to WSPs (m^3 000)	46,222	46,222	51,558	51,558	51,558	80,751
3. NRW (%)	14	14	14	14	14	14
4. Operating revenues (KSh 000)	1,141,290	1,487,201	1,741,028	1,916,586	2,012,415	3,303,879
5. Collection ratio (%)	70	85	90	95	95	95
6. Operating costs (KSh 000)	901,624	1,404,484	1,474,855	1,548,697	1,626,132	2,663,325
7. O&M coverage ratio (%)	0.9	0.9	1.1	1.2	1.2	1.2
8. Debts service costs (KSh 000)	484,568	958,089	950,124	933,883	917,879	2,332,937
9. Net Operating Income (KSh 000)	139,061	897,591	1,195,679	1,375,668	1,389,271	2,578,969
10. Debt service coverage ratio	0.3	0.9	1.3	1.54	1.54	1.1

Source: Profit and Loss Statement.

Table 5.3: A Summary of Performance Indicators for Bulk Water Service Provider (2018–2035) (continued)

Indicator	2023	2024	2025	2030	2035
	Forecast				
1. Bulk water production (m^3 000)	110,869	127,842	127,842	150,837	150,837
2. Bulk water sales to WSPs (m^3 000)	95,347	109,944	109,944	129,719	129,719
3. NRW (%)	14	14	14	14	14
4. Operating revenues (KSh 000)	4,094,266	4,955,431	5,203,203	7,832,616	9,992,605
5. Collection ratio (%)	95	95	95	95	95
6. Operating costs (KSh 000)	2,748,697	3,058,829	3,404,492	3,519,580	5,530,347
7. O&M coverage ratio (%)	1.4	1.5	1.5	2.1	1.7
8. Debts service costs (KSh 000)	2,332,937	2,318,250	2,284,981	2,827,910	2,770,466
9. Net Operating Income (KSh 000)	2,744,464	2,752,439	2,888,550	5,025,013	5,066,236
10. Debt service coverage ratio	1.2	1.2	1.0	1.8	4.4

Source: Profit and Loss Statement.

7. According to Tables 5.2 and 5.3, the utility will start covering the O&M costs and debt service costs from 2019 onward. One of the key drivers of these two indicators is the expected increase of bulk water production and sales by 75 percent and 70 percent, respectively, in 2022 from 2017. The production and sales will have another increase in 2025, which will have a further impact on the revenues of the utility from 2025 and onward. The second key driver of the financial viability of the service provider is the anticipated increase of the bulk water from KSh 25 per cubic meter in 2017 to KSh 32 per cubic meter in 2018 to ensure cost recovery. The anticipated increase of the volume and the tariff will increase the operating revenues in 2022 by more than two times compared to 2017. The utility has suffered from the low payments from the coastal WSPs as the main big buyers of bulk water, and the anticipated increase of the collection ratio is expected to be another important driver to boost the collected revenues. NRW in 2016 is 14 percent, which is forecasted to remain constant throughout the financial analysis period.

8. **Mombasa WSP.** The Mombasa utility will receive funds on-lent under IDA-SUF terms to finance investments under the WSDP for improvements of the water supply network. Mombasa will receive investments for the rehabilitation of the Kipevu wastewater treatment plant and expansion of the sewage network in the west mainland and for the construction of a new Shimo La Teva wastewater treatment plant both with the sewage network in the north mainland. The total capital investments for the utility under the WSDP will be US$74.9 million, which will be financed with an IDA-SUF credit and an AFD loan. In addition, there is an IDA-SUF credit of US$20 million under the ongoing KWSCRP AF, which will increase the total amount to about US$95 million. The total amount of loan repayment costs under WaSSIP and WaSSIP AF, under KWSCRP AF, and the new loan repayment costs under the WSDP are expected to be covered through the net operating income during the maturity of the loans.

9. Tables 5.4 and 5.5 display the key output and result indicators of the utility from 2018 (2017 base year) to 2035.

Table 5.4: Summary of Performance Indicators for Mombasa WSP (2018–2035)

Indicator	2017	2018	2019	2020	2021	2022
	Base Year	Forecast				
1. Bulk water purchase (m^3 000)	20,499	20,499	23,167	23,167	23,167	47,806
2. Bulk water sales (m^3 000)	9,840	13,324	15,754	16,217	16,680	35,855
3. NRW (%)	52	35	32	30	28	25
4. Operating revenues (KSh 000)	1,029,961	2,088,908	2,557,486	2,842,983	3,053,337	6,718,352
5. Collection ratio (%)	87	88	89	90	90	90
6. Operating costs (KSh 000)	1,098,153	1,538,141	1,742,108	1,847,431	1,949,053	3,344,466
7. O&M coverage ratio (%)	0.8	1.2	1.3	1.4	1.4	1.8
8. Debts service costs (KSh 000)	120,273	636,563	628,916	617,741	606,739	762,569
9. Net operating income (KSh 000)	17,530	744,870	978,826	1,156,025	1,243,722	3,146,822
10. Debt service coverage ratio	0.1	1.2	1.6	1.9	2.0	4.1

Source: Profit and Loss Statement.

Table 5.5: Summary of Performance Indicators for Mombasa WSP (2018–2035) (continued)

Indicator	2023	2024	2025	2030	2035
	Forecast				
1. Bulk water purchase (m^3 000)	62,403	76,999	76,999	90,849	90,849
2. Bulk water sales (m^3 000)	46,802	57,749	57,749	68,137	68,137
3. NRW (%)	25	25	25	25	25
4. Operating revenues (KSh 000)	8,935,840	11,250,842	11,837,638	17,442,632	22,302,219
5. Collection ratio (%)	90	90	90	90	90
6. Operating costs (KSh 000)	4,289,917	5,402,480	5,673,694	8,946,752	10,514,426
7. O&M coverage ratio (%)	1.9	1.9	1.9	1.8	1.9
8. Debts service costs (KSh 000)	751,995	739,387	903,673	723,345	509,211
9. Net operating income (KSh 000)	4,197,110	5,168,050	5,424,952	7,196,389	10,002,343
10. Debt service coverage ratio	5.6	7.0	6.0	9.9	19.6

Source: Profit and Loss Statement.

10. According to Tables 5.4 and 5.5, the utility is expected to exhibit a good financial performance that would result in positive cost coverage of the two financial indicators of O&M and debt service costs. The utility is expected to show financial viability from 2018 onward. One of the key drivers of the expected financial performance of the Mombasa WSP is the increase of water sales by more than two times in five years of the project implementation due to the high increase of bulk water purchase and reduction of NRW. NRW is expected to go down from 52 percent to 25 percent, which will considerably affect the water sales. The Mombasa WSP has the highest level of tariffs in the coast, higher than Nairobi Water and Sewerage Company; therefore, the anticipated increase of the tariffs by 5 percent will play a moderate role in the financial viability of the utility. The performance of Mombasa will be affected by investments of the ongoing KWSCRP and the new WSDP. The investments anticipated in the WSDP will make available the bulk water from Mwache Dam. The impact of the sewerage investments for two wastewater treatment plants and the associated sewage network on the utility will be seen after the completion of the investments in 2023. Additionally, investments in sanitation are expected to improve services such as ablution blocks and sludge handlings, but with no visible impact on financial revenues.

11. **Malindi WSP.** The Malindi utility will receive funds on-lent under IDA-SUF terms to finance investments under the WSDP for improvements of water supply and sanitation services. The total capital investments for the utility will be US$26.1 million.

12. Tables 5.6 and 5.7 present the key output and result indicators of the utility from 2018 (2017 base year) to 2035.

Table 5.6: Summary of Performance Indicators for Malindi WSP (2018–2035)

Indicator	2017	2018	2019	2020	2021	2022
	Base Year	Forecast				
1. Bulk water purchase (m^3 000)	6,869	7,077	8,411	8,411	8,411	8,411
2. Bulk water sales (m^3 000)	4,554	5,095	6,224	6,308	6,308	6,308
3. NRW (%)	34	28	26	25	25	25
4. Operating revenues (KSh, thousands)	399,594	568,368	715,666	760,260	797,676	836,936
5. Collection ratio (%)	95	95	95	95	95	95
6. Operating costs (KSh, thousands)	413,684	450,834	524,738	570,457	598,927	628,815
7. O&M coverage ratio (%)	0.9	1.2	1.3	1.3	1.3	1.3
8. Debts service costs (KSh, thousands)	141,673	190,320	187,005	183,737	180,515	177,336
9. Net operating income (KSh 000)	(28,553)	214,339	280,368	277,014	284,089	291,498
10. Debt service coverage ratio	(0.2)	1.1	1.5	1.5	1.6	1.6

Source: Profit and Loss Statement.

Table 5.7: Summary of Performance Indicators for Malindi WSP (2018–2035) (continued)

Indicator	2023	2024	2025	2030	2035
	Forecast				
1. Bulk water purchase (m^3 000)	8,411	8,411	8,411	9,924	9,924
2. Bulk water sales (m^3 000)	6,308	6,308	6,308	7,443	7,443
3. NRW (%)	25	25	25	25	25
4. Operating revenues (KSh 000)	1,203,424	1,272,780	1,347,714	1,988,758	2,538,203
5. Collection ratio (%)	95	95	95	95	95
6. Operating costs (KSh 000)	697,215	733,388	770,052	1,086,591	1,386,659
7. O&M coverage ratio (%)	1.6	1.6	1.7	1.7	1.7
8. Debts service costs (KSh 000)	174,199	171,104	218,548	147,167	133,702
9. Net operating income (KSh 000)	571,261	600,977	635,500	927,952	1,144,701
10. Debt service coverage ratio	3.3	3.5	2.9	6.3	8.6

Source: Profit and Loss Statement.

13. The utility is estimated to have a positive financial performance that will ensure O&M and debt service costs coverage from 2018 onward. The increase of water sales by about 27 percent and of the tariffs by about 13 percent during the project implementation are the two key drivers of the financial viability of the utility. The O&M costs are expected to increase around 52 percent during the project life, while operating revenues are expected to double during the same period. The last one is estimated by the increase of water sales volume and tariffs as well. NRW is expected to go down from 34 percent to 25 percent, which accounts for a moderate contribution to the water sales increase. Additionally, the utility's revenues will be affected moderately by the improved sanitation

services after the construction of the wastewater treatment plant and services such as ablution blocks and sludge handlings.

14. **Kilifi-Mariakani WSP.** The Kilifi utility will receive funds on-lent under IDA-SUF terms to finance investments under the WSDP for improvements of water supply and sanitation services. The total capital investments for the utility will be US$11.7 million.

15. Tables 5.8 and 5.9 present the key output and result indicators of the utility from 2018 (2017 base year) to 2035.

Table 5.8: Summary of Performance Indicators for Kilifi-Mariakani WSP (2018–2035)

Indicator	2017	2018	2019	2020	2021	2022
	Base Year	Forecast				
1. Bulk water purchase (m^3 000)	9,720.37	9,720.37	11,054.45	11,054.45	11,054.45	12,904.78
2. Bulk water sales (m^3 000)	4,860.19	5,346.20	6,632.67	7,185.39	7,738.11	9,678.58
3. NRW (%)	50	45	40	35	30	25
4. Operating revenues (KSh 000)	464,559	673,059	863,465	974,533	1,094,922	1,421,246
5. Collection ratio (%)	95	95	95	95	95	95
6. Operating costs (KSh 000)	503,109	672,880	765,956	835,468	883,865	1,030,233
7. O&M coverage ratio (%)	0.9	1.0	1.1	1.1	1.2	1.3
8. Debts service costs (KSh 000)	30,645	56,293	55,015	53,767	52,546	51,353
9. Net operating income (KSh 000)	(30,762)	17,168	105,298	141,595	207,763	371,795
10. Debt service coverage ratio	(1.0)	0.3	1.9	2.6	4.0	7.2

Source: Profit and Loss Statement.

Table 5.9: Summary of Performance Indicators for Kilifi-Mariakani WSP (2018–2035) (continued)

Indicator	2023	2024	2025	2030	2035
	Forecast				
1. Bulk water purchase (m^3 000)	12,904.78	12,904.78	12,904.78	15,226	15,226
2. Bulk water sales (m^3 000)	9,678.58	9,678.58	9,678.58	11,419	11,419
3. NRW (%)	25	25	25	25	25
4. Operating revenues (KSh 000)	1,489,288	1,560,328	1,634,636	2,426,578	3,051,158
5. Collection ratio (%)	95	95	95	95	95
6. Operating costs (KSh 000)	1,092,318	1,145,065	1,200,425	1,699,548	2,157,450
7. O&M coverage ratio (%)	1.3	1.3	1.3	1.4	1.3
8. Debts service costs (KSh 000)	50,187	49,046	47,929	59,364	53,161
9. Net operating income (KSh 000)	374,420	389,237	404,547	658,633	794,747
10. Debt service coverage ratio	7.5	7.9	8.4	11.1	14.9

Source: Profit and Loss Statement.

16. According to Tables 5.8 and 5.9, the utility is estimated to cover the O&M costs and debt service costs by 2018 and 2019, respectively. The first key factor that will contribute to the financial revenues will be the increase of water sales by about 99 percent in 2022 compared to 2017 due to the reduction of NRW and increase of bulk water purchase volume. NRW is expected to go down from 50 percent in 2017 to 25 percent in 2022, which will noticeably affect the rise of water sales. The second key factor is the anticipated increase of the weighted average tariff by 20 percent to ensure cost recovery during the project life. The billing revenues are estimated to outweigh the O&M

costs during the project life. Additionally, investments in sanitation are expected to improve services such as ablution blocks and sludge handlings, but with no visible impact on financial revenues.

17. **Kwale WSP.** The Kwale utility will receive funds on-lent under IDA-SUF terms to finance investments under the WSDP for sanitation service improvements. Additionally, the utility is benefiting from the ongoing KWSCRP's investments for water supply improvements. The total capital investments for the utility from both projects are US$7.15 million.

Tables 5.10 and 5.11 present the key output and result indicators of the utility from 2018 (2017 base year) to 2035.

Table 5.10: Summary of Performance Indicators for Kwale WSP (2018–2035)

Indicator	2017	2018	2019	2020	2021	2022
	Base Year	Forecast				
1. Bulk water purchase (m^3 000)	4,224.15	4,394.18	4,394.18	4,394.18	4,394.18	6,493.21
2. Bulk water sales (m^3 000)	2,196.56	2,460.74	2,812.28	3,075.93	3,295.64	4,869.91
3. NRW (%)	48	44	36	30	25	25
4. Operating revenues (KSh 000)	186,978	268,313	325,108	372,340	418,300	637,445
5. Collection ratio (%)	93	94	95	95	95	95
6. Operating costs (KSh 000)	235,874	301,844	321,191	350,581	370,727	495,012
7. O&M coverage ratio (%)	0.7	0.8	1.0	1.0	1.1	1.2
8. Debts service costs (KSh 000)	37,832	37,324	36,816	36,310	62,471	61,983
9. Net operating income (KSh 000)	(47,563)	(10,035)	27,255	42,736	66,251	150,154
10. Debt service coverage ratio	(1.3)	(0.3)	0.7	1.2	1.1	2.4

Source: Profit and Loss Statement.

Table 5.11. Summary of Performance Indicators for Kwale WSP (2018–2035) (continued)

Indicator	2023	2024	2025	2030	2035
	Forecast				
1. Bulk water purchase (m^3 000)	6,493.21	6,493.21	6,493.21	7,661	7,661
2. Bulk water sales (m^3 000)	4,869.91	4,869.91	4,869.91	5,746	5,746
3. NRW (%)	25	25	25	25	25
4. Operating revenues (KSh 000)	669,403	702,873	738,017	1,103,826	1,408,793
5. Collection ratio (%)	95	95	95	95	95
6. Operating costs (KSh 000)	519,967	545,955	573,243	818,144	1,044,126
7. O&M coverage ratio (%)	1.2	1.2	1.2	1.3	1.3
8. Debts service costs (KSh 000)	61,146	60,308	59,471	27,867	27,867
9. Net operating income (KSh 000)	155,560	161,369	167,468	270,085	333,821
10. Debt service coverage ratio	2.5	2.7	2.8	9.7	12.0

Source: Profit and Loss Statement.

18. Tables 5.10 and 5.11 show that the utility is expected to be financially viable from 2020 onward. The utility is estimated to ensure O&M cost and debt service cost coverage in 2019 and 2020, respectively. The increase of water sales by about 53 percent during the project life with the reduction of NRW from 48 percent to 25 percent is estimated to substantially affect operating revenues. The anticipated increase of the water tariff by 14 percent to ensure cost recovery is another driver to the estimated increase of the operating revenue, which is going to overpass the increase of the O&M costs during the project life. Additionally, investments in sanitation are expected to

improve services such as ablution blocks and sludge handlings, but with no visible impact on financial revenues.

19. **Taita Taveta WSP.** The Tavevo utility will receive funds on-lent under IDA-SUF terms to finance investments under the WSDP for the improvement of water supply and sanitation services. The total capital investments for the utility will be US$9.0 million.

20. Tables 5.12 and 5.13 present the key output and result indicators of the utility from 2018 (2017 base year) to 2035.

Table 5.12. Summary of Performance Indicators for Taita Taveta WSP (2017–2035)

Indicator	2017	2018	2019	2020	2021	2022
	Base year	Forecast				
1. Bulk water purchase (m^3 000)	4,531.4	4,531.4	4,531.4	5,135.6	5,135.6	5,135.6
2. Bulk water sales (m^3 000)	2,265.7	2,492.3	2,718.9	3,338.1	3,851.7	3,851.7
3. NRW (%)	50	45	40	35	25	25
4. Operating revenues (KSh 000)	138,866	239,153	274,669	356,458	456,194	550,400
5. Collection ratio (%)	95	95	95	95	95	95
6. Operating costs (KSh 000)	257,749	318,993	336,964	370,235	420,101	447,608
7. O&M coverage ratio (%)	0.5	0.7	0.8	0.9	1.0	1.2
8. Debts service costs (KSh 000)	55,666	54,377	53,118	51,890	50,689	49,517
9. Net operating income (KSh 000)	(87,477)	(53,448)	(37,679)	6,749	51,633	113,622
10. Debt service coverage ratio	(1.6)	(1.0)	(0.7)	0.1	1.0	2.3

Source: Profit and Loss Statement.

Table 5.13. Summary of Performance Indicators for Taveta WSP (2017–2035) (continued)

Indicator	2023	2024	2025	2030	2035
	Forecast				
1. Bulk water purchase (m^3 000)	5,135.6	5,135.6	6,059.4	6,059	6,059
2. Bulk water sales (m^3 000)	3,851.7	3,851.7	4,544.5	4,545	4,545
3. NRW (%)	25	25	25	25	25
4. Operating revenues (KSh 000)	578,067	607,089	637,573	955,954	1,075,539
5. Collection ratio (%)	95	95	95	95	95
6. Operating costs (KSh 000)	469,352	492,173	516,126	725,207	906,786
7. O&M coverage ratio (%)	1.2	1.2	1.2	1.3	1.1
8. Debts service costs (KSh 000)	48,371	47,252	33,407	62,448	61,143
9. Net operating income (KSh, 000)	118,162	122,912	127,233	220,613	152,640
10. Debt service coverage ratio	2.4	2.6	3.8	3.5	2.5

Source: Profit and Loss Statement.

21. According to Tables 5.12 and 5.13, the utility is expected to gradually improve the financial performance and achieve O&M cost and debt service costs coverage by 2021. The 70 percent increase of water sales during the project life due to reduction of NRW and increase of bulk water purchase volume is estimated to have a key role in the operating revenue increase. NRW is expected to go down from 50 percent in 2017 to 25 percent in 2021, which will noticeably affect the rise of water sales. This impact on water sales is anticipated to be supplemented by the anticipated increase of the water tariff by 32 percent to ensure the financial viability of the utility to be able to repay the loans in addition to the O&M cost coverage. The utility had maintained very low tariffs, because it had not adjusted its tariff since inception and was using extraordinary tariff adjustment in 2010.

Investments in sanitation are expected to improve services such as ablution blocks and sludge handlings, but with no visible impact on financial revenues.

22. A summary of cash flow from the financial analysis for 40 years is summarized in Tables 5.14 and 5.15. The analysis is based on:

- Estimation of increased demand for drinking water supply from domestic (consumption per connection), industrial, commercial, and public organizations for each of the five coastal WSPs, as a result of project investments.
- Estimation of increased bulk water production and sales to coastal WSPs, as results of project investments for increasing production capacity of existing sources, and of the new Mwache Dam.
- Estimation of rapid decline in NRW.
- Estimation of wastewater generation per connection of water consumed for existing and new connections, as a result of project investments for Mombasa,
- Estimation of water and sewerage tariffs of each of the five coastal WSPs that should cover the old and new debt service costs, and all investment costs, as well.
- Estimation of one bulk water supply tariff of Kenya shilling per cubic meter for the five WSPs that should cover the old and new debt service costs, and all investment costs, as well.
- Estimations of revenues from domestic, industrial, commercial, public organizations customers, kiosks, and other revenues.
- Capital expenditures for the rehabilitation and expansion of water and sewage distribution system.
- Estimation of operating expenses, fixed assets, and depreciation schedule due to new capital investments.
- Estimation of debt service costs for each coastal WSP that will benefit from the project loans.

23. **Economic analysis.** The economic analysis demonstrates the economic viability of the project investments. The cost-benefit analysis estimates the economic feasibility of the project by calculating the present value of cost and benefit streams and by determining the NPV and economic rate of return of the project, using a discount rate of 12 percent. The net benefit of the project is estimated as the incremental benefit of the 'with' and 'without' project scenarios. A summary of the economic analysis for the water supply investments is presented below (Table 5.14). The IRR is about 14.9 percent, and the NPV is at about US$208.7 million. Detailed results of the economic and financial IRR and NPV for each WSP are presented in Table 5.15.

Table 5.14: Summary of Cost-Benefit Analysis with Project

	Economic Analysis	Financial Analysis
NPV (KSh, millions)	208.7	1.7
IRR (%)	14.9	12.1

Table 5.15: Summary of Cost-Benefit Analysis with Project

	Economic Analysis	Financial Analysis	Economic Analysis	Financial Analysis	Economic Analysis	Financial Analysis
	Mombasa		**Malindi**		**Kwale**	
NPV (KSh, millions)	43.1	19.8	15,614	3,277	3,080	2,602
IRR (%)	21	16	17.3	12.0	21.1	18.5
	Kilifi		**Tavevo**		**Bulk Water Operation**	
NPV (KSh, millions)	4,375	977	3,304	3,526	238,857	307,580
IRR (%)	20.5	13.8	12.5	16.2	10.3	12.7

Affordability of tariffs

24. All WSPs have applied WASREB's tariff policy for providing sustainable and affordable water supply and sanitation services to the poor to cover basic human needs, while ensuring financial viability of the services provided. The block tariff structure of the WSPs incorporates the pro-poor policy through the provision of a tariff well below the cost of providing the services for the first six cubic meters of consumption per connection per month.

Component 2

25. Currently, neither Wajir nor Dadaab are recovering the full cost of water and sanitation services from consumers. County subsidies fill the gap. This is mainly due to the high cost of diesel to run the borehole pumps. In Dadaab, which serves the population through eight boreholes, about 90 percent of the average monthly revenues is used to pay for diesel. With the remaining 10 percent of the operating revenues, the cost for staff and repair and maintenance cannot be covered. In Wajir, the boreholes that rely solely on diesel generators incurred higher costs than those which also draw on solar panels for energy. For example, in Khorof Harar, where pumps are powered by a mix of generators and solar panels, the water production costs were estimated to be KSh 22 per cubic meter, while at Haandaki which relies on generators only, the production costs are KSh 44 per cubic meter.[27] The WSDP will equip all boreholes in Wajir and Dadaab with solar panels. This is expected to reduce the cost of energy by about 50 percent, helping make the operation of boreholes financially self-sustaining.

26. A comprehensive economic and financial analysis will be performed for Component 2 as part of the ongoing feasibility studies for proposed investments in Wajir and Garissa Counties. The economic and financial analysis will follow the approach used above for Component 1.

[27] On average, most of the water points rely on generators only for production.

Component 3

27. **While the specific investments to be supported under Component 3 are not known at this time, financial analyses for potential investments have been carried out.** The following are summaries of analyses for two investments:

- For three possible energy savings investments, the payback periods varied between 13 and 29 months, making them all financially viable investments. The one with the shortest payback period is superior to the others.

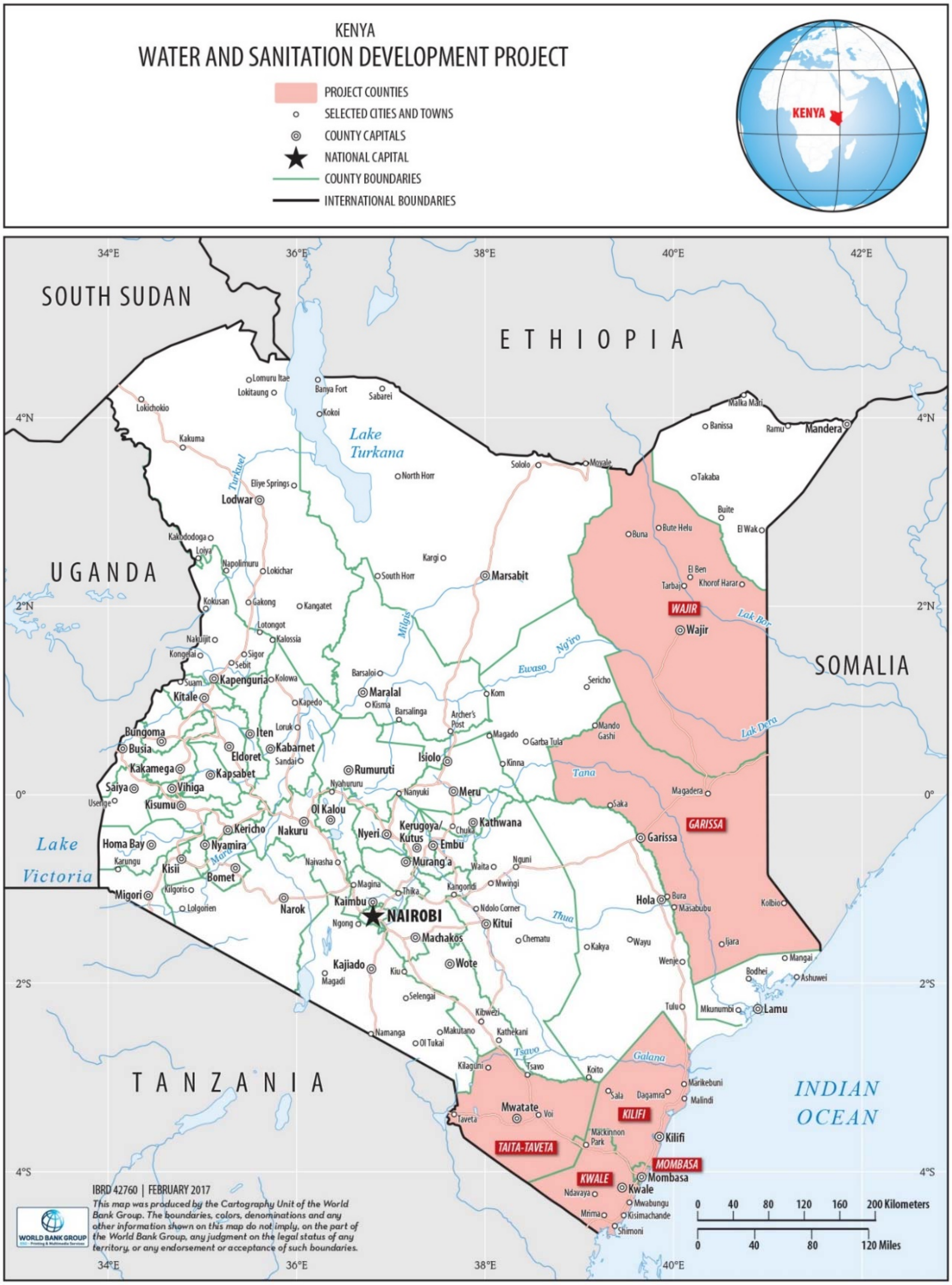
- Ruiru had approached the KPWF seeking funding of about US$8 million for the proposed water supply and sanitation investments. KPWF declined to finance the proposed investments because they would not generate adequate returns to repay the loan under KPWF lending terms. The financial model summarized in Annex 2 shows that the proposed investments would generate adequate returns if they were financed with a mix of the KPWF and WSDP funds, which come with more favorable lending terms. However, it must be noted that this is only an example to show the potential of mixing the WSDP and KPWF funds.

28. To compare the efficiency of three proposals for replacing pumps to reduce O&M cost, the payback for each proposal was calculated and compared. The results are presented in Table 5.16. All three show very good payback periods with the one for Kiambu being the lowest and the one for Nairobi being the highest.

Table 5.16: Payback Periods for Three Proposals for Pump Replacements Which Could Be Considered under Component 3

Parameters	Nairobi	Kiambu	Machakos	Total
	Kabete Water Treatment Plant	Thika Water Treatment Plant	Machakos Water Treatment Plant	
Power saving (kW)	120.1	106	24	250.1
Annual energy saving (kWh)	518,895	887,823	132,060	1,538,778
Annual monetary saving (KSh, millions)	8.07	13.8	2.05	23.92
Estimated investment (KSh, millions)	19.28	14.49	3.76	37.53
Simple payback period (months)	29	13	22	19

Annex 6: Map


KENYA
WATER AND SANITATION DEVELOPMENT PROJECT
PROJECT COUNTIES
SELECTED CITIES AND TOWNS
COUNTY CAPITALS
NATIONAL CAPITAL
COUNTY BOUNDARIES
INTERNATIONAL BOUNDARIES
KENYA
SOUTH SUDAN
ETHIOPIA
UGANDA
SOMALIA
TANZANIA
INDIAN OCEAN
Lake Turkana
Lake Victoria
34°E
36°E
38°E
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WAJIR
GARISSA
KILIFI
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MOMBASA
KWALE
NAIROBI
Lodwar
Marsabit
Mandera
Wajir
Garissa
Hola
Lamu
Kilifi
Mombasa
Kwale
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