



Readiness Environmental and Social Review Summary

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**I. BASIC INFORMATION****A. Basic Operation Data**

Operation ID	Product	Operation Acronym	Approval Fiscal Year
P517436	Investment Project Financing (IPF)	K-RISE	2027
Operation Name	Kenya Resilient Irrigation for a Sustainable Economy Project		
Country/Region Code	Beneficiary country/countries (borrower, recipient)	Region	Practice Area (Lead)
Kenya	Kenya	EASTERN AND SOUTHERN AFRICA	Water
Borrower(s)	Implementing Agency(ies)	Estimated Board Date	
The National Treasury	Ministry of Water, Sanitation and Irrigation (MoWSI)	25-Nov-2026	
Estimated IR review Date	Total Project Cost		
15-Sep-2026	346,500,000.00		

Proposed Development Objective

To increase access to climate-resilient irrigation and improve irrigation service performance in Kenya

B. Is the operation being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project Activities

The Project aims to increase access to climate-resilient irrigation and improve irrigation service performance in Kenya, directly contributing to the MPA's overarching objective of catalyzing rural employment growth, with targets of 60,000 hectares under new or improved irrigation, 0.8 million more and better-paid jobs, and 1.5 million people with strengthened food and nutrition security. The tentative project design comprises four components. Component 1 supports rainfed smallholder farmers in transitioning to Farmer-Led Irrigation Development through three subcomponents: awareness and demand generation (outreach campaigns, a farmer advisory tool, and a real-time project monitoring interface); a Results-Based Financing Facility that pays certified suppliers post-verification of installed systems to lower upfront farmer costs and expand supplier reach into underserved areas; and a blended finance



window combining a Risk-Sharing Facility to de-risk bank lending to smallholders and irrigation SMEs with a Patient Capital Facility to support supplier expansion into thin markets. Component 2 improves the performance of existing centralized public and community-managed irrigation schemes by applying the iOF framework, piloting performance-based management contracts, building institutional capacity and professional skills, and financing targeted infrastructure upgrades — such as flow measurement and automation — explicitly conditioned on pre-defined performance milestones. Component 3 secures the sustainable water resource base through a National Irrigation Information Center integrating sensor networks and early warning systems, water governance reforms including streamlined permitting and community stewardship agreements, decentralized water access investments such as well advisory and collective storage pilots in ASALs, and transaction advisory to build a bankable pipeline of medium and large storage investments. Component 4 underpins the sector transformation agenda through policy and regulatory reform, institutional and data system strengthening, workforce development, and project coordination and learning activities that link NISIP investments to the broader MPA program. The project is aligned with key national, sectoral, and regional strategies, including the NISIP 2025, Vision 2030, the National Irrigation Policy (2017), the National Irrigation Sector Strategy (2023), the Agricultural Sector Transformation Strategy, and the Bottom-Up Economic Transformation Agenda (BETA). At the continental level, the project fits within the African Union Commission's Framework for Irrigation Development and Agricultural Water Management (IDAWM). The government's BETA explicitly prioritizes small-scale irrigation as a mechanism for inclusive rural growth, and the NISIP is designed as the primary delivery vehicle for all of Kenya's irrigation development efforts. The project is closely aligned with NISIP's five pathways: accelerating FLID; targeting performance improvements in large-scale public and community-managed schemes through the iOF framework; revitalizing irrigation in the Arid and Semi-Arid Lands (ASALs); and enabling agribusiness by creating the market conditions, value chain linkages, and regulatory environment needed to attract private investment. Co-location with other MPA operations ensures that irrigation investments are matched by the market access and post-harvest support needed to sustain commercially viable production. The project directly operationalizes the Water Forward Strategy's focus on scaling FLID (Scalable Solution 4), increasing water and energy efficiency in centralized irrigation (Solution 5), reduction of flood and drought risk (Solution 6), and restoration and protection of rivers and aquifers (Solution 7), and the cross-cutting themes of gender, climate, and scaling finance. It also aligns with broader WBG missions — including AgriConnect and M300 — and supports the Government of Kenya–WBG Water and AgriConnect Compacts, the Kenya Country Partnership Framework (FY23–28) water security pillar, and the Kenya CCDR emphasis on digital technologies and innovative finance. Regionally, the project aligns with regional dialogue and exchange under the Africa Resilient Irrigation for Sustainable Economies (RISE) Program. The project leverages and builds on recent and ongoing WBG operations, including co-development of RBF mechanisms with the energy access transformation program, alignment with digital and gender-equitable savings initiatives for SACCOs and Farmer Producer Organizations, and a broader portfolio of WBG operations supporting large-scale irrigation, sector reform, performance-based management, water resources institutions, and hydro-informatics. These complementarities anchor the project's innovative financing mechanisms within established institutional, technical, and policy frameworks across the water, energy, and agriculture sectors.

D. Environmental and Social Overview

D.1 Overview of Environmental and Social Project Settings

The program's geographic focus is nationwide, without limitation to specific counties. Geographical areas of intervention will be determined by where the transition from rain-fed to irrigated agriculture can be achieved most productively and sustainably. This may include irrigation as an insurance mechanism against rainfall variability, as supplemental irrigation to stabilize yields within existing cropping cycles, or as a means of extending cropping seasons



beyond the limits of natural rainfall. For agricultural development, the binding constraint is green water scarcity, which is the insufficient capacity to capture, store, retain and ensure beneficial use of rainfall as plant-available soil moisture within the landscape. Addressing this constraint by complementing existing green water use with blue water use (the storing, conveyance and application of water to the root zones of existing farmland, from streams, lakes, rivers, groundwater), is the primary entry point for the program's irrigation development agenda.

Components 1 and 2 will target cropland areas that are either irrigation-dependent or require seasonal irrigation to support agricultural productivity. The interventions will focus on creating an enabling environment that incentivizes entrepreneurial smallholder farmers located in areas with potential for Farmer-Led Irrigation Development (FLID) to invest and productively use their water resources, particularly where land is situated near accessible surface water sources and shallow groundwater aquifers that can be exploited at relatively low extraction costs. The project therefore targets regions where irrigation development is technically feasible and economically viable, while promoting small-scale irrigation technologies, improved irrigation services, and enhanced performance of existing irrigation schemes. Component 3 will primarily focus on the development of water infrastructure in Kenya's arid and semi-arid lands (ASALs). Proposed investments include sand dams, water pans, spate irrigation systems, and large-scale water storage infrastructure, as well as the water informatics to support planning, development, regulation for sustainable development of natural resources. The interventions will be implemented nation-wide and will be prioritized alongside the Kenya Agribusiness Value Chains Development Project (KAVDP, P517246). All investments will be guided by sustainable resource limits, informed by water informatics, licensing and priority planning processes. The Ministry of Water, Sanitation and Irrigation (MoWSI) has identified a preliminary long list of 18 potential dam sites, from which up to five priority dams will be selected under the Project for preparation through to feasibility studies stage, environmental and social assessments, and financial packaging advisory. The long list includes potential dam sites located in Isiolo, Turkana, Baringo, Mandera, Embu, Kilifi, Tana River, Elgeyo-Marakwet, Kajiado, Kisumu, Kericho, Meru, Nyeri, and Migori counties. Some of the sites are located within or adjacent to environmentally and socially sensitive or protected areas. With dam heights ranging from 28 to 115 metres and storage capacities between 12 and 5,600 MCM, these are classified as large dams, considered substantial to high risk under the International Commission on Large Dams (ICOLD) standards. During project preparation, a shortlist of priority sites will be developed by applying exclusion criteria and giving preference to sites that present relatively lower environmental, social, and safety risks from among the long list.

Kenya is classified as a having low water stress as per SDG 6.4.2 – with 33% freshwater withdrawal as a proportion of available freshwater resources. The country's water challenge is therefore driven not by absolute scarcity, but by high rainfall variability, inadequate storage and access infrastructure, and uneven spatial distribution of water resources. Current levels of water development and abstraction remain relatively low compared to total renewable resources, indicating significant scope for carefully planned irrigation expansion.

Arid and Semi-Arid Lands (ASALs) comprise approximately 80% of Kenya's land mass and are home to nearly 18 million people whose livelihoods are heavily dependent on natural resources, including livestock production, agro-pastoralism, and limited rain-fed agriculture. While the project is national and will predominantly expand irrigation in existing rainfed areas, the environmental and social context of the ASALs presents both opportunities and challenges for irrigation development. Water scarcity remains the most critical constraint in these regions, as rain is insufficient and stream flows, outside the main rivers, are highly seasonal and unpredictable. Significant groundwater resources exist in underutilized and poorly studied aquifers, including seasonally replenished basement aquifers, but many explored sources exhibit high salinity levels that are unsuitable for irrigation. Irrigation in these areas needs to be limited to annually replenishable shallow groundwater resources, run-off capture of seasonal flood flows (storage, spate irrigation), and improved use of green water through improved pasture management. Due to local scarcity within the



ASAL landscapes, significant tradeoffs can arise between upstream and downstream users, between agricultural abstraction and competing pastoral, domestic, industrial, and ecological water needs, and between gains in agricultural production and the sustainability of river flows, and wetlands.

Large portions of Kenya contain ecologically sensitive habitats such as riverine forests, wetlands, seasonal floodplains, and rangelands that support rich biodiversity and provide critical ecosystem services to local communities. However, they are also vulnerable to land degradation and desertification driven by climate variability, recurrent drought, deforestation, unsustainable land-use practices, and poorly managed agricultural and grazing systems. Some of these areas in the ASALs also exhibit Fragility, Conflict, and Violence (FCV)-related characteristics linked to recurrent droughts, resource scarcity, climate change impacts, and longstanding disputes over water and grazing resources. In many areas, low agricultural productivity contributes to the expansion of cultivation and grazing pressure into fragile landscapes, accelerating soil degradation, vegetation loss, and ecosystem decline.

Expansion of irrigation and water abstraction may alter river hydrology, reduce environmental flows, and negatively affect these ecosystems. Well-designed irrigation can help reverse these trends by supporting sustainable intensification, safeguarding environmental flows, contributing to groundwater recharge and sustainable return flows, increasing productivity per unit of land and reducing pressure to convert additional marginal land into production. Consequently, careful planning, sustainable water allocation, and effective environmental and social safeguards will be necessary to ensure that irrigation investments increase water access while supporting long-term resource sustainability on which they depend. The tradeoffs should not constrain irrigation ambition, but they must be proactively managed through improved water informatics, integrated water resources management, climate-resilient infrastructure, sound environmental and social management measures, and incentive structures that encourage effective and sustainable water use by farmers and water users across the basin.

The program therefore approaches irrigation development as a tool for strengthening climate resilience, stabilizing livelihoods, and promoting more efficient and sustainable use of land and water resources. By concentrating productive activity and irrigation access on land already under rainfed cultivation, and by integrating irrigation with sound watershed management, soil conservation, and environmental safeguards, the program aims to contribute to improved land productivity while supporting the long-term restoration and sustainability of surrounding ecosystems.

The project targets vulnerable groups, including women, unemployed youth, elders, persons with disabilities, Vulnerable and Marginalized Groups (VMGs) meeting the criteria under ESS7, and Internally Displaced Persons (IDPs). In most farming communities, women are disproportionately affected by rainfall scarcity because they often bear primary responsibility for crop husbandry, water collection, food provision, and household nutrition. While irrigation development has the potential to improve household incomes, food security, and women's economic participation, there is also a risk that project benefits could be captured predominantly by male household heads, especially where land ownership, water user associations, and irrigation scheme membership are male dominated. Ensuring equitable participation and benefit-sharing will therefore be critical to achieving inclusive development outcomes.

Many ASAL regions are characterized by poor road networks, weak market infrastructure, limited financial services, inadequate agricultural extension support, and insufficient access to agro-inputs. Without complementary investments in rural connectivity, storage facilities, value chains, and market linkages, smallholder farmers may struggle to realize the full benefits of irrigation investments and could face challenges in marketing surplus produce, particularly perishable crops. The project will therefore need to promote integrated approaches that combine irrigation development with broader rural development support to enhance sustainability, resilience, and long-term socio-economic benefits for targeted communities.



D.2 Overview of Borrower’s Institutional Capacity for Managing Environmental and Social Risks and Impacts

The Borrower, through the Ministry of Water, Sanitation and Irrigation (MoWSI), has experience managing environmental and social (E&S) risks across large and complex World Bank-financed water infrastructure projects. These operations have involved substantial civil works, land acquisition, resettlement, irrigation development, and long-term E&S risk management. However, performance across these projects has ranged from Moderately Unsatisfactory (MU) to Moderately Satisfactory (MS), pointing to gaps discussed hereafter, that necessitated targeted capacity-building measures.

The Coastal Region Water Security and Climate Resilience Project (P145559) is an ongoing operation centered on the construction of the Mwache Multi-Purpose Dam, classified as High E&S risk. Its most recent E&S performance rating is Moderately Satisfactory,. Between 2024 and 2026, ratings have alternated between MS and MU. The MU ratings were driven by inadequate consultations with vulnerable and marginalized groups, delays and funding shortfalls in compensating Project Affected Households, and unresolved labor issues alongside slow progress in implementing the Livelihood Restoration Program.

The Kenya Water Security and Climate Resilience Project (P117635) included the Lower Nzoia Irrigation Scheme Phase 1 as a key component, and was implemented by the National Irrigation Authority (NIA). The project closed on May 31, 2025 with a Moderately Unsatisfactory rating. E&S performance fluctuated between MS and MU throughout implementation. A Post-Closure Action Plan (PCAP) was prepared for E&S issues which were still pending at project closure. The issues included inter alia: 531 PAPs who were yet to be compensated; open grievances related to land acquisition, labor, damages and access inconveniences; and completion of statutory E&S and Occupational Health and Safety Audits. The PCAP is currently being implemented, although there has been limited progress in closing the actions to date. Monitoring of the implementation of the actions is proposed under K-RISE to ensure completion.

The Kenya Natural Resource Management Project (P095050) financed rehabilitation works at the Mwea Irrigation Scheme and supported the design of the Lower Nzoia Irrigation Scheme. While the overall E&S performance during implementation was Moderately Satisfactory the Independent Evaluation Group rated both the Borrower and implementing agencies (including MoWSI and NIA) overall performance as Moderately Unsatisfactory, partly due to E&S capacity constraints..

Across these operations, the World Bank has provided implementation support to the respective Project Implementation Units to mainstream E&S risk management and establish functional operational systems. Despite this support, capacity gaps remain, with recurring challenges around timely compensation, livelihood restoration, contractor compliance with Environmental and Social Management Plans, and coordination among multiple implementing entities. These prior and ongoing operations provide important lessons and an institutional foundation for the proposed K-RISE project. K-RISE will build on existing arrangements while requiring deliberate strengthening of E&S risk management capacity including staffing, GRM systems, and overall capacity. The specific measures to address these needs will be set out in the Environmental and Social Commitment Plan (ESCP

II. SUMMARY OF ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC)

Substantial

A.1 Environmental Risk Rating

Substantial



The Project's environmental risk is rated Substantial. While activities under Components 1 and 2 and most activities under Component 3 are expected to result in moderate, site-specific and manageable impacts, the preparation of feasibility studies of medium and large water storage investments such as large dams under Component 3 presents Substantial environmental risk. Component 1 promotes farmer-led irrigation development (FLID) through awareness, financing mechanisms and small-scale irrigation technologies. Increased uptake of solar-powered irrigation equipment may generate e-waste, including solar panels, batteries, inverters, pumps and associated components. Risks from improper handling and disposal will be mitigated through E-Waste Management Plans incorporating take-back arrangements and awareness programs. Component 2 supports infrastructure upgrades in public and community irrigation schemes, including flow measurement, regulation and automation systems, safety improvements and selective land levelling. Construction activities may cause sediment runoff, fuel and lubricant spills, improper waste disposal, vegetation clearance, soil erosion, sedimentation of canals and watercourses, and temporary disruption of aquatic habitats and ecological flows. These risks are expected to be low to moderate and will be managed through site-specific Environmental and Social Management Plans (ESMPs). Most Component 3 activities involve digital water management systems, sensor networks, geospatial platforms and farmer advisory tools, resulting in generally low to moderate environmental risks. The use of electronic equipment may generate e-waste, requiring implementation of E-Waste Management Plans. Improved irrigation efficiency may also encourage expansion of irrigated areas, increasing cumulative water abstraction and potentially reducing groundwater levels and ecological flows. These risks will be mitigated through strengthened water governance, improved water permitting, farmer registration, licensing reforms, and enhanced participation of Water Resources User Associations (WRUAs). Greater water productivity could also increase agricultural intensification and agrochemical use, creating risks of surface and groundwater pollution. These risks will be addressed through promotion of integrated pest management. Support for advisory services on groundwater development and pilot water storage interventions, including sand dams, water pans, spate irrigation and nature-based recharge measures, may result in cumulative groundwater depletion, altered hydrology, reduced downstream flows, habitat disturbance, soil erosion, air pollution and construction wastes. Appropriate environmental screening, site-specific Environmental and Social Impact Assessments (ESIAs), ESMPs, water governance measures and improved water use efficiency will reduce these risks. The substantial environmental risk arises from preparation of feasibility studies for up to five medium and large dams selected from a long list of potential dams. Although construction is not financed under the current project, these investments could be implemented under future phases or by other financiers. Dam construction and operation may result in extensive habitat loss, vegetation clearance, soil erosion, sedimentation, water pollution, altered river flows, wildlife disturbance, habitat fragmentation, sediment trapping, downstream ecosystem degradation, and potential dam failure with catastrophic impacts on downstream communities and ecosystems. These risks require early environmental screening with exclusion criteria for protected areas, critical habitats, biodiversity hotspots, high seismic risk areas and sites with unacceptable downstream consequences. Preparation of detailed ESIs, Biodiversity Management Plans, Dam Safety and Emergency Response Plans, Catchment Management Plans and other thematic instruments will be required during subproject preparation. An Environmental and Social

Substantial

A.2 Social Risk Rating

The Project's overall social risk is assessed as substantial, primarily due to potential future land acquisition and physical and economic displacement associated with the preparation of a pipeline of water storage investments including dams under Component 3, and the potential for increased competition and conflict over shared water resources. The preparation of feasibility studies for up to five medium and large dams under Component 3, presents downstream social risks associated with future land acquisition, physical displacement and livelihood loss within



reservoir inundation areas and associated infrastructure corridors. Even during project preparation, uncertainty regarding future resettlement may generate anxiety, undermine trust and create social tensions if not managed through transparent communication and meaningful stakeholder engagement. Screening and prioritization of candidate dams should therefore apply exclusion criteria to avoid sites with significant land acquisition and downstream social impacts. Expansion of FLID and small-scale water abstraction under Components 1 and 3 could increase competition for scarce water resources, particularly in arid and semi-arid areas. Increased irrigation withdrawals may reduce water availability for downstream users, pastoralists and domestic consumers, exacerbating existing conflicts. Where customary water allocation systems exist, poorly managed water permitting and licensing reforms could undermine traditional water rights and create new disputes. These risks will be mitigated through inclusive consultation, culturally appropriate engagement, strengthened water governance and conflict resolution mechanisms. Implementation by multiple institutions, including the NIA, the State Department for Irrigation and CIDUs, creates risks of inconsistent stakeholder engagement, weak information disclosure, inadequate grievance management and poor inclusion of VMGs. Management of these risks will require implementation of a robust Stakeholder Engagement Plan and clear institutional coordination arrangements. Gender-based exclusion and elite capture are other social risks of the project that require mitigation measures. Financing mechanisms for irrigation equipment may favour better-resourced farmers, while women, youth, persons with disabilities, elderly farmers, internally displaced persons and poorer households may be excluded due to limited access to information, credit or collateral. Results-Based Financing may also favour more profitable and accessible areas, while reliance on digital platforms could exclude farmers with limited literacy, connectivity or digital access. This will require development and implementation of targeted inclusion measures and equitable beneficiary selection. The Project's digital systems will collect farmer financial, agronomic and water-use data, creating risks of privacy breaches, misuse of personal information and discriminatory practices if robust data governance arrangements are not established. Measures to ensure compliance with Kenyan data protection legislation will be required. Supplier financing arrangements also present risks of inadequate after-sales service, equipment failure and unresolved complaints, particularly in remote areas, potentially undermining farmer confidence. Effective supplier accountability and grievance redress mechanisms will be required. Civil works under Components 2 and 3 introduce occupational and community health and safety risks, including accidents, traffic hazards, dust, noise and working near water bodies. Labour influx may also increase risks of communicable diseases, gender-based violence, sexual exploitation and abuse, and sexual harassment. These risks will be managed through Labour Management Procedures, site-specific ESMPs, Codes of Conduct, Community Health and Safety Plans, and accessible and operational grievance mechanisms.

B. Environment and Social Standards (ESS) that Apply to the Activities Being Considered

B.1 Relevance of Environmental and Social Standards

ESS1 - Assessment and Management of Environmental and Social Risks and Impacts

Relevant

The Standard is relevant as the project involves irrigation infrastructure, water resource management, and institutional reforms with potential for diverse E&S risks. Key issues include water resource utilization, habitat and biodiversity loss, pollution, dam safety risks to downstream communities, land acquisition and impacts on livelihoods, occupational and community health and safety risks, and labor influx. These will be managed through an Environmental and Social Management Framework (ESMF), site-specific ESIAs, and ESMPs, prepared proportionate to each activity's risk profile and in accordance with the ESF. For Financial Intermediaries involved in Project



implementation, the relevant E&S risks will be addressed through development and implementation of an Environmental and Social Management System (ESMS) by each FI, in accordance with ESS9 requirements. Analysis of the water status and cumulative impacts of the aggregate effects of water withdrawals across irrigated watersheds will be undertaken, including assessment of risks to aquatic habitats and downstream flows, to inform adaptive management measures, and ensure alignment with River Basin Management Plans and Sub-catchment Management Plans prepared by the Water Resources Authority and WRUAs.. Timelines, responsibilities, and requirements will be reflected in the project's ESCP.

ESS10 - Stakeholder Engagement and Information Disclosure

Relevant

Stakeholder engagement is critical to the successful implementation of the project and the effective management of environmental and social (E&S) risks throughout the project lifecycle. The project will engage a broad range of stakeholders, including local communities, smallholder farmers, farmer producer organizations, pastoralists, Irrigation Water User Associations, government agencies, private sector actors, civil society organizations (CSOs), and development partners. Particular attention will be given to ensuring the meaningful participation and inclusion of vulnerable and disadvantaged groups, including women, youth, persons with disabilities, and internally displaced persons (IDPs). In accordance with the requirements of ESS10, a draft Stakeholder Engagement Plan (SEP) has been prepared. Prior to project appraisal, the SEP will be further strengthened to provide additional information on stakeholder consultations undertaken to date, outline planned engagement activities throughout project implementation, and include detailed procedures for the project's Grievance Mechanism (GM). The finalized SEP will be publicly disclosed before appraisal and will guide ongoing stakeholder engagement, information disclosure, and grievance management during project implementation. The project's GM will build on and strengthen existing grievance redress arrangements to ensure that it is accessible, effective, transparent, and consistent with ESS10 requirements. Financial Intermediaries in the Project will also be required to undertake stakeholder engagement in a manner commensurate with the risks and impacts of the FI's activities, and in accordance with the provisions of ESS10.

ESS2 - Labor and Working Conditions

Relevant

The Standard is relevant as project interventions will engage a diverse workforce across multiple components. Anticipated worker types include Direct Workers employed by implementing entities to work on the project; Contracted Workers engaged for civil works and equipment installation; Primary Supply Workers from suppliers of irrigation equipment and materials; Community Workers involved in community-managed schemes; and Government Civil Servants overseeing project implementation. Key labor risks include OHS hazards associated with construction and water resource interventions, labor influx risks in rural areas, and challenges related to terms and conditions for contracted and community workers. Labor Management Procedures (LMP) will be prepared to address these risks and ensure compliance with ESS2 requirements, including the establishment of workers' grievance mechanisms to manage labor-related complaints, and will be disclosed by effectiveness. Financial Intermediaries will also develop and implement procedures to ensure that labor and working conditions on financed activities are in accordance with ESS 2 requirements.

ESS3 - Resource Efficiency and Pollution Prevention and Management

Relevant



The project will involve construction and operational activities related to irrigation infrastructure, water storage, conveyance, and scheme rehabilitation. These activities will consume resources (water, energy, construction materials) and generate waste and GHG emissions, including construction debris, hazardous materials, e-waste, and operational wastewater. Key ESS3 considerations include energy and water efficiency in irrigation systems, sustainable sourcing of raw materials, waste management, prevention of water and soil pollution, and control of air emissions including dust and equipment exhaust. The project will also address risks from hazardous materials and pest management in irrigated agriculture. Resource efficiency and pollution prevention measures will be assessed in accordance with WBG Environmental, Health, and Safety (EHS) Guidelines, Good International Industry Practice (GIIP), and detailed in the project's ESMP or specific management plans. Financial intermediaries will be required to develop as part of the ESMS, E&S screening procedures to identify and mitigate pollution and resource efficiency risks of relevant activities, in accordance with ESS3.

ESS4 - Community Health and Safety

Relevant

The Standard is relevant given that Components 2 and 3 include construction/rehabilitation of water and irrigation infrastructure (such as water intakes, canals, pipelines, control structures, on farm irrigation systems, sand dams and water pans), associated drainage works, access roads, and ancillary facilities. These activities will occur in close proximity to rural communities and agricultural areas, creating interfaces that may generate risks and impacts to the health, safety, and security of project affected communities. Key potential risk areas include community exposure to construction related hazards such as increased vehicular traffic, open excavations, operation of heavy machinery, noise, dust, and handling of hazardous materials; labor influx-related risks, including gender based violence, sexual exploitation and abuse, and communicable diseases; temporary or permanent changes in water abstraction, conveyance, and drainage that may affect downstream users and water availability; and risks associated with dam safety, flooding, and emergency situations. The project will also pay particular attention to universal access and inclusion, including safe access to infrastructure and services for vulnerable and disadvantaged groups such as women, youth, VMGS, persons with disabilities, and elderly community members. These risks and impacts will be systematically assessed and managed through the preparation and implementation of Community Health and Safety Plans, dam safety plans and measures, traffic and road safety measures, emergency preparedness and response arrangements, and other relevant risk mitigation procedures to be embedded in the ESMF and/or ESIA/ESMPs, in accordance with the ESF requirements and Good International Industry Practice. Activities in parts of Kenya that have experienced inter-community conflicts and insecurity, such as Mandera, Wajir, Garissa, Turkana, Samburu, West-Pokot and Isiolo, may require the hiring of security personell to safeguard against potential threats to project workers, sites, assets and activities. To mitigate any potential risks, or unintended impacts posed by the security arrangements on both project workers and local communities, the Project will prepare a Security Management Plan (SMP) to be implemented as relevant. A Security Risk Assessment (SRA) will be undertaken, as part of the ESIA of each proposed sub-project, to determine the level of security required, and implementation of the SMP. Financial Intermediaries will develop, as part of the ESMS, E&S screening procedures to identify and mitigate community health and safety risks of relevant activities, in accordance with ESS4.

ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

Relevant

Planned physical works and Technical Assistance activities for pipeline medium to large dams, may result in involuntary land acquisition, restrictions on land use, and physical and/or economic displacement in follow-up phases. As the precise locations and design footprints are not yet fully defined, a Resettlement Policy Framework



(RPF) will be prepared to guide land acquisition and resettlement risk management, with site-specific Resettlement Action Plans (RAPs) developed during implementation as required. Land access will be secured through expropriation consistent with ESS5 requirements, including compensation at full replacement cost and livelihood restoration. In ASALs under community land tenure, Voluntary Land Donation (VLD) in accordance with ESS 5 conditions may also be applied for small portions of community land for sand dams, water pans, and spate irrigation infrastructure. The RPF will establish the procedures governing the VLD process. Financial Intermediaries involved in project implementation will develop, as part of their ESMS, screening procedures to identify subprojects with potential risks related to land acquisition, restrictions on land use, and involuntary resettlement, and to apply appropriate mitigation measures in accordance with ESS5.

ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources

Relevant

The Standard is relevant as the project will finance the modernization of irrigation infrastructure, promote farmer-led irrigation development, support water resource management, and the preparation of feasibility studies and detailed designs for up to five prioritized large dams. These activities are anticipated to interact with a range of natural and modified habitats, including riverine systems, wetlands, and potentially areas of high biodiversity value. Accordingly, biodiversity assessments, application of the mitigation hierarchy, and the development of appropriate management instruments will be required following E&S screening and site-specific E &S studies. In particular, Biodiversity Management Plans (BMPs) will be prepared during the environmental and social studies for the each of the prioritized dams. The approach will be informed by the classification of habitats, assessment of potential impacts, and integration of sustainable resource management practices, in line with ESS6 requirements. The scope of biodiversity assessments will be specified in the terms of reference for the E&S studies conducted as part of feasibility studies. Financial Intermediaries involved in project implementation will develop, as part of their ESMS, screening procedures to identify subprojects with potential risks to natural habitats, biodiversity, and living natural resources. Where screening indicates relevant risks, FIs will be required to apply the mitigation hierarchy, conduct appropriate biodiversity assessments, and develop and implement suitable management measures in accordance with ESS6.

ESS7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

Relevant

The standard is relevant given the project's national scope and focus on rural and remote areas, increasing the likelihood that VMGs, as defined under ESS7, may be present within the project's area of influence. At this stage, specific project sites have not been identified, and no ESS7 qualifying communities have been confirmed. However, given the diversity of social and cultural contexts across the project footprint and uncertainty regarding future investment locations, there is a reasonable possibility that ESS7 relevant communities may be affected. Accordingly, a VMG Planning Framework will be prepared to guide screening, assessment, consultation, and culturally appropriate engagement during implementation, ensuring that identified VMGs have equitable access to project benefits, meaningfully consulted, and not adversely affected. The Planning Framework will include guidance on how to conduct a Free, Prior, and Informed Consent (FPIC) process. Financial Intermediaries involved in project implementation will develop, as part of their ESMS, screening procedures to identify subprojects that may affect VMGs. Where screening confirms the presence or potential presence of such communities within a subproject's area of influence, FIs will be required to conduct culturally appropriate engagement and free, prior, and informed



consultation, assess potential impacts on VMGs, and develop and implement suitable management measures to ensure equitable access to project benefits and avoidance of adverse effects, in accordance with ESS7.

ESS8 - Cultural Heritage

Relevant

The Standard is relevant given the planned physical works associated with scheme rehabilitation, water storage and conveyance infrastructure. These activities involve earth movement, excavation, construction, and potential environmental changes, which may intersect with known or unknown tangible cultural heritage, such as archaeological sites, built heritage, or natural features of cultural significance. The project's geographic scope includes rural areas and watersheds where cultural heritage resources may be present, and the potential for chance finds during civil works is anticipated. Accordingly, the project will require a systematic approach to cultural heritage identification, impact assessment, stakeholder consultation, and the implementation of Chance Finds Procedures, as further detailed in the ESMF and site specific ESIAs/ESMPs. Financial Intermediaries involved in project implementation will develop, as part of their ESMS, screening procedures to identify subprojects with potential risks to tangible and intangible cultural heritage. Where screening indicates relevant risks, FIs will be required to ensure that civil works contracts include and enforce Chance Finds Procedures, conduct appropriate cultural heritage assessments as relevant, and implement suitable mitigation measures in accordance with ESS8.

ESS9 - Financial Intermediaries

Relevant

The Standard is relevant as the project will utilize a financial intermediary mechanism, establishing blended finance facilities — including a Results-Based Finance (RBF) Facility, a Risk-Sharing Facility (RSF), and a Patient Capital Facility (PCF) — to mobilize private capital and expand access to finance for smallholder farmers, irrigation-focused SMEs, and agri tech firms. These facilities will be managed by a competitively selected financial intermediary (FI) responsible for channeling funds to end-users and subprojects. Any FI under the project will be required to establish an Environmental and Social Management System (ESMS) acceptable to the Bank, covering E&S screening and categorization, exclusion lists, due diligence, monitoring, corrective action plans, stakeholder engagement, grievance mechanisms, and reporting requirements. FIs will also be required to establish an External Communication Mechanism. Timelines, actions, and responsibilities will be defined in the ESCP.

B.2 Legal Operational Policies that Apply

OP 7.50 Operations on International Waterways

Yes

OP 7.60 Operations in Disputed Areas

No

B.3 Other Salient Features

Use of Borrower Framework

No

At this moment the project is not using borrowers framework for any of the ES standards.

Use of Common Approach

No

Use of common approach is not anticipated.



C. Overview of Required Environmental and Social Risk Management Activities

C.1 What Borrower environmental and social analyses, instruments, plans and/or frameworks are planned or required by implementation?

The Project will prepare the following E&S instruments:

Prior to Project readiness meeting:

1. Environmental and Social Commitment Plan outlining material E&S measures and actions to be undertaken by the Executing Agency and implementing entities, including E&S staffing, timing of assessments, progress and incident reporting, capacity building, and establishment of a GRM, among other ESF compliance measures.
2. Stakeholder Engagement Plan that maps and analyzes stakeholder interests; defines the program for engagement, information disclosure, and consultation throughout the project cycle; identifies methods to engage vulnerable groups at risk of exclusion; and outlines resources and responsibilities for stakeholder engagement implementation.
3. Draft Environmental and Social Management Framework establishing the dual compliance baseline of Kenyan law and the World Bank ESF; biophysical and socioeconomic baselines; the E&S screening process for classifying subprojects by risk level (High, Substantial, Moderate, Low); Integrated Water Resource Management approaches; an anticipatory assessment of likely impacts and standard mitigation measures; a project-level GRM; Labor Management Procedures including a workers' GRM; institutional arrangements and staffing requirements; a capacity-building plan; a monitoring framework; and estimated E&S risk management costs. Annexes will include a SEA/SH Prevention and Response Plan, an Integrated Pest Management Framework (IPMF), and an e-waste management framework.
4. Draft Resettlement Policy Framework to guide resettlement planning where project activities may result in physical and/or economic displacement and a protocol for voluntary land donation for community lands.
5. Draft VMGs Planning Framework to define planning requirements ensuring potentially affected communities have equitable access to project benefits.

Prior to Project Effectiveness

6. Final Environmental and Social Management Framework with all annexes
7. Final Resettlement Policy Framework
8. Final VMGs Planning Framework
9. A Security risks assessment and Security management plan (SMP)

Prior to Implementation of Relevant Activities:

Prior to Implementation of Relevant Activities:

10. Site-specific RAPs, ESIAs, ESMPs, and BMPs, with VMG Plans and IPMPs included as necessary, to be prepared and disclosed once subproject designs are finalized and before implementation.
11. Dam Safety Plans and Emergency Preparedness and Response Plans for prioritized dams prepared under the project.
12. Cumulative Impact Assessment of aggregate water withdrawal effects across irrigated watersheds, integrated into water informatics and financial incentive design.



13. Terms of Reference for Technical Assistance activities with adequate E&S provisions to ensure TA outputs comply with the ESF.

III. CONTACT POINT

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IV. FOR MORE INFORMATION CONTACT

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V. APPROVAL

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