

INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.: ISDSC5295

Date ISDS Prepared/Updated: 25-Mar-2014

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I. BASIC INFORMATION

A. Basic Project Data

Country:	Kenya	Project ID:	P145559
Project Name:	Coastal Region Water Security and Climate Resilience Project (P145559)		
Task Team Leader:	Gustavo Salties		
Estimated Appraisal Date:	05-May-2014	Estimated Board Date:	29-Jul-2014
Managing Unit:	AFTN2	Lending Instrument:	Investment Project Financing
Sector(s):	Water supply (50%), General water, sanitation and flood protection sector (25%), Public administration- Water, sanitation and flood protection (15%), Irrigation and drainage (10%)		
Theme(s):	Water resource management (40%), City-wide Infrastructure and Service Delivery (30%), Climate change (20%), Rural services and infra structure (10%)		
Financing (In USD Million)			
Total Project Cost:	360.00	Total Bank Financing:	200.00
Financing Gap:	160.00		
Financing Source			Amount
BORROWER/RECIPIENT			0.00
International Development Association (IDA)			200.00
Total			200.00
Environmental Category:	A - Full Assessment		
Is this a Repeater project?	No		

B. Project Objectives

The project development objective of the KWSCR-2 is to improve water security and build climate resilience in the Coastal Region by (i) increasing the supply of bulk water to Kenya's Coastal region, including Mombasa; and (ii) increasing access to water, (iii) developing a demonstration irrigation project and (iv) supporting sustainable livelihood development in Kwale County.

C. Project Description

The KWSCR program adopts a long-term programmatic approach, whereby a series of investment operations linked to the same overarching objective are undertaken. The first operation in the series, the Kenya Water Security and Climate Resilience Project 1 (KWSCR-1) supports laying a strong institutional and legal foundation for sector growth and sustainability and the roll-out of Kenya's vast water sector investment program. This approach provides the necessary flexibility for the phasing of investment operations to address opportunities and challenges as they emerge. It is expected that the KWSCR will be implemented over a period of ten to twelve years, which demonstrates the Bank's long term commitment to Kenya's water sector.

The lending instrument is Investment Project Financing (IPF) that supports a series of projects (SOPs). The approach proposed allows the preparation of a series of independent projects under a common program framework. Participants in the series may be national and sub-national entities that address water security and climate resilience issues through their involvement in the program. In this SOP approach, interested parties may opt for participation in the program, but there is no interdependency required among specific projects in the series.

The Coastal Region Water Security and Climate Resilience Project (KWSCR-2) is the second operation in the series, focusing on water security and climate resilience in the coastal region and complements the first project that focuses on national capacity-building, investment pipeline development, and a targeted irrigation investment in western Kenya.

The proposed Project would have four components, subject to the availability of financing, focusing on: Mwache Dam and Related Infrastructure (C1); Irrigation and Livestock Development (C2); Rural Area Development and Water Resources Management; (C3) and Project Management (C4). Each component is briefly discussed below.

Component 1: Mwache Dam and Related Infrastructure

This component will finance the construction of the main dam (Mwache), three check dams, raw water transmission lines (gravity-fed) to the treatment plant, transport infrastructure (approach road to dam site and bridges), electromechanical equipment and buildings related to the dam site i.e. all of the infrastructure needed to supply water (raw water, before treatment works) to the Mombasa water supply system. The component would also include implementation of the environmental management plan.

The proposed dam is a concrete gravity dam with height of 77.9m, crest length of 425 m and with a reservoir capacity of 118 million m³. The dam is expected to supply 186,000 m³/day (67.9 MCM/year) for urban water supply (all of which will go to Mombasa County), as well as water for irrigation to a nearby command area of about 2,500 ha. The hydrological assessment, including climate change impacts and the sediment management plan preparation are being finalized. Whilst the sensitivity of the water supply reliability of the dam reservoir to climate change was considered using an increased coefficient of variation in discharge flow pattern, a comprehensive sedimentation management plan, involving catchment management, reservoir operation, etc. is under preparation to minimize sediment deposit impacts on water supply reliability in the long run. The dam design and safety plans are being reviewed by a dam safety Panel of Experts and subject to further modifications. The dam site is located across the Mwache River at the Fulugani village (Kwale County), about 22 km west of the city of Mombasa in the Coastal region of Kenya and near the

coastline.

It is expected that the final design of Mwache dam will consider uncertainties related to future climate scenarios, as well as other uncertainties such as those related to population growth and changing patterns of urbanization and the expansion of informal, small-holder irrigation.

Component 2: Irrigation and Livestock Development

Component 2 would support the development of an irrigation scheme of 2,500 ha in Kwale county, as well as intensive training of farmers through participatory approaches, introduction of new high value crops, a marketing study and development of market linkages, strengthening of the existing irrigation service, and formation of, and capacity building for, an irrigation Water Users' Association (s). The direct target beneficiaries of the proposed irrigation scheme at full development would be approximately 25,830 people – i.e. about 2,200 households including that are currently farming land in the proposed irrigable area, and some 1,500 other households who would gain incremental wage employment opportunities on the new irrigated farms and through related economic activities. The component will increase the value of food production in the area from about Ksh 240 million to about Ksh 2 billion per year contributing to enhanced food security in the coastal region and the development of food exports to other regions of Kenya.

Key activities under this component would include: (i) infrastructure for 2,500 ha of irrigation producing food crops and livestock products for home consumption and the local market as well as horticultural crops for the local and export markets; (ii) training of and capacity building for irrigation farmers' organizations, including technical support for the formation of Irrigation Water Users Associations (IWUAs) and other farmers' organizations to empower them to operate and maintain the irrigation system and contract with the market for improved access to agricultural inputs and marketing of their products; (iii) a study of the potential local and export markets to absorb horticultural produce from the project, promotion of market linkages between irrigation farmers and agribusinesses, including exporters (such as VEGPRO), to support sustainable and inclusive agricultural production and development of value chains; (iv) strengthening public extension service through the Farmer Field School (FFS) approach to ensure that work is relevant to the needs of resource-poor farmers; and (v) establishment of a fund to provide seed capital to 'kick-start' irrigated and livestock production.

As climate change will increasingly impact rain-fed agriculture, the development of irrigation in the area will improve climate resilience, particularly through the avoided damage from increasingly frequent climate events and changes in rainfall patterns. Indeed, a recent World Bank paper (Climate Change, Agriculture and Food Security in Tanzania, September 2012) noted that food security in 110 districts in neighboring Tanzania appears likely to deteriorate as a consequence of climate change, with this decline coming through reductions in agricultural production, principally food production, due to increases in temperature and changes in rainfall patterns. In the dry scenario, average agricultural production levels are more than 10 percent below the levels of a hypothetical no climate change scenario by mid-century. In light of this, it is clear that a move away from rain-fed agriculture will help to buffer the region's economy to climate change impacts, and contribute to climate resilience.

Component 3: Rural Area Development and Water Resources Management

This component is aimed at developing and uplifting the livelihoods (economic and social) of

communities in the immediate Mwache area as well as other areas in Kwale County and would be geared to improving the livelihoods of the PAPs (i.e. approximately 5,300 households – approximately 37,000 people) in Mazeras, Mnyenzi, Chigato and Mwatate sub-locations of Kinango District. It will also include targeted Water Resources Management activities, both in the catchment area as well as more broadly in the Coastal Region.

The rural area development will include potential development initiatives that the communities in the area consider vital and which can be off shoots of the Mwache dam including for instance; fisheries, Small and Micro-Enterprises (SMEs), water supply and sanitation, health, ecotourism, watershed management and other social infrastructure.

These activities will be conducted in accordance with a Rural Area Development Plan (RADP) that will (i) define effective strategies to meet the needs of communities beyond the immediate area of influence to improve or at least restore their livelihoods, incomes and living conditions, in a manner that (ii) coordinate and synchronize these strategies with ongoing programs and projects that have been endorsed by governments and donors and (iii) create opportunities for rural development targeting the larger communities in the Project area, through direct funding by the Project and/or benefit sharing of revenues from the Project.

This component will also include support for improved climate-resilient water resources management. This will be done through support for WRMA and the associated basin/local offices in the Coastal region, in terms of support for institutional infrastructure, information infrastructure, improved decentralized and multi-sectoral planning, and climate risk assessments for upcoming investments and associated water systems. The component could also include activities targeted at understanding and addressing key issues in the greater catchment area, such as soil and water conservation, and erosion control in key hot spots to reduce sediment production and mitigate siltation. A key focus will be to improve climate resilience in this critical area of Kenya.

Promoting pro-poor, climate-resilient growth in the overall catchment area for Mwache is crucial to achieve the expected benefits from the multipurpose Mwache dam (i.e. water supply for Mombasa, increased agricultural production, and subsequent economic growth). Watershed management including environment, agriculture, irrigation, forestry, livestock, water supply and energy, among others should be tackled on a participative, multi-sectoral and cooperative manner, focusing at the local community levels for service delivery and support to sustainable co-management of natural resources.

Component 4: Project Management

This component will establish and finance a Project Implementation Unit (PIU) within the Coastal Development Authority (CDA). It is currently envisioned that the PIU will take the lead on execution of project activities (including preparation of tender and design documents, technical supervision of works, and contract management as well as planning, coordination and reporting for all project activities. The PIU will be supported by an Implementation Support Consultant (ISC), which could be a consortium of firms with relevant national and international experience. The ISC will be embedded in the PIU and will be responsible for delivering key activities, including project planning and reporting, civil works supervision, implementation of social and environmental safeguards instruments, etc. The ISCs will also provide capacity building, including in technical areas and for general fiduciary and safeguards functions (in coordination with PMU).

The central Project Management Unit (PMU), established under Phase 1 of the program, will maintain overall fiduciary responsibility and supervise execution, including the delivery of contracts. While the PIU will be responsible for coordinating the implementation of environmental and social safeguards instruments (including the ESMP, RAP and VMGP), the PMU will be responsible for supervising timely and appropriate implementation of safeguards instruments. The specific mandate and role of the PIU and PMU relative to other key stakeholders (including CWSB, MOWASCO, Mombasa County, and Kwale County) will be clarified in a Memorandum of Agreement that is currently under preparation.

Note: At present, the financing envelope for the activities above (Mwache Dam and related infrastructure, full development of the irrigation scheme and livestock activities, rural area development and water resources management, and project management), as well as the Water Treatment Plant and transmission lines associated with the Mwache Dam, are estimated at US\$ 360 million.

The Bank and MEWNR are assessing different options for financing activities that exceed the US\$ 200 million IDA envelope. It is likely that the final scope of activities would focus largely on Mwache Dam and key infrastructure (Component 1) and rural area development and water resources management activities (Component 3). The final scope of these activities will be finalized by project appraisal.

For financing the Water Treatment Plant and transmission lines associated with the Mwache Dam, MEWNR is assessing financing options including investments from Mombasa County and private sector participation. A potential Public-Private Partnership (PPP) structure is currently being explored by the PPP unit in The National Treasury. Under the PPP structure, a private company could build, operate and/or finance these investments on the basis of a long term Water Purchase Agreement (WPA) signed with a government off-taker. It is also likely that additional IDA funds would be available in subsequent years to contribute to the overall financing needed.

D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The proposed project is located in Coast Province in Kenya, Kwale district and spans between Kasemeni and Mwavumbo locations, approximately 22 km west of Mombasa Island by road. The dam is proposed to be constructed on Mwache River, which lies in undulating terrain, between sea level and 300 metres above sea level and drains into the Indian Ocean through Mwache Creek at Port Reitz south of Mombasa Island.

Mwache river basin covers an area of 2,250 km² and lies between 14m to 300m above sea level and exhibits gentle slopes in the upper regions and flat in the lower regions. The proposed dam site in the sub-catchment is located near Fulugani village of Kasemeni Division in Kinango District and falls in a straight stretch of the river Mwache located inside a gorge. The Mwache dam site and surrounding area comprises of sand rock formation, considered to be sound and suitable for construction of any type of dam

In general the project area has a bi-modal rainfall pattern with well drained loamy sand soils. The long rainy season (long rain) starts in March and extends up to July. The short rainy season which starts in October and extends up to December have less rain than long rain season. The annual rain is about 1074 mm. The area experiences significant heavy flows during the wet season with notable silt deposition and riverbed scouring from strong storm flows. The riverbed is characterized with pools

of stagnant water that are beneficial to the farmers, watering livestock as well as limited fishing. Further downstream is the Mwache River estuary that begins from the Bonje Bridge into the dense mangrove forest of Mwache Creek that gives way into the sea at Port Reitz.

The project area is homogeneous with respect to the social setting, vegetation cover and economic characteristics. The physiography, however, varies over short distances from ragged and undulating landscape to steep valleys towards the sea and flat zones to the north and west. Land gradient is one of major land characteristic which plays an important role in determination of its suitability for farming activities and type of irrigation in view of high erosion risk and low workability.

The site is characterized by a mixture of environmental features including forests, deep valleys, open lands, cultivated lands, variety of reptiles and rodents, etc. There are also social and economic features such as settlements, institutions, cultural sites, watering points, grazing areas and sand harvesting locations on Mwache river.

E. Borrowers Institutional Capacity for Safeguard Policies

The GoK has established the Environmental Management and Coordination Act (EMCA) of 1999, which empowers the National Environmental Management Authority (NEMA) with an oversight role on environmental compliance. In accordance with the EMCA, NEMA is responsible for conducting annual environmental audits and carrying out due diligence on the projects that have already undertaken EIAs, as well as those in the process of undertaking EIAs. However, overall capacity for implementation of environmental and social safeguards policies is still low. Inadequate capacity to execute the required social and environmental risk mitigation measures could lead to high negative social and environmental impacts and undermine project results.

To mitigate this, an Environmental and Social Management Framework (ESMF), a Resettlement Policy Framework (RPF), and a Vulnerable and Marginalized Groups Framework (VMGF) have been prepared under the Phase 1 of KWSCRIP to guide project implementation and preparation of site-specific environmental and social impact assessments and resettlement action plans for specific project investments. The Project Management Unit, established under Phase 1 of the program (KWSCRIP-1) will support the implementing agency (CDA) to prepare and supervise the implementation of environmental and social instruments. The PMU includes social and environmental safeguards specialists, and will be responsible for ensuring the application of social and environmental frameworks (ESMF, VMGF and RPF) and supervising the implementation of safeguards instruments.

In order to enhance capacity of the CDA, training programs related to preparation and the implementation of the Social and Environmental Management Plan, the Resettlement Action Plan, and Vulnerable and Marginalized Groups Plan will be provided. The World Bank team will carry out close, field-based implementation support and supervision.

F. Environmental and Social Safeguards Specialists on the Team

Zarafshan H. Khawaja (AFTCS)

Helen Z. Shahriari (AFTCS)

Hocine Chalal (AFTN1)

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II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/ BP 4.01	Yes	<p>Construction of the dam related infrastructure on river Mwache is likely to reduce environmental flow downstream of the dam with possible negative consequences on the productivity and ecological integrity of the Mwache creek and its dependent biophysical and socio- economic environment. Based on the Environmental and Social Management Framework (ESMF) for the KWSCR -1 an Environmental and Social Management Impact Assessment (ESIA) will be prepared, consulted upon and disclosed before appraisal. The ESIA will establish potential positive and negative impacts. An Environmental and Social Management Plan (ESMP) will also be prepared detailing measures to mitigate the identified impacts.</p> <p>Since the Mwache dam is envisaged to bring 65.7 million cubic meter of water per year to Mombasa, disposal of additional wastewater generated may have environmental impacts. As a result, an ESIA analysis, based on the ESMF for KWSCR-1, will be conducted for this additional wastewater in the future, as needed.</p>
Natural Habitats OP/BP 4.04	Yes	<p>Project activities related to dam construction may lead to alterations in flow regimes of freshwater into Mwache Creek, such as reduction in silt discharge, which could cause changes in nutrient cycling in the creek ecosystem effectively disrupting the marine life trends and the associated productivity including the mangrove development. Inundation of the area can also change the ecological settings – biological diversity, indigenous species of flora and fauna, potential transformation of the ecological characteristics due to invasive species including vectors.</p> <p>For this reason, the Natural Habitats policy is triggered. The project will strive to retain the ecological functions of the wetlands, which include water purification, flood protection, habitat for aquatic animal and plant species. The ESIA will include mitigation measures for the natural habitats.</p>

Forests OP/BP 4.36	TBD	
Pest Management OP 4.09	Yes	Although the project will not be financing pesticide, support to development of an irrigation scheme under Component 2 is likely to involve use of different types of agrochemicals to control diseases pests, and vectors. The project will promote the use of integrated pest management approaches and seek to reduce reliance on synthetic chemical pesticides. An Integrated Pest Management Plan (IPMP) will be prepared, consulted upon and disclosed before appraisal in accordance with the IPM Framework for KWSCR -1 to provide guidance on the pest and pesticide. The IPMP will provide guidance on assessment of environmental and health risks associated with the envisaged pesticide use and integration of specific measures to these risks in the project design.
Physical Cultural Resources OP/ BP 4.11	Yes	The project is likely to inundate cultural heritage sites/graves and /or encounter cultural resources during the construction of the dam. The ESIA will address impacts on physical cultural resources and provide a cultural resources management plan, including “Chance Finds”. Guidance on addressing chance finds for individual investment during project implementation has been prepared as part of the ESMF for KWSCR-1.
Indigenous Peoples OP/BP 4.10	Yes	The project area is inhabited by the Durumas a sub tribe of the Mijikenda and categorized as vulnerable and marginalized by the Constitution of Kenya. Thus, a Vulnerable and Marginalized Groups Plan (VMGP) will be prepared, consulted upon and disclosed, based on the Vulnerable and Marginalized Groups Framework (VMGF) which was prepared and disclosed under KWSCR-1. As part of a wider social assessment for the project, socio-cultural and other relevant social and economic issues related to Durumas will be studied, which, in addition to the existing VMGF, will be the basis for the preparation of the VMGP.
Involuntary Resettlement OP/BP 4.12	Yes	The project main component is the construction of a dam across River Mwache in Kasemeni Division of Kinango District in Kwale County

	<p>and its related structures such as storage, check dams, transmission lines, access, roads, eventually water treatment. etc. These activities will require the acquisition of the land and properties, impacting on assets and physical resettlement of some of the households. In addition, component 2, The Irrigation and Livestock Development and component 3, Rural Development and Water Resource Management all involves land. As part of the feasibility study for the dam itself and the reservoir, a preliminary Resettlement Plan (RAP) was prepared by the design consultant. This RAP will be updated by an independent consultant to ensure it is in accordance to the RPF which was prepared for the KWSCR-1 and covers all the components being financed by the IDA in this phase of the project. Initial estimates for the dam and reservoir are that about 167 families (1,310 people) would be displaced by the dam, requiring resettlement. This figure is subject to confirmation of the final design of the project. Component 2, the Irrigation and Livestock Development, which requires land. is likely not to be included in this phase of the project and only 150 ha pilot area will be included for irrigation. The updated RAP will include this 150 ha of irrigation as well as well as the rural area development and water resources management activities (Component 3). The RAP will be disclosed in the country and the Infoshop before appraisal.</p> <p>Safeguards documents for the facilities associated with the dam (but not financed under the IDA loan) -- including the Water Treatment Plant, Transmission Lines, and 2,000+ha of irrigation -- would not be included in the scope of the main ESIA and RAP. The related infrastructure such as the access roads, transmission line, and the treatment facilities which are not financed under this phase of the project will also not be included in the RAP. However, the preparation of ESIA and RAP for the associated facilities would start before appraisal. The scope of the activities covered</p>
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		under this phase will be finalized by project appraisal.
Safety of Dams OP/BP 4.37	Yes	<p>A huge mass of water anticipated in Mwache dam could lead to potential risks including: dam breaking, spillways giving in, collapsing of related storage tanks, and overflow onto upstream bridges roads, accidental drowning of residents and animals, etc.</p> <p>The objective of the policy is to ensure that due consideration is given to the safety of: new dams to be constructed under the project, existing dams under construction, or dams under construction that are not included in the project but that may affect safety or performance of the project downstream. For large new dams, the policy requires review by an independent panel of experts of the design, construction and start of operations and the preparation of four plans: plan for construction supervision and quality assurance, instrumentation plan, operation and maintenance plan, and emergency preparedness plan. The World Bank does not require disclosure of dam safety-related documents.</p>
Projects on International Waterways OP/BP 7.50	No	OP/BP 7.50 will not be triggered by the proposed investment. The Mwache Dam is located on the Mwache river, whose basin lies fully within Kenya's borders.
Projects in Disputed Areas OP/BP 7.60	No	OP/BP 7.60 will not be triggered by the proposed investment.

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS: 19-Mar-2014

B. Time frame for launching and completing the safeguard-related studies that may be needed.

The specific studies and their timing¹ should be specified in the PAD-stage ISDS:

Safeguards-related studies are expected to conclude by mid-February 2014.

For Mwache Dam, these studies include an updated Resettlement Action Plan (RAP), an updated Environmental and Social Impact Assessment (ESIA), a Vulnerable and Marginalized Groups Plan (VMGP), and an Integrated Pest Management Plan (IPMP).

As noted previously, the final scope of activities to be included in this IDA project will be finalized by project appraisal. An Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) for any associated facilities that would not be financed under this IDA loan (e.g. the water treatment plant, transmission lines and irrigation scheme) are expected to be completed by board approval.

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.

IV. APPROVALS

Task Team Leader:	Name: Gustavo Saltiel	
<i>Approved By:</i>		
Regional Safeguards Coordinator:	Name: Alexandra C. Bezeredi (RSA)	Date: 25-Mar-2014
Sector Manager:	Name: Jonathan S. Kamkwalala (SM)	Date: 25-Mar-2014