Appraisal Environmental and Social Review Summary

Appraisal Stage

(ESRS Appraisal Stage)

Date Prepared/Updated: 02/11/2020 | Report No: ESRSA00452

BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
Malawi	AFRICA	P167860	
Project Name	Malawi Watershed Services Improvement Project		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Water	Investment Project Financing	2/20/2020	3/31/2020
Borrower(s)	Implementing Agency(ies)		
	Minstry of Agriculture, Irrigation and Water Development		

Proposed Development Objective(s)
Increase adoption of sustainable landscape management practices and improve watershed services in targeted watersheds

Financing (in USD Million)	Amount
Total Project Cost	**160.00**

B. Is the project 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 [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

Country context

Malawi is a small, peaceful, and democratic country with a population of about 17 million people. Most of the people (85 percent) live in rural areas. The population growth rate is 2.8 percent per annum. At this growth rate, Malawi's population will reach 23 million by 2025. The country is land-locked and is highly vulnerable to climatic shocks. Despite a recent difficult economic period, Malawi has a stable democratic political system and has initiated economic and political reforms. However, over half of its population is living in poverty. In 2017, poverty headcount at

US$1.9/day (2011 PPP) remained stubbornly high at 70 percent of the population. Gross National Income (GNI) per capita was estimated at US$320 in 2017. Malawi is ranked 170 out of 188 countries on the United Nations Human Development Index, and 125 out of 157 on the World Bank's Human Capital Index. Almost half (47 percent) of the children under age five in Malawi are short for their age due to long-term effects of malnutrition and 20 percent are severely stunted. Malawi's economic growth rates have fallen below the average of 2.8 percent in non-resource rich African economies during the last twenty years. Real per capita, Gross Domestic Product (GDP) has grown at an average of just above 1.5 percent per year between 1995 and 2014. With these persistent low growth rates, successive governments in Malawi have struggled to lift people out of poverty. Wealth accounting data shows that more than half of Malawi's wealth (estimated at US$10,442 per capita in 2014) is renewable natural capital, mainly cropland with smaller shares contributed by pastureland, forests, and protected areas. The natural capital base, however, is under extreme pressure due to population growth, agricultural expansion, and climate change.

Sectoral and Institutional Context

Malawi's water resources are under threat from severe land degradation and loss of forest cover. Critical watersheds are becoming degraded leading to reduced water availability, deteriorating water quality, increased vulnerability to droughts and floods, reduced energy security and reduced agricultural productivity. Malawi has a large network of surface water bodies covering about 21 percent of the country's total area; about 20 percent of this area is Lake Malawi itself. The total renewable water resource available in Malawi is estimated at 17.3 km3/year, or 1,027 m3/capita/year. While the availability of water resources in the aggregate is considered satisfactory, per capita water availability has been declining at a rapid rate. Malawi is now dangerously close to becoming water scarce. Further, water resources in Malawi are highly variable between wet and dry seasons and from year to year, and the country's stock of water storage infrastructure is one of the lowest in the region. GoM's Water Resources Investment Strategy (WRIS, 2011) identifies poor catchment conditions and deteriorating water quality as significant risks to water resources and associated infrastructure (dams, hydropower plants, irrigation systems), and recommends investments in catchment management in strategically important WRAs.

Land degradation in Malawi's most important watersheds has reached alarming levels, with major impacts on water security, agricultural productivity, and hydropower generation. Recent studies suggest that land degradation hotspots cover about half (41 percent) of the land area in the country. Soil erosion and nutrient depletion are major forms of land degradation that are reported to affect more than 60 percent of the entire land area. The average annual national soil loss rate in 2014 was 29 tons per hectare. Chemical land degradation, including soil pollution and salinization/alkalization, has led to a 15 percent loss in the arable land in Malawi in the last decade alone. Projections for future land degradation and soil loss under different climate and population growth rate scenarios suggest that land degradation will become increasingly severe, with one study suggesting that overall rates of soil loss will increase by between three and four times 2010 baseline levels. The Shire River Basin remains the most prominent hotspot of land degradation. High loads of sediment are deposited in river beds, reservoirs and floodplain wetlands, affecting irrigation canals, fisheries and hydropower generation. Existing hydropower plants on the Shire River are often unable to meet peak demand, partly due to low flows and sediments in the river caused by degradation of catchments upstream of the plants.
Forest degradation is a major contributor to land and water resources degradation. Over the last 40 years, more than half of Malawi's forests and woodlands have vanished and those that remain are being 'thinned' through over-extraction and more frequent forest fires. Yet, forests make a substantial contribution to livelihoods and the economy and are needed to protect vital ecosystem services. They also provide the bulk of Malawi's energy supply in the form

of charcoal and firewood. Wood fuels dominate Malawi's energy sector and are used by 98 percent of the population. The industry provides large numbers of jobs and is worth nearly US$295 million per annum – equivalent to four percent of GDP. Forests and woodlands also play a key role in protecting watersheds from erosion, sustain the biodiversity that underpins a large proportion of Malawi's tourism sector and make an important contribution to mitigating carbon emissions.

The underlying drivers of land degradation in Malawi are well known. These include growing demand for agricultural land and wood fuels associated with a growing population; imperfect knowledge about sustainable farming practices; insecure land tenure which reduces incentives to invest in soil and water conservation measures; and limited access to markets and rural finance. The proximate causes of land degradation include a wide range of biophysical factors and poor land management practices. Important biophysical factors that affect land degradation include topography, land cover, climate change and soil erodibility.
Efforts to address land degradation are hampered by a multitude of factors. The major challenge is the weak institutional capacity for natural resource management at both national and local levels and the severe lack of funding for these activities in local government budgets. With insufficient resources, weak capacity, and incentives, local governments are generally unable to play an effective role in addressing land degradation at the local level. In addition, changes to climate and weather patterns exacerbate the impacts of natural resources degradation, making it harder to address the problem.

Reversing the rate of land degradation remains a government priority. The Ministry of Agriculture, Irrigation and Water Development (MoAIWD) and the Ministry of Natural Resources, Energy and Mining (MoNREM) recognize the interdependence between natural resource management, agricultural production, water, and energy security. Sound policies and institutional frameworks for natural resources management exist. A new Environmental Management Act 2017 has been enacted to strengthen environmental management and protection, while the Water Resources Act of 2013 provides for the management, conservation, use and control of water resources, including management of watersheds. The recent establishment of the National Water Resources Authority (NWRA) is expected to help strengthen multi-sectoral planning and management of water resources in the country and pave the way for the establishment of sustainable watershed management institutions at the community level. Land reforms introduced in 2016 are expected to improve land tenure security and strengthen incentives for small-holder farmers and businesses to invest in sustainable land and water management practices. Further, a new National Charcoal Strategy has been approved, which for the first time, provides an opportunity to legalize the charcoal value chain and move towards more sustainable charcoal production, and thus reducing pressure on forests and community woodlands. However, the ability to implement policy and legislation, both nationally and locally, remains weak. Monitoring is often limited and ineffective, compliance is low and the structures necessary for providing guidance and procedures are not in place. Weak institutional capacity is particularly acute at district and local levels, partly because of the slow pace of decentralization and severe under-funding which constrains the effective functioning of institutions at the district and local levels, limiting their ability to implement policy.

To reverse landscape degradation and protect watersheds, Malawi needs to invest at scale in the protection of renewable natural resources and their restoration where appropriate and cost-effective, using a broad suite of interventions. These will include sustainable forest management and restoration interventions, development of water management infrastructure, scaling-up of climate-smart agriculture and resilient livelihoods. At the same time, GoM needs to invest in strengthening institutions and improving the monitoring, management, and use of hydro-meteorological information. GoM's National Forest and Landscape Restoration Strategy (NFLRS), published in July

2017, proposed that land restoration should be elevated to a higher national priority level, backed by financial investment to implement a large-scale national program for land restoration. In this regard, GoM has committed to restore 4.5 million hectares of degraded landscape by 2030, through a combination of interventions, including soil and water conservation, river and stream bank restoration, conservation agriculture, farmer-managed natural regeneration, and agroforestry; natural forest management; community forests and private woodlots. GoM is currently in the process of mobilizing finance from development partners to support the implementation of the strategy. The proposed project has been conceived to support the implementation of the NFLS. The project is aligned with the new growth-oriented Country Partnership Framework (CPF) for Malawi which is still under preparation. In particular, the project contributes to the environment and rural resilience theme by addressing land degradation, improving natural resources management and boosting agricultural productivity. Addressing these issues will contribute to protecting critical watersheds and securing water resources for existing and proposed hydropower plants on the Shire river as well as Malawi's largest irrigation scheme currently under implementation as part of the Shire Valley Transformation Program. The project interventions will also help build resilience to climate variability, for both farmers and the ecosystems in the watershed.

Project Description

The project is the first in a 'Series of Projects' (SoP) aimed at supporting the implementation of the National Forest Landscape Restoration Strategy (NFLRS). SoP-1 (2020-2025) will target the Shire River Basin (middle and upper Shire) in the southern region of Malawi; SoP-2 (2023-2028) will target the Linthipe, Bua and Dwangwa river basins in the Central Region; and SoP3 (2026-2030) will target North Rukuru and Lufilya river basin in the northern region.

The project development objective (PDO) of SoP 1 is to increase the adoption of sustainable landscape management practices and improve watershed services in targeted watersheds. The following indicators will be used to measure achievement of the PDO: (a) Proportion (%) of target farmers adopting sustainable landscape management practice; (b) Land area (ha) under sustainable landscape management practices; (c) Land area (ha) showing an increase in Normalized Difference Vegetation Index (NDVI) and the Land Surface Water Index (LSWI), correcting for short-term climate effects; (d) Number of farmers (disaggregated by gender) gaining access to water for productive use; (e) Proportion (%) of target farmers (disaggregated by gender) benefiting from an increase in production sold to the markets and/or an increase in income from marketed products.

The project scope consists of three components that contribute to the PDO. Below is a description of each of the components.

Component 1 – Scaling up Landscape Restoration (US$53 million)

This component aims to scale up landscape restoration interventions in the middle and upper Shire River Basin while enhancing the livelihoods of small-holder farming communities, addressing climate change vulnerabilities and improving and/or preserving the carbon sequestration capacity of the watershed. Specifically, the component will finance (i) performance-based grants for restoration of approximately 95,000 ha of degraded landscapes in the middle and upper Shire; (ii) matching grants for 200 farmer groups and 60 agri-enterprises to enhance agricultural-based livelihoods and boost household incomes; (iii) advisory services and capacity building on sustainable landscape management practices, including climate-smart agriculture practices and silvicultural techniques, targeting approximately 15,000 people and comprising of farmers, agri-entrepreneurs, private tree growers and associations of

smallholder tree growers, catchment management committees (CMCs), village natural resource management committees (VNRMCs) and district extension workers; (iv) a social marketing campaign to influence farmer behavior with respect to adoption of sustainable landscape management practices; (v) support to undertake local-level participatory land-use planning, land demarcation, adjudication and registration of 20,000 ha of land in the target area to provide security of tenure for approximately 16,000 small-holder farmers.

Component 2 – Improving Watershed Services (US$82 million)

This component aims to maximize the benefits people and communities obtain from managing watersheds sustainably, as a basis for developing institutional and financing mechanisms needed to sustain restoration activities beyond the project period. The project will invest in improving watershed services, focusing primarily on provisioning services and regulating services, and to some extent cultural, recreation and amenity services, given that Malawi's most iconic national parks and wildlife reserves are located in the Shire River basin. More specifically, the component will finance (i) performance-based grants to selected watershed management institutions to implement their institutional development plans aimed at improving watershed services; (ii) technical assistance and the initial capital required to establish a pilot market-based mechanism for the provision and maintenance of selected watershed services; and (iii) a package of enabling infrastructure and climate information services to maximize the livelihood benefits from improved watersheds, and to enhance the resilience of both the farming community and the watershed.
Enabling infrastructure investments will include (a) development of 38 multipurpose water source infrastructure (i.e. 10 small dams, 20 rainwater harvesting structures, and 8 high yielding boreholes, etc) and associated conveyance infrastructure to increase access to water for multi-purpose use for approximately 42,000 people, while at the same time protecting people from the destructive impacts of water (floods); and (b) last-mile infrastructure to support small-holder producer groups to improve productivity, add value to their produce and gain access to markets, including construction of 10 small-medium scale irrigation systems to provide irrigation services on approximately 2,400 ha of cropland and benefiting approximately 5,000 farmers; construction of rural feeder roads, bridges, and market centers to improve access to markets; and installation of renewable energy systems (solar) and clean water for value addition, where required.

To improve climate information services, the component will finance competitive grants to private sector innovators to develop and market a suite of hydrological, weather and climate products and services to enable climate-informed decision-making by different watershed users (including smallholder farmers and agri-enterprises, energy and water utilities, dam operators, insurance companies, etc) using data from the existing and/or improved ground-based observation network managed by both the Department of Climate Change and Meteorological Services (DCCMS) and NWRA, and supplemented as necessary with other sources (e.g. satellite-based data). At least one of the products/services developed will be an agro-weather service, capable of serving at least 8,000 farmers with agro-weather information services.

Component 3 –Technical and Project Management Support (US$25 million)

This component aims to strengthen MoAIWD's capacity to implement the proposed project (and subsequent projects in the series) in partnership with other line ministries, departments, and agencies, and to monitor and evaluate its development impact. The component will finance (i) technical assistance for preparation of future phases of the project, including delineation of priority (hotspot) catchments in Linthipe, Bua and Dwangwa river basins; forming

CMCs, preparing catchment management plans and micro-catchment plans; and carrying out feasibility studies and engineering designs for enabling infrastructure investments identified in the catchment management plans; (ii) technical assistance and capacity building on biophysical and ecological monitoring to track changes in the targeted landscapes as a result of project interventions; (iii) impact evaluations to build the evidence-base to inform future projects in the SoP; (iv) project management support to the multi-sectoral technical team on project management, financial management, procurement, monitoring and evaluation, and environmental and social standards implementation; and (iii) incremental operating costs associated with day-to-day management of the project and for coordination with different sectoral agencies/departments at national, district and local levels.

D. Environmental and Social Overview

D.1. Project location(s) and salient characteristics relevant to the ES assessment [geographic, environmental, social]

Malawi's water resources are under threat from severe land degradation and loss of forest cover. Critical watersheds are becoming degraded leading to reduced water availability, deteriorating water quality, increased vulnerability to droughts and floods, reduced energy security and reduced agricultural productivity. The underlying drivers of land degradation in Malawi are well known. These include a growing demand for agricultural land due to increased population pressure and reduced agricultural productivity; insecure land tenure which reduces incentives to invest in soil and water conservation measures; and limited access to markets and rural finance. To reverse landscape degradation and protect watersheds, Malawi needs to invest at scale in the protection of renewable natural resources and their restoration where appropriate and cost-effective, using a broad suite of interventions. These include sustainable forest management and restoration interventions, development of water management infrastructure, scaling-up of climate smart agriculture and resilient livelihoods. The project is the first in a 'Series of Projects' (SoP) aimed at supporting the implementation of the National Forest Landscape Restoration Strategy (NFLRS). The overarching program objective is to restore degraded landscapes for improved water and energy security, agricultural productivity and livelihoods. The Shire River Basin has a surface area of about 22,317 km2 within the Malawian border. At 520 km in length it is the country's single most important natural resource system, supporting various sectors of the economy (energy, agriculture, industry, navigation, and water supply and sanitation). Hydropower plants on the Shire River produce more than 98 percent of Malawi's electricity. The main source of the Shire River is Lake Malawi. Deforestation, soil erosion and sedimentation continue to be the most serious threats to the environment and natural resource base in the Shire River Basin. The Upper, Middle and Lower Shire are important areas for crop production and conservation of forests and wildlife. The Upper and Middle Shire catchments are an important source of forest products for rural communities. The flood plains, wetlands and forests of the Lower Shire Valley are important habitats for wildlife and crop production (rice, cotton, beans, sorghum, millets and sugar cane). There are also several regionally important wetlands and marshes in the Shire Basin. However, unequal land distribution (more than 40% of smallholder farmers cultivate on less than 0.5 hectares) coupled with increasing population pressure have led to overexploitation of the limited natural resource base and severe deforestation of upper catchments and riverbanks, which together with the limited adoption of land and water conservation techniques have increased the incidence of erosion, run-off and flash floods across the Basin; carrying high loads of sediment that are raising river beds, deposited in reservoirs and flood plains affecting irrigation canals, fisheries and hydro power generation; exacerbating problems on site and downstream. The 15 Districts containing the Shire River Basin hold over 5 million people the majority in rural areas. Natural resources underpin Malawi's productive sectors

and are the main source of livelihood for over 80 percent of the population. Water-reliant sectors contribute an estimated 35 percent of the country's GDP. The agriculture sector contributes 28 percent of Malawi's GDP and 78 percent of export earnings, and employs 64 percent of the workforce, which consists mainly of subsistence farmers. Smallholders account for 80 percent of agricultural production and 70 percent of agricultural GDP. Poverty rates in the rural south (which in effect is the Shire River Basin) have historically been highest.

As the project is in remote rural locations of Malawi with high indices of poverty and vulnerable to resilience shocks, the remaining forest and woodland areas in the basin are under significant pressure, especially for informal charcoal production. The project will also help to strengthen the institutional and financing mechanisms for watershed management and enable local-level watershed governance structures in the Shire basin to transition from project-based support. The project is expected to have a highly positive impact overall from an environmental standpoint by improving agricultural land management, reducing erosion and sedimentation, increasing forest cover, and strengthening protected areas. Nonetheless, some of the project's interventions could lead to unintended, adverse environmental or social impacts such as permanent or temporary loss of land, access restrictions to natural resources and disruption to livelihoods, and risks associated with an influx of labor from outside the area. However these are not expected to be complex or irreversible as these interventions are well known and have a good track record of implementation across a diverse range of locations and situations. The potential impacts are expected to be minor, localized and temporary making these impacts manageable within the confines of project design and planned mitigation approaches to be developed during project preparation. Project subprojects have not been identified, however screening of potential environmental and social impacts has been undertaken on similar subprojects. Possible risks and impacts that are likely to arise from some of the proposed subprojects include construction related health and safety risks to both labour and local communities; possible influx of populations and the social risks associated with that such as disease transmission and spread of HIV, potential for Gender Based Violence; and land acquisition leading to temporary or permanent physical displacement and loss of assets, land and livelihoods, restrictions on access to natural resources. Environmental risks include those related to civil works construction (controlling on-site erosion and pollution), localized changes in water use and distribution, unregulated wood cutting in areas with improved access (absent adequate control measures), potential damage to patches of natural habitat (such as miombo woodland or dambos), and possibly agro-chemical use.

D. 2. Borrower's Institutional Capacity

The key ministries, the Ministry of Agriculture, Irrigation and Water Development (MoAIWD) and the Ministry of Natural Resources, Energy and Mining (MoNREM) have been involved in other World Bank funded projects such as the Shire River Basin Management project (SRBMP), Agriculture Sectorwide Approach project (ASWAp), Agriculture Commercialization project (AGCOM), and the Shire Valley Transformational project (SVTP). Environmental and social management capacity of these institutions is mixed. The PIU created from these institutions has in place one full time staff, attached from the Environmental Affairs Department (EAD), to address environment and social risks and impacts. While this seemed adequate in the preceding project, it is expected that in the new operation, given the nature of project activities and with regard to the application of the new World Bank ESF, both environmental and social risk management will require significantly more attention. Based on that, the client will enhance capacity by ensuring an environment specialist as well as a social specialist are in place for the lifespan of this project. The client will carry out an assessment of environmental and social capacity and prepare a training program to strengthen capacity in coordinating, planning, implementing and monitoring environmental and social issues within 3 months of project effectiveness. Where the project involves the private sector in natural resource management activities compliance with the ESF requirements will be included as part of contract conditions with monitoring schedules.

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

A. Environmental and Social Risk Classification (ESRC) Substantial

Environmental Risk Rating Substantial

Overall the project is expected to have a positive environmental impact by improving agricultural land management, reducing erosion and sedimentation, and increasing forest cover, and strengthening protected areas. While the sub-project interventions may have associated adverse impacts, these are not expected to be complex or irreversible. Potential impacts are expected to be localized and temporary making these impacts manageable within the confines of project design and planned mitigation approaches to be developed during project preparation. The interventions with the most significant anticipated environmental and social impacts focus on landscape and watershed management where the project will fund the construction and rehabilitation of landscape and watershed management infrastructure. These will include small scale water harvesting and irrigation systems; infrastructure for better market access; the development of community level aquaculture and community-level infrastructure; small-scale water management infrastructure for harvesting, storing, and delivering water for people, livestock and agriculture, including small-to-medium earth dams, small sand and sub-surface dams and rock catchments. Possible environmental impacts include those arising from civil works construction (controlling on-site erosion and pollution), localized changes in water use and distribution, unregulated wood cutting and hunting in areas with improved road access (absent adequate control measures), damage to or loss of patches of natural habitat (such as miombo woodland or dambos), and possibly agro-chemical use. The types of interventions planned are well known to MoAIWD, MoNREM and the World Bank and have a good track record of implementation across a diverse range of locations and situations. The potential risks, likely impacts and envisaged mitigation approaches are therefore already well understood by technical specialists both in Malawi and regionally. Hence, mitigation measures are expected to be available to address all anticipated adverse impacts. Sustainable landscape management practices refers to a combination of at least two technologies of practices (agronomic, vegetative, structural, and management measures) applied to improve land quality and prevent degradation and/or restore already degraded landscape. The suite of technologies and practices appropriate to the Malawian context are described in the National Catchment Management Guidelines and Manual. These include: physical soil and water conservation techniques (e.g. marker and contour ridges, ridge alignment, box ridges, water harvesting, infiltration ditches, gully plugs, check dams etc); vegetative river/stream-bank restoration; agricultural technologies (i.e. conservation agriculture, agroforestry, famer-managed natural regeneration), community forestry and woodlots and plantation forestry. The potentially large number of sub-project interventions increases the challenges of ensuring adequate capacity for management of environmental aspects therefore given the geographical spread, range of implementing actors and diversity of intervention activities environment risk is classified as substantial.

Social Risk Rating Substantial

Social risk is classified as substantial. While the scope of the project is confined to the Shire river basin in this phase, the nature of investments includes a large number of infrastructure civil works constructions (small to medium scale irrigation systems, rural roads, small dams and water storage facilities, rain harvesting structures and associated conveyance infrastructure, market access infrastructure) in poverty prone regions of Malawi, that will have potential for social risk in terms of land acquisition and loss or disruption to livelihoods, potential labor influx from outside of the project area exacerbating the risks associated with disease transmission and spread of HIV, potential for Gender Based Violence and Sexual Exploitation and Abuse, etc. In view of the planned infrastructure subprojects that the

operation will have, the GBV risk assessment tool has been applied in accordance with the World Bank's Good Practice Note. Consequently, based on the nature and scope of activities and in alignment to the World Bank's labour influx guidance note, the operation is expected to have a medium labour influx risk profile and taking into consideration the contextual factors, the GBV risk rating is moderate and does not affect the overall substantial social risk classification of the project. Other possible social risks may involve the use of child labour and potential weaknesses in the targeting of beneficiaries in relation to vulnerable individuals and households. The projects worksites will also have the potential for generating construction related health and safety concerns for both laborers/workers and surrounding communities. In general, however, the impacts are not expected to be complex or irreversible and the physical footprint is considered site specific and localized making these impacts manageable within the confines of the instruments that have been developed during project preparation. The instruments include the ESMF, RPF, PF, LMP, SEP. The client has Bank experience in environment and social risk management from the implementation of the just completed Shire River Basin Project. However, the capacity of client in the application of the WB ESF is new and will require a capacity enhancement of the client during project implementation. This will be incorporated in component 3 of the project on technical and project management support. The project will retain both an environmental specialist and a social standards specialist for the lifespan of the project.

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

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

Overall the project is expected to have a positive environmental impact by improving agricultural land management, reducing erosion and sedimentation, and increasing forest cover, and strengthening protected areas. The interventions with anticipated environmental and social impacts focus on landscape and watershed management where the project will fund the construction and rehabilitation of landscape and watershed management infrastructure. These will include water harvesting and associated conveyance infrastructures, small scale irrigation systems; infrastructure for better market access; the development of community level aquaculture and community-level infrastructure; small-scale water management infrastructure for storing, and delivering water for people, livestock and agriculture, including small-to-medium earth dams, small sand and sub-surface dams, rock catchments and high yielding boreholes. Possible adverse impacts include physical and economic displacement, potential labor influx from outside of the project area exacerbating the risks associated with disease transmission and spread of HIV, illicit behaviour and potential for Gender Based Violence and Sexual Exploitation and Abuse, etc., possible use of child labour and potential weaknesses in the targeting of beneficiaries in relation to vulnerable individuals and households. The potential exists for elite capture and the exclusion of vulnerable groups from participating in livelihood activities and receiving project benefits. To avoid this the project will identify vulnerable groups and proactively engage them in livelihood activities as well as by including vulnerable groups in decision making structures. Additional impacts related to civil works may include localized changes in water use and distribution, unregulated wood cutting in areas with improved access (absent adequate control measures), potential damage to remnant patches of natural habitat, nuisance of dust and noise, localized erosion and spillage of oils and fuels. The projects worksites also have the potential for generating construction related health and safety concerns for both laborers/workers and surrounding communities. As the project locations and interventions are not yet defined and identified, a framework approach with an Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) has been adopted to provide guidance on the appropriate instruments to be used for specific subprojects during project

implementation. The project can benefit from environmental and social due dilligence performed on a number of recent project in Malawi that have included similar interventions such as the Agriculture Commercialization Project (market infrastructure), the Agriculture Sector Wide Approach Support Project II (rural roads, climate smart agriculture), Shire Valley Transformation Project (irrigation), the Malawi Floods Emergency Recovery Project (small dams, irrigation, roads) and Malawi Drought Recovery and Resilience Project (climate smart agriculture, irrigation, small dams, community infrastructure). Based on the screening mechanism outlined in the ESMF and depending on the subproject type and environmental/social context, these instruments would be subproject-specific Environmental and Social Impact Assessments (ESIAs), Environmental and Social Management Plans (ESMPs), and/or Resettlement Plans (RPs) to be prepared when the subproject locations become known. Project investments will be designed to ensure compliance with the World Bank Group's Environment, Health, and Safety Guidelines. In addition, Labour Management Procedures (LMP) and Stakeholder Engagement Plan (SEP) have been prepared. An Environmental and Social Commitment Plan (ESCP), drawn and agreed upon with the borrower, sets out the substantive measures and actions that will be required for the project to meet environmental and social requirements over a specified period of time. These measures shall be implemented within the specified timeframes and the status of implementation will be reviewed as part of project monitoring and reporting. The potential for cumulative impacts should be considered once locations are known and the possibility of cumulative impacts can be adjudged.

ESS10 Stakeholder Engagement and Information Disclosure

Key stakeholders in the project include the Ministry of Agriculture, Irrigation and Water Development (MoAIWD); the Ministry of Natural Resources, Energy and Mining (MoNREM); Ministry of Lands, Housing and Urban Development (MoLHUD); Department of Disaster Management Affairs (DODMA); Environmental Affiars Departnment (EAD), District Councils of Machinga, Mangochi and Balaka; Project beneficiaries; and Project Affected Persons. The project recognizes the importance of engagement with relevant stakeholders, beneficiary communities and project affected parties throughout the project cycle and this will be at the centre of project preparation and implementation. In that regard, the borrower has commenced such engagement in the development of the project including consulting with stakeholders on the design of the operation. The borrower has prepared a stakeholder engagement plan that outlines the general principles and a collaborative strategy to identify stakeholders and plan for an engagement process that will be followed/implemented once project locations are known and during implementation.
The borrower has outlined, as part of the stakeholder engagement framework, a project level grievance redress mechanism to respond to complaints, concerns, queries, clarifications and feedback from and give voice to stakeholders, beneficiary communities and project affected parties. The borrower has assessed the grievance mechanism that was utilized by the just concluded SRBMP and other existing formal or informal grievance mechanisms in Malawi and based on this put in place an optimized and functional mechanism that is proportionate to the risks and impacts of the project. The project will establish a project-level GRM, as outlined in the Stakeholder Engagement Plan (SEP), with multiple channels, to facilitate individuals and communities to voice/express general complaints, queries, and concerns. The proposed project GRM will take into consideration the existing and established community and local-level feedback systems as an entry point, for which the traditional and local leaders will play an important role in receiving and directing the complaints to subsequent levels. The project will ensure that all complaints received are written and treated with transparency and confidentiality, and the GRM will also provide an opportunity to escalate issues of concern to subsequent levels such as district administrations, PIUs and the courts. The grievance mechanism once established and effective will also be used for compliance to the requirements

of resettlement. The ESF instruments including the ESMF, SEP, RPF etc. to be disclosed nationally on 11 February 2020 and through the World Bank external website on 12 February 2020.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

A workforce of moderate size (in total but fragmented across interventions) is expected and will be required for the construction and operation of subprojects. Therefore, proper worker management will be required. Labour Management Procedures (LMP) have been prepared detailing the work terms and conditions, Code of Conduct, including explicit prohibition of forced and child labor and meeting the requirements of Occupational Safety, Health and Welfare Act (1997), Employment (Amendment) Act (2010), Workers Compensation Act (2000), Labour Relations Act (1996), the requirements of ESS2 and the World Bank Group's Environmental, Health and Safety Guidelines. In addition, in the construction of irrigation schemes, water storage structures, markets, and road infrastructure, the Environmental and Social Management Plans will include requirements for any necessary Labor Influx and associated GBV issues, Camp and Work Sites Management Plans. Occupational Health and Safety Management Plans are to be incorporated in the Contractors-ESMP. These will outline measures to protect workers, promote safe and healthy working conditions and manage working conditions for the laborers in line with this standard. In the same regard, the project will ensure that an accessible worker grievance mechanism is provided by contractors for all direct workers and contracted workers to raise workplace related concerns and workers will be informed of the grievance mechanism at the time of recruitment. Where subprojects will make use of community workers including where labour is provided by the community as a contribution to the subproject, the borrower will ascertain whether such labor is provided on a voluntary basis or on individual/ community agreement and ensure alignment to the requirement of this standard. The borrower will assess whether there is risk of child labor within the community labor and identify and manage those risks by taking appropriate steps to remedy the situation in consistence with this ESS. The borrower will identify potential risks of child labor, forced labor and serious safety issues which may arise in relation to primary suppliers.

ESS3 Resource Efficiency and Pollution Prevention and Management

To minimize pollution risks, the project will require environmental rules for civil works contractors regarding the proper disposal of all liquid and solid waste (including plastic trash and sanitation waste), which will be incorporated in the contracts. Efficient use of natural resources will include the use of licensed extraction (e.g. aggregate) and the restoration of any newly-created borrow pits as either permanent or seasonal ponds, or with contours similar to pre-project conditions. Based on implementation experience with the previous Shire River Basin Management Project, significant agricultural pest management issues are not likely to arise. The new MWASIP is not expected to procure any pesticides, nor to promote pesticide use. However the project acknowledges the potential for increased use of pesticides by project beneficiaries through the livelihoods and agricultural nature of the interventions. As the specific interventions are not yet determined, the nature and extent of potential pesticide use, the crops on which pesticides may be used, the potential pests and diseases they may be necessary to address and therefore the range of pesticide and non-pesticide options available as well as the sensitivities of receiving environments in which the pesticides be considered are unknown. Hence as these details become clear an IPM Plan will be developed, in order to assist the

use, handling storage and overall management of pesticides in advance of any of any activities with the potential for pesticide use. Given the anticipated scale of sub-project interventions and specific designs to avoid externalities and impacts these sub-projects are not expected to have any significant impacts on water use or water quality. The potential for cumulative impacts should be considered once locations are known and the possibility of cumulative impacts can be adjudged.

ESS4 Community Health and Safety

As is the norm in projects of this nature, a moderate influx of labor is expected during construction of the subprojects. The project will recognize that project activities and infrastructure can increase exposure of risk to communities. Therefore, the impacts associated with an influx of populations such as disease transmission and spread of HIV, potential for Gender Based Violence, Sexual Exploitation and Abuse, Child Labour and Violence Against Children will be determined during environmental and social assessment. In that regard, the GBV risk assessment tool has been applied in accordance with the World Bank's Good Practice Note and consequently, based on the nature and scope of activities, taking into consideration contextual factors, and in alignment to the World Bank's labour influx guidance note, the operation is expected to have a medium labour influx risk profile and the GBV risk rating is considered moderate. The Environmental and Social Management Framework prepared and the Environmental and Social Management Plans to be prepared during implementation will include requirements for Community Health and Safety Plans (including HIV Social Mitigation Measures); Labour Influx Management Plans (Including Workers Camp Management Plan, Codes of Conduct, HIV Sensitization measures); Traffic/Road Safety Management Plans with measures to ensure safety of nearby communities and road users during construction; and Emergency Response Plans with procedures to respond to accidental leaks, spills, emissions, fires, and other unforeseen crisis events. In addition, safety measures for Dam Breakage/Structural Integrity of water storage structures and safety issues pertaining to the management of security personnel will also be appropriately specified in line with this standard, as applicable. Examples of small dam safety guidelines are available from Rwanda and Uganda. The project particularly in Component 2 will invest in improving watershed services – i.e. the benefits people obtain from ecosystems in a watershed. Benefits can be direct, such as provisioning services (food or water) or regulating services (control of floods, erosion regulation and water purification; or indirect, through supporting services for the functioning of ecosystem processes (nutrient cycling; soil creation; and photosynthesis). Ecosystems also provide people with non-material benefits such as aesthetic pleasure, recreational opportunities, and spiritual and cultural sustenance. Potential exists for social risk in terms of land acquisition and loss or disruption to livelihoods, potential labor influx from outside of the project area exacerbating the risks associated with disease transmission and spread of HIV, potential for Gender Based Violence and Sexual Exploitation and Abuse, etc. Mitigation measures will be drawn up for each intervention through the appropriate instruments as directed by the ESMF, taking into consideration the (as yet unknown) location of the intervention, the environmental and social conditions and the detailed design. The borrower will identify potential risks of child labor, forced labor and serious safety issues which may arise in relation to primary suppliers. Where there is a significant risk of child labor or forced labor related to primary supply workers, the MWASIP Management Support Unit will require the primary supplier to identify those risks. If child labor or forced labor cases are identified, the PIU will require the primary supplier to take appropriate steps to remedy them.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

The nature of subprojects in the operation will likely entail some land acquisition and displacement (both economic and physical), loss of assets, livelihoods and restrictions on land use to make way for the construction and associated civil works of irrigation schemes, market infratrucutre, water harvesting and storage structures and road infrastructure. As the project locations and interventions are not yet defined and identified, the borrower has prepared an Resettlement Policy Framework (RPF) to guide the process of preparation of subproject specific Resettlement Plans. The project will finance performance-based grants for DoF and DNPW to improve revenue streams. The preparation of development plans for existing forest reserves and existing protected areas will allow scale up of co-management approaches in forest reserves and lever private sector investment in national parks. A process framework will address any potential impacts from restrictions on access to natural resources in forest reserves and protected areas by local communities. The requirement to prepare subproject specific resettlement documentation will be outlined in the Environmental and Social Commitment Plan.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

Project activities to improve the protection and management of Forest Reserves and other protected areas should be highly positive from a biodiversity standpoint. Other project interventions (including civil works) will be carefully screened to avoid any significant loss or degradation of natural habitats such as forests, miombo woodlands, or dambos (seasonal grassy wetlands), and to avoid damaging any protected areas or critical habitats. The ESMF specifically includes criteria and procedures to ensure that sub-project investments are designed and implemented in ways that avoid damage to protected areas, critical habitats or modified habitats. Forestry and agroforestry activities will emphasize the use of native species, with screening measures to prevent the introduction of new, non-native and potentially invasive species. Any road works crossing streams will use fish-friendly culverts as needed, to avoid fragmenting populations of fish and other aquatic life. Where irrigation infrastructure is proposed potential impacts on aquatic biodiversity would be considered through individual site-specific screening and addressed through resulting ESF instruments. The project will provide a package of enabling infrastructure including development of 38 multipurpose water source infrastructure (small dams, rain water harvesting structures and high yielding boreholes etc.) and associated conveyance infrastructure to increase access to water for multi-purpose use; last-mile infrastructure to support small-holder producer groups to improve productivity, add value to their produce and gain access to markets, including construction of 10 small-medium scale irrigation systems to provide irrigation services on approximately 2,400 ha of cropland; and, construction of rural feeder roads, bridges and market centers to improve access to markets; and installation of renewable energy systems (solar) and clean water for value addition. Possible environmental impacts include those arising from civil works construction (controlling on-site erosion and pollution), localized changes in water use and distribution, unregulated wood cutting and hunting in areas with improved road access (absent adequate control measures), damage to or loss of patches of natural habitat (such as miombo woodland or dambos), and possibly agro-chemical use. The project's landscape restoration benefits are expected to help maintain and enhance ecosystem services. For example by avoiding land degradation and in the shire basin (i.e. maintaining regulating and supporting ecosystem services) stakeholders including farmers, Illovo Sugar, EGENCO, and water boards could avoid some of the US$23.7 - 34.2 million lost every year due to soil erosion.

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

This standard is not applicable to Malawi because there are no groups that fit the description of ESS 7.

ESS8 Cultural Heritage

The SRBMP did not encounter any issues concerning physical and cultural resources. However the proposed operation's subprojects may be located in areas with landscape elements of cultural and aesthetic value. In addition, the proposed operation will entail physical works, excavations, movement of earth, quarrying and impounding in the construction of irrigation schemes, water harvesting and storage structures, markets and road infrastructure. These types of activities pose the possibility of encountering both known and unknown physical and cultural resources. The borrower will avoid impacts on cultural heritage and where such avoidance is not possible, will identify and implement measures to address these impacts in accordnace with the mitigation hierarchy. The treatment of PCR including archaeological relics, fossils, human graves, shrines, sacred trees or groves that may be encountered will follow the Chance Finds Procedures that has been outlined in the Environmental and Social Management Framework, and will be elaborated in the subsequent Environmental and Social Management Plans that will be prepared; they will also be included as a requirement in civil works bidding documents.

ESS9 Financial Intermediaries

This standard is not applicable to this operation.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways Yes

The project area is in an international water basin. Impacts on water availability and quality in riparian states (downstream or neighboring countries) would be negligible (too small to be measured). Nonetheless, notification of the riparian states was issued on October 29, 2019, and riparian states were requested to respond with any comments they may have no later than November 30, 2019. No unfavorable responses were received from any of the riparian countries.

OP 7.60 Projects in Disputed Areas No

Not relevant to this project.

III. BORROWER'S ENVIRONMENTAL AND SOCIAL COMMITMENT PLAN (ESCP)

DELIVERABLES against MEASURES AND ACTIONs IDENTIFIED	TIMELINE
ESS 1 Assessment and Management of Environmental and Social Risks and Impacts	
ENVIRONMENTAL AND SOCIAL ASSESSMENT: Update, adopt, and implement, the Environmental and Social Management Framework that has been prepared as part of the Project, and prepare and implement subproject Environmental and Social Management Plans in a manner acceptable to the Association upon identification of each sub-project. Where new information requires the ESMF to be revised the revised document disclosed.	
MANAGEMENT TOOLS AND INSTRUMENTS: Screen any proposed subproject in accordance with the Environmental and Social Management Framework (ESMF) prepared for the Project. Draft, adopt, and implement the subproject	

Environmental and Social Management Plan (ESMP) or other instrument for sub-projects, as specified in the ESMF, in a manner acceptable to the Association. Timeline: upon identification of each sub-project.	
MANAGEMENT OF CONTRACTORS: Incorporate the relevant aspects of the ESMF, including the relevant E&S documents and/or plans, and the Labor Management Procedures, into the ESHS specifications of the procurement documents with contractors. Thereafter ensure that the contractors comply with the ESHS specifications of their respective contracts. Timeline: upon identification of each sub-project.	
ORGANIZATIONAL STRUCTURE: Establish and maintain an organizational structure with qualified staff and resources to support management of E&S risks including as a minimum one Environmental Specialist and one Social Specialist in the Project Implementation Unit (PIU) Timeline: by project effectiveness.	
Prepare and submit regular reports of ESHS performance on quarterly basis throughout project implementation. Timeline: throughout project implementation.	
Notify the Association of any incident/accident likely to have significant social and/or environmental impacts within 48 hours. Timeline throughout project implementation.	
ESS 10 Stakeholder Engagement and Information Disclosure	
STAKEHOLDER ENGAGEMENT PLAN PREPARATION AND IMPLEMENTATION: Update, adopt, and implement the disclosed Stakeholder Engagement Plan (SEP). Timeline: throughout project implementation.	
PROJECT GRIEVANCE MECHANISM IN PLACE: Prepare, adopt, maintain and operate a project grievance mechanism, as described in the SEP. Timeline: project GRM operational before commencement of any sub-project implementation and to be continued throughout	
ESS 2 Labor and Working Conditions	
LABOR MANAGEMENT PROCEDURES: Update, adopt, and implement the Labor Management Procedures (LMP) that have been developed for the Project covering all workers. Timeline: upon identification of each sub-project.	
GRIEVANCE MECHANISM FOR PROJECT WORKERS: Establish, maintain, and operate a grievance mechanism for Project workers, as described in the LMP and consistent with ESS2. Timeline: upon identification of each sub-project.	
OCCUPATIONAL HEALTH AND SAFETY (OHS) MEASURES: Prepare, adopt, and implement OHS measures specified in the ESMP and LMP. Site Specific risk assessments and mitigation included in ESMPs. Timeline: upon identification of each sub-project.	

ESS 3 Resource Efficiency and Pollution Prevention and Management	
INTEGRATED PEST MANAGEMENT PLAN: Prepare, adopt, and implement a Pest Management Plan where the use of pesticides or chemicals are considered necessary within CSA and livelihoods sub-project ESMPs. Timeline: upon identification of each sub-project.	
RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT: Resource efficiency and pollution prevention and management measures for each sub-project will be covered under the ESMP. Timeline: upon identification of each sub-project.	
ESS 4 Community Health and Safety	
COMMUNITY HEALTH AND SAFETY: Prepare, adopt, and implement measures and action to assess and manage specific risks and impacts to the community arising from Project activities included in ESMPs. Timeline: upon identification of each sub-project.	
GBV AND SEXUAL EXPLOITATION AND ABUSE RISKS: Develop a costed Labour Influx Management plan/GBV Action plan as part of the of the ESMPs with actions to assess and manage the risks of GBV/SEA. Timeline: upon identification of each sub-project.	
Engage experienced and competent profesisionanls for the design and construction supervision of dams supported under the project. Timeline: Before commencement of any sub-project involving dams	
Prepare and adopt operational procedures (including emergency preparedness) for all dams rehabilitated/constructed under the project. Timeline: Six months prior to the start of the initial filling of the dam reservoir	
ESS 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	
RESETTLEMENT PLANS: Prepare, adopt, and implement resettlement plans (RPs) in accordance with ESS 5 and consistent with the requirements of the RPF. Timeline: RPs implemented fully prior to commencement of any works in the sub-project.	
GRIEVANCE REDRESS MECHANISM: The grievance mechanism to address resettlement related complaints as described in the RPF. Timeline: GRM to be in place before RAP implementation.	
ESS 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	
BIODIVERSITY RISKS AND IMPACTS: Screening for biodiversity and living natural resources risks will be carried out at sub-project level within ESMPs. Timeline: upon identification of each sub-project.	

ESS 7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	
ESS 8 Cultural Heritage	
CHANCE FINDS: Prepare, adopt, and implement the chance finds procedure described in the ESMF. Screening and mitigation measures developed within ESMPs. Timeline: upon identification of each sub-project.	
ESS 9 Financial Intermediaries	

B.3. Reliance on Borrower's policy, legal and institutional framework, relevant to the Project risks and impacts

Is this project being prepared for use of Borrower Framework? No

Areas where "Use of Borrower Framework" is being considered:

The operation will not rely upon the Borrower's E&S Framework in the assessment, development and implementation of sub projects. However, the project will also comply with Malawian E&S legal and regulatory requirements.

IV. CONTACT POINTS

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Implementing Agency(ies)

Implementing Agency: Minstry of Agriculture, Irrigation and Water Development

V. FOR MORE INFORMATION CONTACT

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VI. APPROVAL

Task Team Leader(s):	Meeta Sehgal, Nigel Ross Hughes, Josses Mugabi
Practice Manager (ENR/Social)	Robin Mearns Cleared on 11-Feb-2020 at 07:07:36 EST
Safeguards Advisor ESSA	Nathalie S. Munzberg (SAESSA) Concurred on 11-Feb-2020 at 20:56:42 EST