

MALAWI - ELECTRICITY ACCESS PROJECT (P164331)

Environmental and Social Management Framework



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1.0 INTRODUCTION

1.1 Background

Malawi is a small, landlocked agriculture-based country with a total area of 118,484 km², of which 20% is covered by water, mainly Lake Malawi. Malawi is a very low-income country. In 2017, Malawi's estimated gross domestic product amounted to around 6.21 billion U.S. dollars with a per capita GDP of USD 323 and projected to increase to 342 in 2018. The country economy is mainly agro-based with small-scale farmers dependent on rain-fed agriculture. The population of the country was estimated at approximately 19.16 million in 2018 and is projected to grow to 19.4 million by 2022. Malawi's population is youthful with approximately half (46 per cent) below the age of 15, and up to 73 per cent below the age of 30 years. This youthful bulge affects the economy in various ways, e.g. high dependency ratios, low investment in the human capital of children and young adults and hindrance in investment in both human and physical capital formation. These are likely to exert pressure on the environment and often result in the unsustainable use of a fragile resource base.

Currently, biomass in Malawi is the primary source of energy (89%) whereas electricity contributes only 3%. The majority of the biomass energy sources consist of inefficient traditional fuels (wood, charcoal, crop residues and dung), vastly inferior and polluting sources of energy. Women bear most of the drudgery of collecting, processing and utilizing these fuels. Currently, the demand for electricity is at 600 Mega Watts (MW), generation capacity is around 351MW but only producing less than 250MW, which is also declining due to small amounts of rainfall that are attributed to changes in climate as well. Interventions in this sector should increase production and access to sustainable energy sources for improved production at domestic and industry level.

Energy enables communities, among other things, to light their homes and schools, refrigerate their supplies and support productive businesses, thereby helping to improve their education, employment opportunities, reduce poverty and improve quality of life. Malawi Government, in an attempt to make the energy sector more responsive to the development needs of the country, has developed a transparent and dynamic operational

framework for the energy sector as well as guidelines on matters related to energy development, supply, use, distribution, pricing and governance through the energy policy and a number of regulatory frameworks. The Government with development partners has since developed and implemented a number of projects that aimed at improving energy and in particular access to electricity services to its citizens.

The Malawi Electricity Access Project (MEAP) is to support the Government to prepare, finance, and strengthen its capacity to implement the national electrification program sustainably; and in the process set the foundations for a scaled-up electricity connections program consistent with Government of Malawi's (GoM's) targets. Specifically, the proposed MEAP project will focus on improving access via a least cost medium voltage (MV) and low voltage (LV) network expansion where appropriate, and invest in preparing the platform to launch off-grid electrification as a private sector-led effort where feasible. MEAP will anchor the launch of the national electrification program's grid rollout for the period 2019-2024, and at the same time facilitate GoM's efforts to rally the participation of other development partners to mobilize financing for the projected funding gap for the overall least cost sector program. The project is estimated to cost about US\$ 150 million. Implementing partners of MEAP are Ministry of Natural Resources, Energy and Mining (MoNREM) and the Electricity Supply Corporation of Malawi (ESCOM).

As part of the project development procedures of the World Bank, this project was assessed as Category B (partial assessment) and environmental and social risk is rated as "high" based on risk assessment undertaken for the project that determined the extensive scope of the operation (country-wide) and the documented and significant capacity gaps of the implementing agencies on environmental and social safeguards management. The project has triggered OP 4.01 – Environment and Social Assessment; OP 4.09 Pesticide Management; OP 4.12 – Involuntary Resettlement; OP 4.11 – Physical and Cultural Resources; OP 4.04 – Natural Habitats and OP 4.36 – Forests. The investments under this operation, mainly the installation of distribution and service drop lines, have the potential to generate environmental and social risk. The scope and exact locations of subprojects

have neither been defined nor identified. Therefore an Environmental and Social Management Framework (ESMF) in accordance with the laws of Malawi has been developed.

1.2 Purpose of the ESMF

This ESMF seeks to establish a process of environmental and social screening which will permit the institutions in charge of the implementation of the sub-projects to identify, assess and mitigate the environmental and social impacts of subproject investments. The ESMF also determines the institutional measures to be taken during the program implementation, including those relating to the capacity building.

1.3 The rationale for the ESMF

As specific project locations in the MEAP have not been identified at this stage, the ESMF provides a general impact identification framework to assist project implementers to screen the projects and institute measures to address adverse environmental and social impacts. The MEAP is proposed to be assigned EA category B because the project has potential adverse environmental and social impacts which are site-specific, temporary in nature and scope and that can be easily mitigated and reversed. A project in category B is deemed to have a substantial risk, moderate risk or low-risk subprojects. The World Bank Environmental and Social Safeguard Framework demands the borrower undertake an appropriate environmental and social assessment of the project. In addition, the Bank recognises that ESCOM and MoNREM do not have adequate capacity to handle environmental and social issues hence an ESMP is required to guide in the implementation of the project. This ESMF thus applies to all subprojects to be financed under MEAP. Specific information on country-wide project locations, land requirements, biophysical features, etc. when known at a later stage may trigger the preparation of site-specific instruments such as Environmental and Social Impact Assessment (ESIA), Separate Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) reports. Therefore, this report examines the risks and impacts of the MEAP. It consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation of a project to avoid, reduce, off-set adverse environmental and social risks and impacts. The ESMP also includes the measures and actions needed to implement these measures.

1.4 Energy Sector in Malawi

1.4.1 Key Sectorial Mandates and Goals

The Government of Malawi (GOM) through the Department of Energy (DoE) in the Ministry of Natural Resources, Energy and mining (MoNREM) established an effective institutional framework that facilitates efficient and transparent implementation, monitoring and evaluation of the Energy Policy. The DoE's provides leadership in formulating policy and strategy, effective governance, monitoring and evaluation and research and development through training and related capacity building initiatives in the energy sectors in the country. Under the amended Electricity Act of 2016, the former utility ESCOM has been unbundled into two entities: the distribution and transmission utility ESCOM, and the generation utility, the Electricity Generation Company (Malawi) Limited (EGENCO). ESCOM assumed the new function of the Single Buyer and now procures power from EGENCO and independent power producers (IPP) and in future, potentially from the Southern African Power Pool (SAPP). Under the supervision of ESCOM's Single Market Operator, ESCOM Transmission supplies power to large and small customers through ESCOM Distribution.

In order to manage and regulate the generation and supply of energy in Malawi, the Government developed an Energy Act of 2004 to establish an Energy Regulatory Authority to regulate the energy sector. The Authority has the power to regulate the activities of the energy industry in accordance with the Energy Act and the Energy Laws and without limitation to the generality of the preceding, shall carry out the following functions

- a) receive and process licence applications for energy undertaking;
- b) grant, revoke or amend licences granted under this Act and Energy Laws;
- c) approve tariffs, and prices of energy sales and services;
- d) monitor and enforce compliance by licensees with licences granted under this Act and the Energy Laws;
- e) develop and enforce performance and safety standards for energy exploitation, production transportation and distribution;

- f) prescribe and collect fees, charges, levies or rates under this Act and Energy Laws;
- g) arbitrate commercial disputes under this Act and Energy Laws;
- h) Recommend reforms to this Act, and the Energy Laws as the Authority may deem desirable;
- i) Resolve or mediate consumer complaints against licensees;
- j) and do all such things as are necessary or incidental or conducive to the better carrying out of the functions of the Authority provided for in this Act and Energy Laws.

1.4.2 Energy Policy objectives

The objective of Malawi's energy policy is to provide sufficient sustainable energy for industrial and socio-economic development. Specifically, objectives are to:

- a) Improve the efficiency and effectiveness of the commercial energy supply industries;
- b) Improve the security and reliability of energy supply systems;
- c) Increase access to affordable and modern energy services;
- d) Stimulate economic development and rural transformation for poverty reduction;
- e) Improve energy sector governance; and
- f) Mitigate environmental, safety, and health impacts of energy production and utilization.

1.4.3 Malawi Growth and Development Strategy (MGDS III)

The third Malawi Growth and Development Strategy (MGDS III) is the medium-term strategy for Malawi designed to contribute to Malawi's long-term development aspirations. The strategy covers a period of five years, from 2017 to 2022 and it is a successor to the MGDS II that was implemented between 2011 and 2016. The overall objective of the strategy is to move Malawi to a productive, competitive and resilient nation through sustainable economic growth, energy, industrial and infrastructure development while addressing water, climate change and environmental management and population challenges. The MGDS III emphasises the need to invest simultaneously in areas that can spur growth through the linkages they have with the other sectors of the economy. The strategy, therefore, identifies five key priority areas namely: (i)

Agriculture and Climate Change Management; (ii) Education and Skills Development; (iii) Transport and ICT Infrastructure; (iv) Energy, Industry and Tourism Development; and (v) Health and Population Management.

In the energy sector, the MGDSIII aims at ensuring a reliable supply of electricity to key social and economic development areas; ensuring the connectivity to the international power grid; constructing additional hydropower stations along major rivers and promoting private sector investment in energy generation and distribution through private public partnerships (PPPs) and IPPs. The MGDS III, therefore, focuses on improved access to reliable and sustainable energy supply and investment in affordable alternative sources of energy. The strategy also emphasises the enhanced use of renewable and clean energy in the underserved rural and urban communities. Concerning industrialisation, MGDS III focuses on the improved environment for investment and private sector development, increased production and export of manufactured products and enhanced production and sound management of non-renewable resources.

Therefore, the proposed MEAP is an effective strategy that feeds well in the MGDSIII of supplying electricity to the country's citizens for improved economic development and livelihood.

1.5 Malawi Electricity Access Project (MEAP)

1.5 1 Overview of MEAP

The project will increase access to electricity services in Malawi. Specifically, the proposed MEAP project will focus on improving access of electricity to households via a least cost medium voltage (MV) and low voltage (LV) network expansion where appropriate and invest in preparing the platform to launch off-grid electrification as a private sector-led effort where feasible. MEAP will anchor the launch of the national electrification program's grid rollout for the period 2019-2024, and at the same time facilitate GoM's efforts to rally the participation of other development partners to mobilize financing for the projected funding gap for the overall least cost sector program.

The proposed project amount for MEAP is about US\$ 150 million. The proposed operation is aligned and informed by the strategic priorities of the National Electrification Program (NEP). The Bank is supporting the NEP with the following ESMAP financed activities:

- i. National Electrification Strategy defines the targets of the program as well as the key strategic elements that will ensure efficiency, effectiveness, and timeliness in program delivery);
- ii. Geospatial least cost electrification plan, estimates optimal modality (grid and off-grid) for access provision, taking into account technical and economic viability, georeferenced demand centers, and load forecasts, all anchoring the financing prospectus;
- iii. Off-grid market assessment specifies the operational implementation design for the off-grid pre-electrification program for the scale-up of stand-alone solar systems solutions and mini grids; and
- iv. Power adequacy analysis ensures grid electrification roll-out is aligned with plans for commissioning new generation capacity as determined under the Integrated Resource Plan for Malawi.

Although a more detailed geospatial mapping will be completed as a broader pan-African program supported by ESMAP, the preliminary geospatial activities under NEP comprised of the creation of GIS layer for the existing grid as well as national statistics data will allow for some preliminary results that can determine the initial investment scope under the project.

Additional information will be sourced from the investment plan for 2019 currently being prepared by ESCOM, which lays out the investment scope and funding needs for 90,000 connections per year, MV/LV extension and rehabilitation works. While in recent years ESCOM only connected about 25,000 customers due to a combination of mostly lack of funding resources, and capacity to scale-up, the utility aims to connect 90,000 households in 2019 and up to 130,000 households per year by 2030. Furthermore, while in previous years, ESCOM has been focusing on connecting only high demand customers by charging a connection fee fully reflective of the connection costs¹, looking ahead to a sector-wide shift towards the NEP objective of achieving universal access eventually, the utility intends to connect low and middle-income households in peri-urban and urban areas. The utility is also considering a subsidy

¹ I.e. 120,000 MWK or US\$166 for the service drop and additional fees depending on the number of poles required for the connection.

scheme for end-users that are unable to cover the current cost-reflective connection charge. Validation of the annual connection target of 90,000 connections, its locations as well as an assessment of power adequacy will be part of project appraisal.

1.5.2 Target of MEAP

The proposed project will more than double the existing electrification rate and create a platform to rapid scale-up access to electricity. The proposed project provides financing to connect 300,000 households within close proximity to the existing grid network. This will increase the current electricity rate from currently 11 percent to 20 percent by the project's completion in 2023. In addition, through the off-grid solar market roll-out, at least 200,000 households will access electricity, increasing the overall access rate by another 6 percent. However, the market roll-out promoted by the project will have a much larger transformative impact for reaching the households that will not be connected to the grid in the foreseeable future by creating an environment for OGS companies to scale. Finally, the technical assistance provided under the proposed operation will address the key bottlenecks of the sector to move the country towards universal access to electricity.

1.5.3 Project Development Objectives

The development objective of the project is to increase access to electricity services in Malawi.

PDO Level Indicators

- People provided with new or improved electricity service (number) (Corporate Results Indicator)
- People provided with access to electricity under the project by household connections - grid (number) (Corporate Results Indicator)
- People provided with access to electricity under the project by household connections - off-grid (number) (Corporate Results Indicator)

Intermediate level indicators of MEAP are:

- Number of schools connected

- Submission of ESCOM's annual investment plan
- Number of LED lights distributed under the project
- Female headed households connected to grid electricity
- Number of off-grid solar systems installed
- Volume of debt channelled to private sector companies
- Volume of grants channelled to private sector companies
- Portfolio at risk (PaR30)
- Female headed households connected to off-grid electricity
- Percentage of female technical and engineering staff at ESCOM
- Development and Implementation of Recruitment, Leadership Development and Mentoring Program targeting females in STEM fields in ESCOM
- Pre-feasibility studies for 10 mini-grids completed and Regulatory Framework for mini-grids formulated
- Geospatial analysis and planning platform established and operational
- Response rate to GRM complaints
- Consumer awareness campaign for off-grid market development completed
- Lighting Global quality standards for solar home systems adopted and published

1.5.4 Project Components

Component 1: New on-grid electricity connections (US\$115 million)

This component will finance cost-effective, priority investments in grid electrification by providing households living in close proximity to an existing distribution infrastructure leveraging on the geospatial analysis to maximize the number of connections per provided financing. Specifically, the component will finance low voltage (LV) extensions, service drops, and pre-payment meters. Some of the new connections may also require reinforcing hardware elements of the supplying MV feeder for ensuring quality and reliability of supply for new connections. The project will also support the elimination of connection barriers due to unaffordable internal wiring costs by providing ready boards to the low-income households that cannot afford internal wiring costs.

Demand side management: This component will also include distribution of free energy

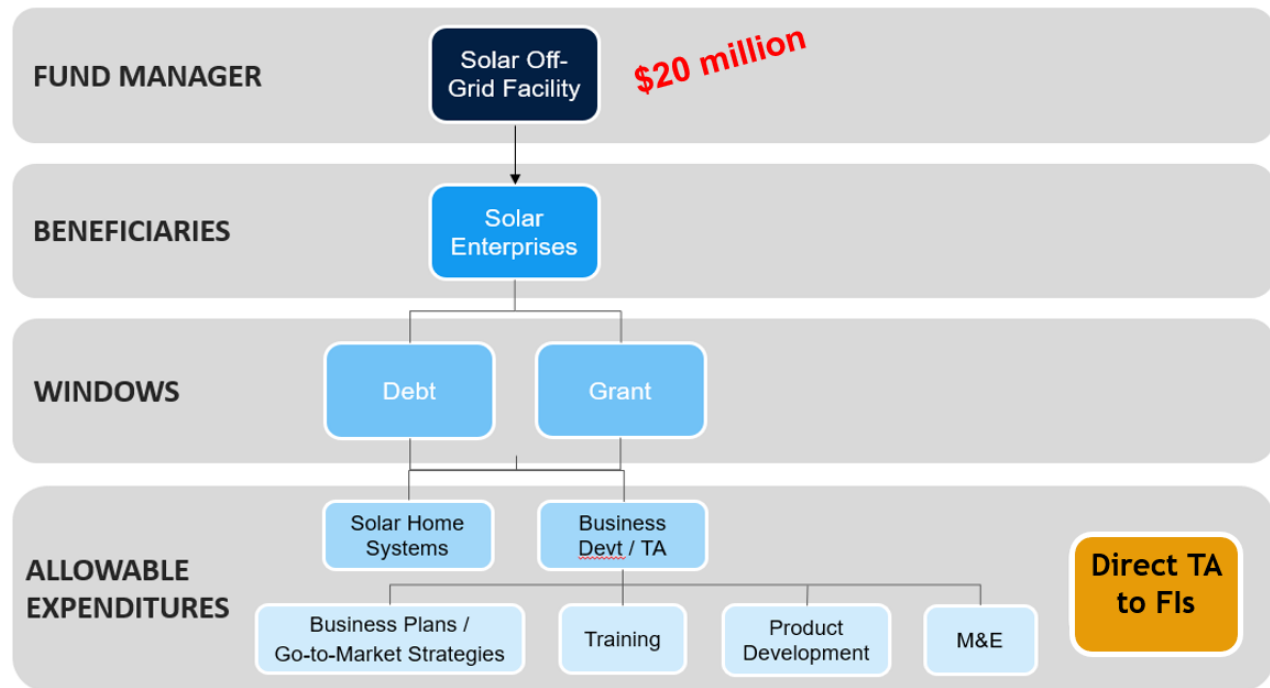
efficient LED bulbs to enhance the affordability and reduce household electricity consumption. This will save consumers from procuring compact fluorescent lamps or incandescent bulbs of wattage ranging between 20 watts and 100 watts. Each household will receive 2 to 3 LED bulbs of 7 watts each and through this initiative, household electricity consumption (particularly for the low-income households) will reduce by about 20%. provision of ready boards to low income households that cannot afford internal wiring costs.

Project selection methodology: As per the selection methodology developed by ESCOM, project areas will be identified on the basis of clusters of potential customers within 500 meters of a service transformer. Each cluster point will be linked to a service transformer and feeder, to gauge the number of connected customers per cluster point, transformer and feeder using ESCOM meter data. The potential load per cluster point will be determined using household density and associated After Diversity Maximum Demand (ADMD). The impact of this load on the medium voltage network will be determined through a load flow analysis while a simple low voltage (LV) feeder model will be used to check LV feeder voltages and loading. If the network has capacity to supply the additional customers, the quantity of material and associated costs will be determined using design indicators based on the area density. The list of projects will be prioritized based on cost per connection and added to the current list of backlog projects (of currently 26, 919 customers). The final list will be a combination of new and backlog projects.

Component 2: Off-grid market development (US\$20 million)

The component will address the challenges of developing the nascent off-grid market. This component will set up a financing facility managed by a qualified fund manager that will provide access to loans and grants to eligible enterprises offering quality assured solar off-grid systems. Solar companies will use funds to finance stock, develop business models and build the distribution channels to reach consumers. This component draws from successful experiences of off-grid facilities, in Bangladesh, Kenya, Ethiopia and Zambia.

Figure 1: Proposed solar off-grid facility



The facility will provide financing through the following two windows:

- a. **Debt window** to support working capital constraints, especially upfront costs associated with the importing and building of an inventory of solar products. The solar companies lack the financial cash flow to import and build an inventory of products, which would allow for faster turn-around of sales and also for lower pricing of the systems due to economies of scale. In addition, solar companies are taking credit risk by advancing up to 80 percent of financing of the system to enable households to purchase systems on a PAYG-basis. The debt facility will provide credit at market rates to solar importers and distributors to import and build an inventory as well as allowing them to provide medium-term consumer financing on a pay-as-you-go basis. Financing will be provided in local currency depending on the needs of the solar companies and on a first-come-first-serve basis after careful

review of the companies' business plan. Individual loan terms (size, tenor, security, etc.) to companies will be determined by the Fund Manager during initial screening and diligence. The market assessment shows that loans in local currency with tenors of 2-4 years in loan amounts ranging between US\$300,000 to up to US\$5 million are preferred by the companies.

- b. **Results-based financing (RBF)** to provide critical business development support and building the distribution channels at scale. The RBF window will not only help with buying down the opportunity costs of solar companies to expand their business in the market but also allow for start-up companies to enter the market and increase competition. RBF will specify instalment payments based on the achievement of pre-agreed connection milestones and satisfactory after sales service support. Given that traditional RBF mechanisms pay out only after sales are confirmed, poorly capitalized small enterprises and new entrants may have difficulty benefiting from them early in the project. Therefore, the RBF mechanism will offer funding for the initial setup, marketing, and consumer-awareness activities including training of sales agents. Firms will receive additional incentives for working with marginalized groups as well as women entrepreneurs and sales agents and for products promoting agricultural productive uses (e.g. for irrigation, drying, cooling). An independent verification agent (IVA) will be tasked with ensuring that companies meet their obligations to customers and remain in compliance with Lighting Global product and after-sales service requirements at all times.

The terms of financing (i.e. pricing of loans), eligibility criteria of companies and their respective business plans as well as RBF criteria for the grants facility will be defined in the Project Operations Manual (POM), which is a disbursement condition of Component 2, i.e. financing for companies will only be made under the facility upon availability of the POM. The facility will also require solar companies to use customer mapping technology to track the customer and integrate as a layer of the geospatial mapping. The facility is geographically and technologically agnostic, but specific incentives for products promoting productive agricultural uses (e.g. for irrigation, drying,

cooling) may be provided through the grant facility.

Component 3: Technical Assistance (US\$15 million)

This component will finance various technical assistance (TA) and capacity building activities to ensure ESCOM, MoNREM and other sector stakeholders have adequate technical, planning, and operational capacity to implement the electrification roll-out activities and effectively undertake activities under Component 1 and 2 of the projects. This will entail the following:

Sub-component 3.1: Technical Assistance to ESCOM (US\$5 million): This will mainly finance activities to support ESCOM to effectively implement component 1, including support for detailed project design, planning, and supervisory oversight. More specifically the sub-component will finance (i) capacity building and implementation support for the Project Implementation Unit (PIU) in ESCOM related to core functions, including (Financial Management) FM, procurement, safeguards, and monitoring and evaluation; (ii) preparation of a Program Operations Manual informed by a least-cost geospatial roll-out plan; (iii) training at ESCOM's Training facility of ESCOM front line construction supervision management personnel, and private sector contractors for implementing a scaled up on-grid connections program; (iv) mainstreaming more broadly, selective high impact DSM measures; (v) GIS platform for network reticulation planning, design; (vi) System-wide MV feeder- specific upgrading Master Plan through 2030; and (vii) preparation and implementation of a gender capacity building plan and program, and designing a recruitment, mentoring and leadership development program targeting potential, new and existing female employees at ESCOM.

Sub-component 3.2: Technical Assistance to MoNREM (US\$10 million): This sub-component will support: (i) capacity strengthening of the PIU in MonREM tasked with oversight and implementation of part of the investments under component 1 and the activities planned under component 2; (ii) Mini-grid Development – Standardized Framework and Design Standards such as pre-feasibility studies for up to ten mini grid

locations; along with a suitable institutional and regulatory framework to design, finance, implement and operate mini-grids that pass specified qualifying criteria; (iii) fund management fee under component 2; (iii) technical assistance for off-grid market development like targeted government policy and regulation; quality assurance; gender-informed consumer awareness; and technical assistance for financial institutions; and (iv) critical sector studies.

1.5.5 Project Beneficiaries

The beneficiaries of the Program will include the following:

- **Households.** Access to electricity contributes to an improvement in the quality of life by enabling newly connected consumers to undertake productive and income-generating activities (less time spent on fetching traditional sources of energy and clean water) and enhanced access to information/communication (through phone, radio, television, and so on). Empirical evidence also points to health benefits owing to the reduction of indoor air pollution due to reduced kerosene consumption.
- **Social institutions.** Improvements in the quality of public service delivery are expected through increased electricity connections, especially of public facilities such as schools; clinics; hospitals (for example, for cold chain, vaccine and medicine refrigeration, lighting, sterilization); and water pumping stations (for example, for safe drinking water) used by poor and vulnerable households.
- **Productive enterprises.** Improved access to electricity supply will contribute to increased productivity and income of enterprises (particularly for micro/small/medium enterprises) and will assist them in reducing their dependency on expensive diesel generation that has a substantially higher per unit cost. In addition, increased access to electricity can boost productivity and reduce sales and equipment losses.
- **Electricity sector institutions.** The sector institutions, especially MONREM and ESCOM, are expected to benefit from the strengthening of planning and implementation capacity, which could translate into improved institutional

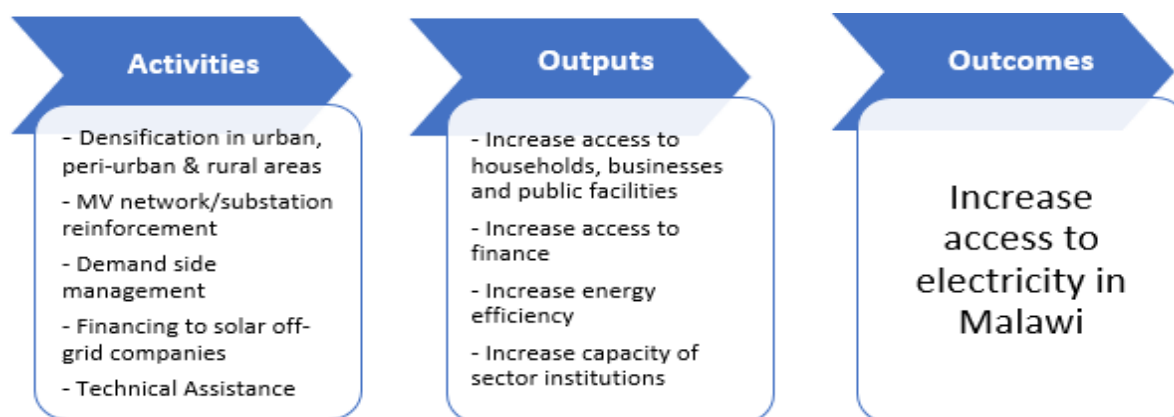
performance as well as cost-effectiveness, efficiency, transparency, and accountability of the sector.

- **Solar companies.** The solar companies will benefit through increased access to financing for business development support and working capital allowing them to expand their businesses by building inventory, widening distribution channels and increasing training for distribution agents, improving after-sales services through increasing technicians and introduction of trouble-shooting technologies, as well as extend their product line and introduce innovations.
- **Gender-differentiated benefits.** Providing rural households, social services, and enterprises with improved electricity services has the potential to promote gender equality, create employment and business opportunities for women, and improve development outcomes regarding, for example, education. Under the project, gender-differentiated considerations will be mainstreamed as part of the utility's operations.

1.5.6 Results Chain

The diagram below presents the results chain from the activities through the outputs to the outcome of increasing electricity supply in Malawi.

Figure 2: List of activities, outputs and outcomes of MEAP



2.0 METHODOLOGICAL APPROACH

2.1 Literature review

Several documents and literature were reviewed to have an in-depth understanding of the project. These included a national and international legal framework that will guide the operations and implementations of proposed activities and studies and reports that presents the possible impacts and mitigation measures that should be included during implementation and operation of the project. The following documentations were reviewed: -

World Bank Related Documents

- Aide Memoire
- World Bank Safeguards Policies
- Draft Project Appraisal Document and other supporting documents

Key Legislative Documents

- Energy Regulation Act, 2004
- Electricity Act, 2004
- Rural Electrification Act, 2003,
- Liquid Fuels and Gas (Production and Supply) Act, 2004
- Physical Planning Act, 2016
- Land Act, 2016
- Customary Land Act, 2016
- Employment Act, 1999
- Environment Management Act, 2017
- Fisheries Act, 1973
- Forest Act, 1997

In addition to the above, several other documents, reports and websites were reviewed to access information on the baseline data for Malawi.

2.2 Interactive Discussions

Key staff and informant of the project were interviewed to understand several procedures, policies and institutions' mandates. These are institutions that will be key during the implementation and operation of the project. The institution consulted are, The World Bank, The Electricity Supply Corporation of Malawi (ESCOM), Energy Department, The Environmental Affairs Department, Forest Department, Mulanje Electricity Generation Agency (MEGA), Kavuzi mini hydro generation construction site, Department of Physical planning and local communities in Chiradzulu, NKhotakota, Nkhatabay, Mzuzu, Lilongwe, Blantyre, and Lilongwe. These interviews provided many insights regarding the possible impacts of the project and possible mitigation measures. They also highlighted the institutions that will be key and instrumental in making the project sustainable and effective.

2.3 Preparation of ESMF

Preparation of the ESMF included the following stages:

- A literature review of institutional mandates and powers
- Collation of baseline data on the environmental conditions of the country in general but specifically looking at the possible areas of project activities;
- Identification of positive and negative environmental and social impacts of sub-projects investments;
- Identification of environmental and social mitigation measures;
- Formulation of environmental and social monitoring plans.
- Identification of capacity building needed by various implementing entities and formulation of training plans

3.0 BASELINE INFORMATION

3.1 Location and Size

Malawi is a landlocked country in southeast Africa between latitudes 9°22'S and 17°03'S and longitudes 32°40'E and 35°55'E. Malawi is bordered by Zambia to the west, Tanzania northeast, and Mozambique, south-west, south and south-east (Figure 3). Being landlocked, the country has three main routes to the seas. In the north the route to the seas is through Karonga into Tanzania. In the south Malawi access the ports of Beira in Mozambique and Durban through Mwanza district and Malawi access Namibia ports through Zambia and Mchinji districts.

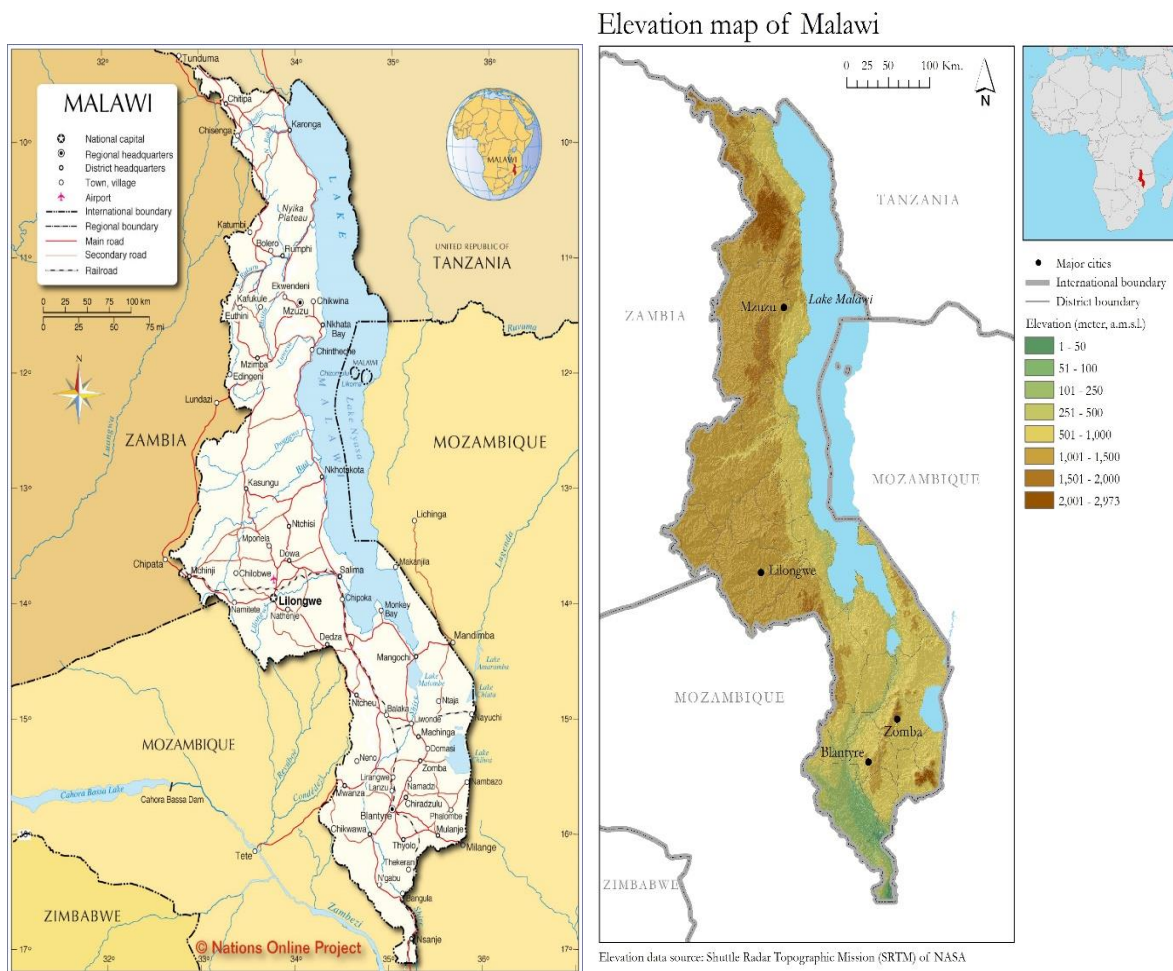


Figure 3: Map of Malawi showing location and topography

The country has a total area of 118 480 km² with a total length of about 900 km and width of about 250 km. The country's topography shown in Figure 1 can be divided into four zones: Highland and plateau, mostly in the northern region, adulating plain in the central region, rift valley escarpment and rift valley plains and lakeshore areas.

3.2 Physical Environment

3.2.1 Climate

Malawi has a sub-tropical climate, with three distinct seasons. First is the warm-wet season from November to April, during which 95% of the annual precipitation takes place. Precipitation is high in high altitude areas and low in low altitude areas.

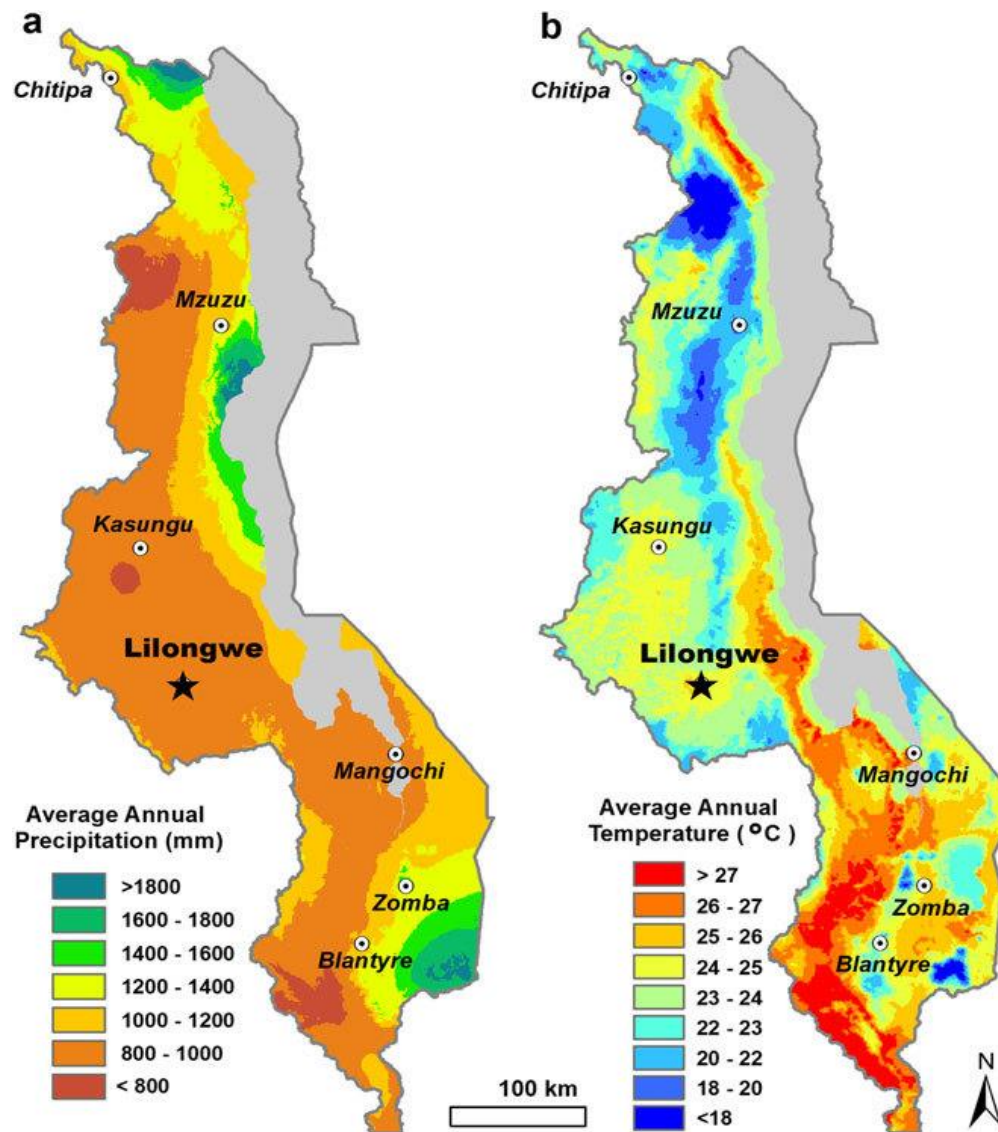


Figure 4: Map of Malawi showing climate patterns (Annual rainfall and temperature)

Annual average rainfall varies from 725mm to 2,500mm with Lilongwe having an average of 900mm, Blantyre 1,127mm, Mzuzu 1,289mm and Zomba 1,433mm (Figure 4). The wettest month is January with an average of 223mm. The second distinct season from May to August. This is generally cold and dry season with occasional showers in Highland. Mean temperatures vary

between 17 and 27 degrees Celsius, with temperatures falling between 4 and 10 degrees Celsius. In addition, frost may occur in isolated areas in June and July. The last distinct season in the hot, dry season lasts from September to October with average temperatures varying between 25 and 37 degrees Celsius. Highest temperatures are experienced along the lakeshore areas and lower shire valley which is also low altitude areas (Figure 4).

3.2.2 Freshwaters (Rivers are lakes)

Malawi is relatively rich in water resources, both surface and underground. *Surface water* resources comprise of five freshwater lakes. Malawi has the thirds largest freshwater lake in Africa-Lake Malawi, in addition to other four lakes of Kazuni in Rumphi, Malombe in Mangochi, Chilwa and Chiuta in Zomba and Machinga districts. Lake Malawi, with a surface area of about 28760 km², has a significant influence on the water balance in the country. The country also boasts a network of river systems such as the Shire which runs from the southern tip of Lake Malawi to Zambezi River in Mozambique, Songwe, Rukuru and North Rumphi rivers in the northern region, Bua, Dwangwa, Linthipe, Lilongwe in the central region and Ruo river in Southern Region. Shire is the only outlet from Lake Malawi which supports all Malawi's hydropower and irrigation in the Lower Shire Valley (LSV) and water supply to the city of Blantyre. The figure below presents the surface water resources in Malawi.



Figure 5: Map of Malawi showing the hydrogeology of surface water

3.2.3 Soils and Geology

A large proportion of Malawi is made up of igneous and metamorphic rocks of the Basement complex of Precambrian, both Archean and Proterozoic, age comprising Archean charnockitic gneiss, granulites, meta-sediments and ultrabasics; Proterozoic sequences are dominated by meta-sediments and older granitoids. In the recent classification of Malawi soils, Lixisols were found to be the dominant Reference Soil Groups (RSG), covering almost 26% of the country's land surface, followed by Luvisols with 22% and Cambisols with 18% (see figure below).

The remaining RSGs cover less than 10% of the Malawi territory. Among these are Gleysols, Leptosols, Fluvisols, Ferralsols and Phaeozems that together cover some 35% of the land surface. In general, most soils in Malawi are inherently low in nitrogen, which is an essential nutrient for plants. Most areas have light to medium textures and are liable to leach of nutrients to below the rooting zone under intense rainfall. Loss of topsoil is the most severe environmental problem in Malawi and has led to siltation of many rivers that has led to frequent flooding.

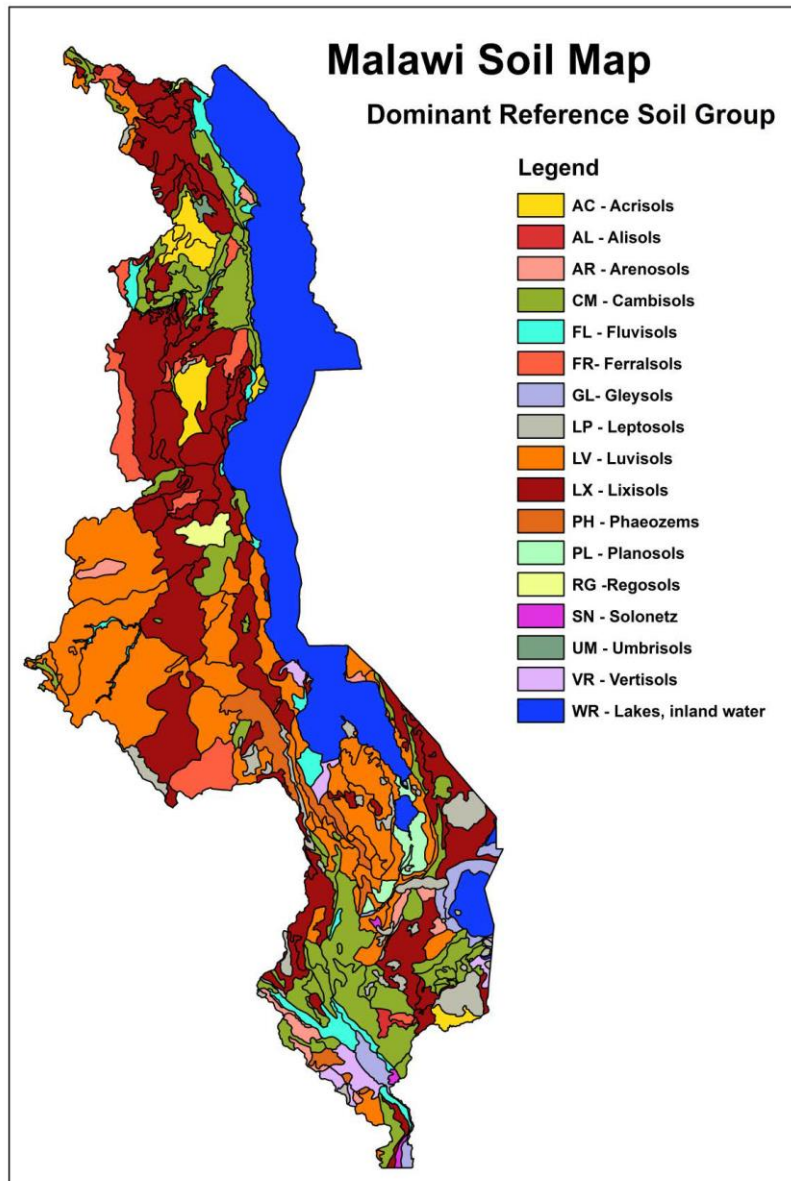


Figure 6: Map of Malawi showing soil Maps

3.3 Biological Environment-Ecosystems

3.3.1 Forests and land cover

Out of the total land area of 94,270,000 ha of Malawi, 3,336,000 ha, which represents 36 %, is classified as forest (FAOSTAT 2010). Of this area, 15 % is under natural woodlands on customary lands, 11 % under national parks and game reserves and 10 % under forest reserves and protected hill slopes. The dominant vegetation is Miombo woodland characterized by broadleaved *Brachystegia* species. It is relatively moist woodland that intergrades into savannah. In southern Malawi the relatively dry, broadleaved mopane woodland is more common, often intergrading into savannah vegetation. Community forests (such as graveyards and village forest areas (VFAs)) and woodlots are areas of customary or private land set aside and managed for wood and range of provisioning, regulating and non-wood-cultural services including, non-timber products, medicinal plants and burial. They may be managed by Traditional leaders and private individual households.

In Malawi, the rate of deforestation, (percentage of forest cover lost per year) ranges from 1% to about 3% overall, averaging 2.3% in recent years. This is one of the highest deforestation rates in the Southern African Development Community region, representing a net loss of some 30,000 to 40,000 hectares per year of (mostly miombo) woodland in Malawi. Much of the current deforestation pressure occurs in indigenous forests and woodland and on customary land.

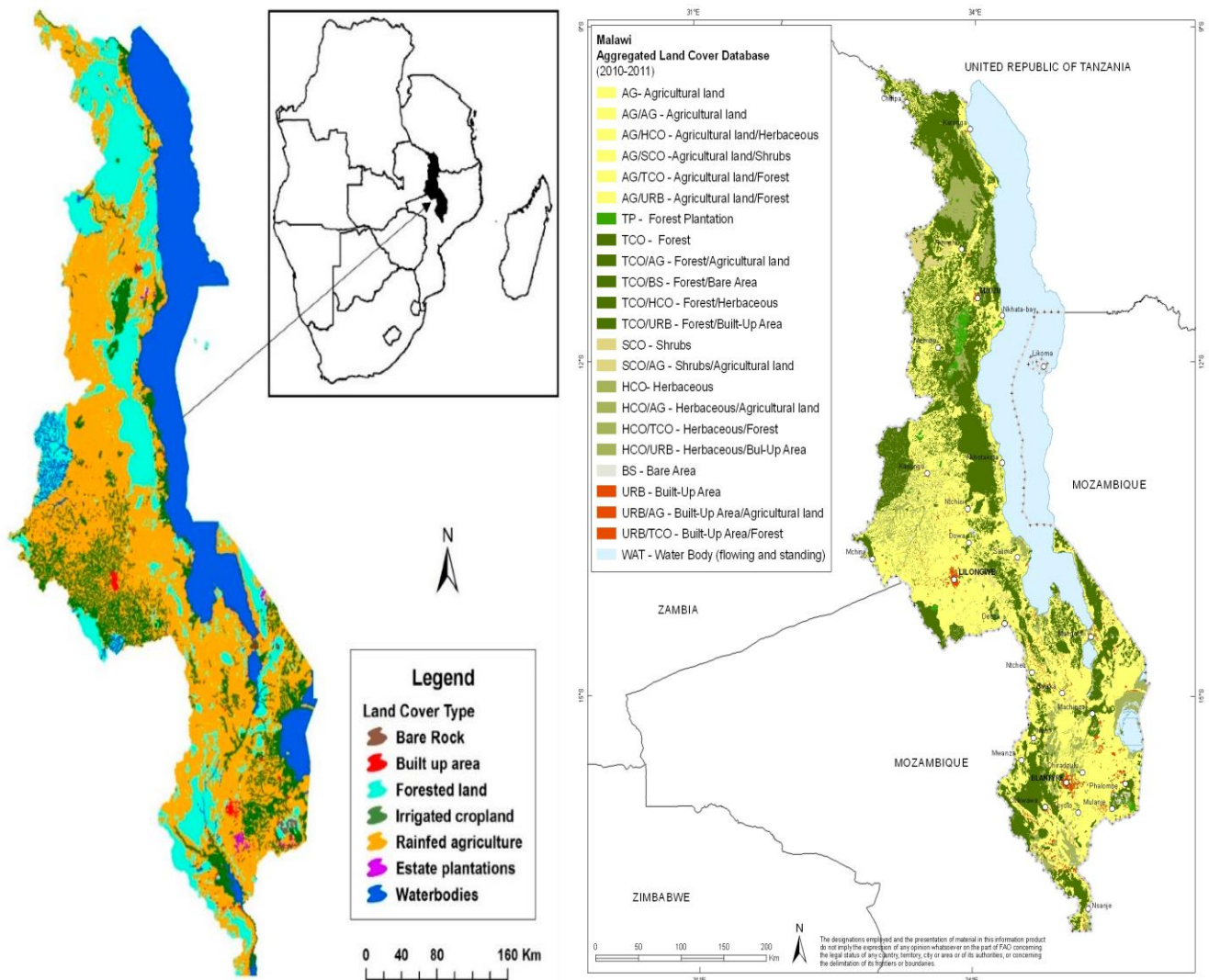


Figure 7: Map of Malawi showing forest cover

3.3.2 National Parks and game reserves

Malawi has a total of five national parks and four wildlife reserves. (See figure below). Other protected areas include Lake Chilwa of Ramsar Conversation and Mulanje Mountain Forest Reserve. Malawi boasts as rich a variety of large mammals; including the so-called big five - buffalo, elephant, lion, leopard and rhinoceros. Several species of antelopes and other herbivores are common in most the national parks and game reserves. There are over 170 species of mammals and some 600 recorded species of bird. Access and entry into these protected areas are restricted and these areas and most times protected by armed forest rangers.



Figure 8: Map of Malawi showing National parks and game reserves

3.4 Socio-Economic Background

3.4.1 Population

In 2018, the estimated population of Malawi is 19.16 million, which ranks 64th in the world. Malawi still has a relatively low population density of 129 people per square kilometre (86th in the world). There are four cities in Malawi. The capital is Lilongwe (978,000 inhabitants in 2014), while the largest city is Blantyre (1.9 million inhabitants in 2014), the commercial capital, Zomba City (90 325 inhabitants) and Mzuzu (130,000 in the city).

Population density of Malawi

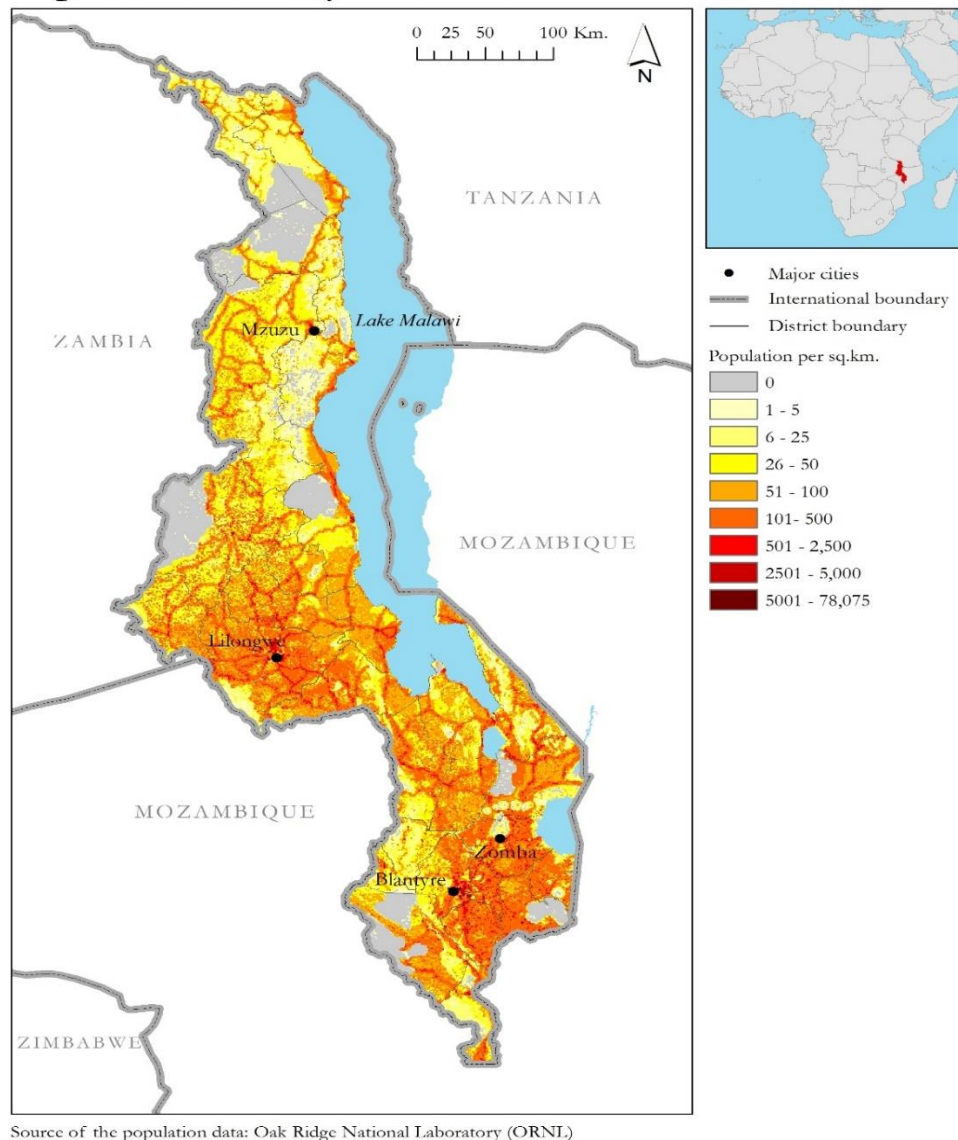


Figure 9: Map of Malawi showing population density

The population is concentrated in urban and peri-urban areas and growth centres along the main roads. The population is also concentrated in the southern region with the northern region sparsely populated. The population growth rate for Malawi is high. At 3.06% per annum, the population is projected to triple by 2050. This has implications regarding the demand for resources and infrastructures.

3.4.2 Economic Growth & Setting

Malawi is one of the least developed countries in the world with an economy centred on agriculture and a population that is mostly rural. Malawi's Per capita income, of US\$494 in 2015 (World Development Indicator, WB) one of the lowest in the world. Growth averaged 4.1 per cent between 2011 and 2015. After six years of double-digit inflation, the rate has receded to single-digit levels (7.8% in February 2018), driven by a sustained fall in food inflation due to affordable maize on domestic markets. The Kwacha has remained stable since August 2016 (at MWK730 to US\$1). This stability and the decline in average oil prices also exerted downward pressure on non-food inflation.

Agriculture is the main determinant of economic performance contributing around 30.0 per cent to GDP. It also drives growth in the other sectors, particularly manufacturing. In the years when economic growth has been above the expected average of over 7.2 per cent (2007-2009), agriculture significantly contributed to it, in part, the farm input subsidy program (FISP) coupled with favourable weather conditions.

3.4.3 Agriculture

Agriculture constitutes the backbone of the Malawian economy, and agricultural performance has more significant implications for economic growth and poverty reduction, especially in rural areas than any other sector. Agriculture is the primary foreign exchange earner. The main crops that are exported are tobacco, tea, cotton, coffee sugar and some legumes like soybean, groundnuts and mixed beans. However, maize is the common crop grown in Malawi with all most every agricultural household growing it. Maize is mainly grown for food and domestic markets. The export market for maize faces vast restrictions. These are aimed at securing food within the country. Agricultural sector growth has been volatile and frequently

surpassed by population growth. To date, agricultural growth has been achieved through factor accumulation—primarily through inputs such as land cultivated and labour.

Agriculture in Malawi is mainly subsistence by smallholder farmers on the customary land. About 78 per cent of households owned or cultivated land during the rainy season while only 8 per cent of households practised dry season crop production. More households in rural areas (93 per cent) are engaged in agricultural activities than those in urban areas (40 per cent).

3.5 Land tenure

There are currently two legally recognized tenure regimes operating in Malawi: the public tenure system and the private tenure system (Land Act, 2016)². Public land according to the Land Act of 2016 means land held in trust for the people of Malawi and managed by Government, a local government authority or a Traditional Authority and includes—

- (a) any land held by the Government or a local government authority consequent upon a reversion thereof to the Government or local government authority, as the case may be, on the termination, surrender or falling in of any freehold or leasehold estate therein under any covenant or by operation of law';
- (b) land acquired and privately owned by Government or a local government authority used for dedicated purposes such as Government buildings, schools, hospitals and public infrastructure;
- (c) land *gazetted* for national parks, recreation areas, forest reserves, conservation areas, historical and cultural sites;
- (d) land vested in Government as a result of uncertain ownership; abandonment or land that cannot be used for any purposes; and
- (a) un-allocated and communal land within the boundaries of a Traditional Land Management Area;

The other land tenure type is the private land. “Private land” means all land which is owned, held or occupied under a freehold title, leasehold title or as a customary estate or which is

² Customary land is that which is held or used under customary law.

registered as private land under the Registered Land Act. The majority of rural Malawi is customary land. Customary land means all land used for the benefit of the community as a whole and includes unallocated customary land within the boundaries of a traditional land management area; customary estate means any customary land which is allocated, owned, held or occupied as private land within a traditional land management area and which is registered as private land under the Registered Land Act;

The customary tenure system is by far the largest land area. The Government of Malawi (2002), estimates that a total of 6.5 million hectares (84%) of arable land is available to smallholder farmers much of which is under customary tenure system and now under the Customary land Act of 2016. Therefore, these two Acts i.e. Land and Customary Land of 2016 will be pivotal in addressing land concerns in the project.

4.0 POLICY AND LEGAL FRAMEWORK

4.1 The Policy Framework

4.1.1 The National Environment Policy, 1997

After the Malawi Government endorsed the 1992 Rio Declaration on Environment and Development, it produced a National Environmental Action Plan (NEAP), which described the environmental situation in Malawi. NEAP recommended a set of actions that were to be taken to redress the aggravating environmental degradation and facilitate sustainable utilization of natural resources. One of the NEAP recommendations were to develop a National Environmental Policy. The National Environmental Policy was developed in 1997 with the overall goal of promoting sustainable social and economic development through the sound management of the environment in the country. The policy promotes co-operation with other Governments and relevant international/regional organizations, local communities, Non-Governmental Organizations (NGOs), and the private sector in the management and protection of the environment. The Environmental Affairs Department in the Ministry of Natural Resources, Energy and Mining houses the policy and plays a facilitating, coordinating and advisory role in ensuring its implementation and set of relevant and acceptable standards.

4.1.2 The National Energy Policy, 2018

The Ministry of Natural Resources, Energy and Mining (MoNREM), through its Department of Energy (DoE), formulated the first energy policy for Malawi in 2003 to make the energy sector more responsive to the development needs of the country. The Policy has since been revised to accommodate current changes in the Energy sectors. This was necessary in order to spur development as aspired for in the Malawi Growth and Development Strategy (MGDS) III in the national agenda, and Sustainable Energy for All Initiative and Sustainable Development Goals (SDGs) in the international agenda. The National Energy Policy (2018) overall goal, therefore, is to provide a guiding framework for increased access to affordable, reliable, sustainable, efficient and modern energy for all sectors and every person in the country. It emphasises the importance of private sector participation in the sector and provides an environment conducive for such participation. The policy has also emphasised the importance of mitigating environmental, social, safety and health impacts of energy production and utilization.

Malawi is a signatory to various international conventions on the preservation of the environment and realising that energy is one of the primary culprits of environmental degradation, energy policy states that the government undertakes to ensure that all energy development programmes do not unduly compromise the environment, health and safety. The policy emphasises the subjection of all projects to stringent EIAs in line with the provisions of the Environmental Act.

4.1.3 *National Forest Policy 2016*

The goal of the National Forest Policy, 2016, is for the conservation, establishment, protection and management of trees and forests for the sustainable development of Malawi. To ensure sustainable forest management, implementation of this policy by the government and its partners will focus on the ten policy priority areas. These priority areas are Community Based Forestry Management (CBFM); Indigenous Forests, Forest Reserves and Ecosystem Management; Plantations and Estates Management; Forestry Regulation and Quality Control; Forestry Knowledge Acquisition and Management; Capacity Development for the Forestry Sector; Biomass Energy Development; Development of Forest Based Industries; Regional and International Cooperation; and Financing Mechanisms. Under the CBFM the policy aims at empowering rural communities to conserve and develop Malawi's forest resources for the economic and environmental benefit of the present and future generations. This entails that the policy promotes economic opportunities that encourage reforestation and planting trees as a business, e.g. trees for poles. The MEAP has potential to support such efforts in increasing the demand for electricity distribution poles to the consumers.

4.1.4 *National Land Policy (NLP), 2002*

The NLP promotes equitable access and tenure security to land and facilitates the attainment of social harmony and broad-based social and economic development through tenure reforms. It promotes community participation and public awareness at all levels to ensure environmentally sustainable land use practices and good land stewardship. To avoid the land conflicts that were common in the past, the NLP has recategorized land in Malawi as follows:

- a) **Public land** will be land held in trust and managed by the Government or Traditional Authorities and openly used or accessible to the public at large.
- i. **Government land** will comprise land acquired and privately owned by the government and dedicated to a specified national use or made available for private uses at the discretion of the government. This includes land reserved for government buildings, schools, hospitals, etc., or government-owned land leased for exclusive use by individuals, companies and institutions for which ground rent is often paid. This category of land also includes land gazetted for use as national parks, recreation areas, forest reserves, conservation areas, historical and cultural sites, etc. The public land designation also applies to all land vested in the Government as a result of uncertain ownership, abandonment and land that is unusable for one reason or another.
 - ii. Within a Traditional Authority, the community's public land will include all land within the boundaries of the TA not allocated exclusively to any group, individual or family. This designation applies in particular to dambos, dry season communal grazing areas, etc. Such common access or unallocated customary land reserved for the community are regarded as public only to members of that community and will be protected.
- b) **Private Land** is all land that is exclusively owned, held or occupied under (a) freehold tenure, and (b) customary land allocated exclusively to a clearly defined community, corporation, institution, clan, family or individual. Such exclusive allocations of customary land will henceforth be known formally as a "customary estate."

The Land policy also indicated that in acquiring any piece of land held under private ownership, compensation of such land should be based on the open market value of the land and all permanent improvements on the land. The policy also acknowledges the importance of protecting land and its resources when implementing the developmental project. Section 9.8.1 of the policy recognizes the need for environmental and social impact assessment of all big land development projects. This requirement is to integrate adequate environmental management plans and also to protect biodiversity and water resources

4.1.5 National Parks and Wildlife Policy, 2000

The Policy promotes conservation of Wildlife including forests and biodiversity in protected areas and communal areas. Malawi has 21% of its land area as protected areas. National parks, wildlife reserves and forest reserve. These areas contain the highest concentration of wildlife resource. Due to the delicate nature of wildlife resources and the adverse effect which illegal use might have on them, important protective legislation is needed. Therefore, it is a requirement, that environmental impact assessments are carried out for all significant physical developments that may adversely affect wildlife resources.

4.1.6 Guidelines for Environmental Impact Assessment in Malawi (1997)

In line with section 24 of the Environmental Management Act, the Government of Republic of Malawi produced a set of Guidelines for Environmental Impact Assessment (EIA) in Malawi in 1997. The principal use is to facilitate the procedures, steps in mainstreaming environmental planning and management in all development programmes. The guidelines are used by government agencies, project developers, donors and the general public in their project planning processes. The guidelines aim to integrate environmental concerns into national development strategies for all types of projects, in both the public and private sectors. The guidelines outline specific roles for institutions in managing environmental impact assessment, the mechanisms for integrating in project planning; provide a list of prescribed projects that require an EIA (List A on pages 25 to 29) and a list of projects that may require an EIA (List B on pages 30 - 31) in all sectors.

4.2 The Legal Framework

4.2.1 The Constitution of Malawi

Environmental management is regarded as a very critical issue in Malawi. As the country depends on its natural resources for its survival, protection and conservation of the environment is crucial. The Constitution of Malawi, section Thirteen (13)(d) provides for environment principles and states the as follows;

"To manage the environment responsibly in order to: -

- i. prevent the degradation of the environment;*

- ii. *provide a healthy living and working environment for the people of Malawi*
- iii. *accord full recognition to the rights of future generations by means of environmental protection;*
- iv. *conserve and enhance the biological diversity of Malawi."*

In addition, the role of the State is enhancing the quality of life in rural communities and recognizing rural standards of living as a crucial indicator in the success of Government Policies. Therefore, MEAP will contribute to providing electricity to improve rural living standards on the one hand and ensure that while providing the electricity infrastructure, the quality of the environment is not compromised. Hence the ESFM is a constitutionally acceptable tool that will help to conserve and protect the environmental and social status of the country and its citizens.

4.2.2 Environment Management Act, 2017

This is an Act that provides the legal basis to make provision for the protection and management of the environment; the conservation and sustainable utilization of natural resources. This Act is a revised version of the 1996 Act. Among other things, the 2017 Act establishes the Malawi Environment Protection Authority which shall be the principal agency for the protection and management of the environment and sustainable utilization of natural resources. Section 31 of the Act gives powers to the Authority to recommend to the Minister which project should undergo an Environmental and Social Impact Assessment. A list of prescribed projects to which ESIA applies is provided in the Guidelines for EIA, 1997. In section 31 (3) any other licensing authority shall not grant a permit or licence for the execution of a project referred unless the Authority grants approval for the project, or the grant of the permit or licence is made conditional upon the approval of the Authority being granted. In addition, any public institution which intends to develop policies, legislation, programmes, plans that are likely to have an adverse effect on the management, conservation and enhancement of the environment or sustainable management of natural resources shall conduct a strategic environmental assessment of the policies, programmes, legislation, development and physical plans and submit the findings to the Authority for approval. Non-compliance with ESIA requirement is an offence and currently attracts a penalty of 10 Million Malawi Kwacha or 12 years in prison.

4.2.3 Energy Regulation Act, 2004

This Act provided the establishment of the Malawi Energy Regulatory Authority (MERA) to regulate the energy sector, defined the functions and powers of the Energy Regulatory Authority and provided for licensing of energy undertakings. Among many other duties, MERA is responsible for monitoring and enforcing compliance by licensees with licenses granted under the Energy Act and the Energy Laws and developing and enforcing performance and safety standards for energy exploitation, production transportation and distribution.

4.2.4 Electricity Act, 2004

This is an Act that is directly relating to MEAP and has the necessary provision for the implementation of the project. The Act provides for the regulation of the generation, transmission, wheeling distribution, sale, importation and exportation, use and safety of electricity in Malawi. The Act defines a distribution line as

“any cable underground or overhead line for the distribution or reticulation of electricity from an electricity undertaking to a customer, together with any transformers, switchgear or other works necessary to, and used in connection with such cable underground or overhead line, and the buildings or such part thereof as may be required to accommodate such transformers, switchgear and other works”

Installation of the distribution lines (plus transformers and switchgear) will demand acquisition of land for the infrastructure. Section 39 of the Act provides a legal basis for accessing and construction of any distributions lines and refers to the Public Road Act as another legal instrument that is followed. ESCOM as the licensee, cannot without the consent of the owner, carry out any construction, maintenance, carrying on or extension of any of its works. The Act also specifies that before any work commences, a notice of 30 days should be given to the owners of land or building where the lines will pass through or will be affected.

In case of objection by the owner of land or building likely to be affected by the distribution lines, a letter to such effect should be submitted to MERA for arbitration. In such case

the owner's objection is valid, MERA shall determine the amount of compensation, whether by way of payment of a lump sum or an annual rental, or of both, to such owner, lessee or occupier.

Section 41 (1) of the Act states that the Licensee has the right to enter any land with trees or undergrowth of any kind that may obstruct the construction, subject to giving the owners not less than fourteen days' notice in writing of its intention to enter upon the land and to cut down or to trim such trees or growth. However, ESCOM will have to

- Obtain permission of the occupant of any building under which it wished to construct the distribution lines
- Required by law to give the landowner 30 days' notice before constructions of the distribution lines
- Pay appropriate market-based compensation or rent, or both for all the losses and damages caused in the execution of its power in the act
- Is liable to damages that may result from work carried out on its behalf
- Required to notify relevant Minister of any accident to have caused loss of life or serious injury in connection with the distribution lines or other equipment.

4.2.5 Rural Electrification Act, 2003

An Act to make provision for the promotion, funding, management and regulation of rural electrification. The MEAP does have an opportunity to supply rural and peri-urban households with electricity. The provisions of the Electricity Act and the Energy Regulation Act shall apply to rural electrification activities under this Act as if the same were part of this Act. However, the billing of rural households.

4.2.6 Physical Planning Act, 2016

The Physical Planning Act of 2016 provides for physical planning and the orderly and progressive development of land in both urban and rural areas. Section 23 states that when a plan, other than a National Physical Development Plan has been prepared, a copy of the plan should be placed on deposit at the office of the local government authority responsible for the area. The Local Government Authority will further give notice of such deposit and of the period in which any person may inspect and make representations on a plan. This allows the public to make

comments on the Plan. As the MEAP is a project and may not be in the local planning programs, it will be required of ESCOM to deposit local plans say at district level at the District Commissioners office to allow for the public to view that proposed plans and make their suggestions.

4.2.7 Land Act, 2016

The Land Act of 2016 is another critical legal instrument that MEAP will require to use in the implementation of its activities mainly acquiring land for distribution lines, poles and transformers. The Land Act of 2016 categories lands in Malawi as either public land or private.

- a) Public land is classified either as Government land or unallocated customary land.
- b) Private land is classified as freehold, leasehold or customary estate.

Freehold land which was a category of land before this Act was enacted shall not be allocated or granted to any person anymore. The MEAP will require land to install transformers and distribution lines. Where it appears to the Minister that any unallocated customary land is needed for public utility³, the Minister shall serve notice upon the traditional authority within whose traditional land management area the customary land is situated. This subsection shall not apply to any customary land required for use as a public road or the widening or diversion thereof, for such land shall be acquired for that purpose in accordance with the Public Roads Act. Therefore, where distribution line passes through the unallocated customary land, ESCOM can seek access to the land through the Minister of Lands. The Act also state that any individual that suffers any disturbance of, or loss or damage to any interest which he may have or, immediately before the occurrence of any of the events referred to in this section, may have had in such land, shall be paid such compensation for such disturbance, loss or damage as is reasonable.

4.2.8 Customary Land Act, 2016

This is an Act that provides for the management and administration of customary land and for matters connected in addition to that and incidental to it. The customary land shall be transferred subject to:

³ “public utility” means a utility which is for the direct or indirect benefit of the community as a whole or a part of the community within a traditional land management area.

- a) payment of appropriate compensation as assessed by a registered valuer and agreed upon between
 - i. the land committee and the Commissioner; or
 - ii. where subsections (4) and (10) apply, tire persons referred to in those subsections and the Commissioner;
- b) if Government or reserved land is to be exchanged with customary land which is the subject of the transfer, Government will identify an alternative piece of land to be transferred to the Traditional Land Management Area or the affected persons as the case may be.

The Minister may declare any customary land in a hazardous land Traditional Land Management Area to be hazardous land by the provisions of this section. Notwithstanding any local government authority having jurisdiction in any village may advise the Minister to declare any customary land as hazardous land if in its opinion it is necessary to do so. For this section, “hazardous land” means land the development of which is likely to pose a danger to life or to lead to the degradation of, or environmental destruction on, that or contiguous land, and includes

- i. Wetlands and offshore island in the lakes and other water bodies;
- ii. Land designated or used for the dumping of hazardous waste;
- iii. Land within sixty meters of a river bank or the shoreline of an inland lake or such other distance as the Minister may specify.

4.2.9 Forest Act, 1997

The Forest Act of 1997 aims at augmenting, protecting and managing trees and forest on customary land in order to meet basic fuelwood and forest produce needs of local communities and for the conservation of soil and water. The Acts also promotes community involvement in the conservation of trees and forest in forest reserves and protected forest areas. The Acts empowers city councils and village natural resources management committee to source financial and technical assistance from the private sector, Non-Governmental organization and other organizations to re-establish afforestation projects. Some of these provisions have guided in the formulation of the mitigation measures of this ESMP report.

4.2.10 Occupational Health and Welfare Act, 1997

This Act outlines the requirements for adequate environmental health and safety measures at the workplaces. The construction of distribution lines, installation of transformers and service drop downs exposes the contractor's workforce and the consulting engineers to occupational health. The contractor's workforce is vulnerable to injury while executing some of the civil works and handles hazardous chemicals thereby endangering their lives. Section 58 stipulates the provisions of protective clothing (such as gloves, footwear, screens and goggles, ear muff and head covering) to protect workers from excessive exposure to nuisances with some work activities. Moreover, section 59 stipulates the provisions for breathing masks to employees against excessive emissions of dust and fumes. Such incidences are common with construction sites and within large kitchens. Some of the implications from the Occupational Safety, Health and Welfare Act for consideration in the construction site of the project are as follow:

- i. Registration of the construction site by the contractor as "workplace" in line with section 6 and 7 of the act
- ii. Provision of necessary workplace environmental health safety measures within construction site and project rooms. These could be sanitary facilities, washing rooms, change rooms, first aid kits and cleaning materials.
- iii. Provision of protective clothing to construction workers in situations of exposure to risks.
- iv. Installation of adequate measures for prevention and management of fire outbreaks within construction site and the project premises as specified under section 57 - 58 of the act.
- v. Provision of emergency escape doors at the project and emergency assembly points.

4.2.11 Local Government Act

Local Government Act provides a legal mandate for local councils in the planning, administration and implementation of various issues and development programmes in their respective geographical districts. One primary function of the councils is that of local environmental planning and management. Some of the environmental management functions are provided in section 2 of the second schedule of functions of the council outlined in Local Government Act. These include town planning, building control, local afforestation programmes,

control of soil erosion, and appropriate management of solid and liquid wastes. In addition, the ESCOM will have to work with the council on matters regarding collection, treatment and disposal of solid and liquid wastes from the households with new connections.

4.2.12 Town and Country Planning Act (1988)

The Town and Country Planning Act (cap 23:01), is a major act for regulating land use planning and physical developments in Malawi. The aim is to enhance the orderly spatial growth of human settlements activities, and it relates infrastructures. In addition, the laws promote enhancing the optimum use of land and service infrastructures, protect and conserve fragile environmental systems in space. These objectives are achieved by controlling construction of infrastructure and buildings and ensuring that they are in designated zones. These are approved by the local planning committees or Commissioner for Physical Planning. The control of developments is regulated under various sections in part V of the Town and Country Planning Act. Section 40 prescribes environmental and socio-economic assessment for large-scale development projects before they can be granted planning permissions under this act. Normally this screening is undertaken by local councils on large projects before they can be sanctioned under this act.

4.2.13 Monument and Relics Act

Graves are among the monuments that are protected under the monuments and relics act. The chief antiquities officer is given the power to preserve and protect all monuments entrusted to his care under section 4 (a) of the act. Section 13 (b) of the act states that no person shall without prior consent of the minister carry out any cultivation or mining project or other work so as to cause or likely to cause damage or disturbance to any protected monument or protected relic. In preparing RAPs, consultants will have to consult the Department of Antiquities to ensure that they have consent from the chief antiquities officer to exhume.

4.3 International Environmental instruments/obligations for Malawi

Malawi endorses and adheres to internationally accepted principles of the 1972 Stockholm Declaration and the 1992 Rio Declaration as adopted by the United Nations Conferences. Malawi is also a signatory to the following environmental conventions: - Convention on International Plant Protection; Convention on Wetland of Significant Importance; Convention Concerning the Protection of the World Cultural and Natural Heritage; Convention on the Conservation of Migratory Species of Wild Animals; Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); African Convention on Conservation of Nature and Natural Resources; FAO International Undertaking on Plant and Genetic Resources; United Nations Convention on the Law of the Sea; Montreal Protocol for Protection of the Ozone Layer; Convention on Biological Diversity; Convention on Climate Change; and the Convention on Desertification. These protocols and treaties promote the conservation of the environment and natural resources while acknowledging the importance of economic development.

4.4 World Bank Safeguard Policies

The World Bank Safeguard policies aim to help ensure the environmental and social soundness and sustainability of investment projects and support the integration of environmental and social aspects of projects into the decision-making process. The policies use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment (EA) so that appropriate studies are undertaken proportional to potential risks and to direct, and, as relevant, indirect, cumulative, and associated impacts. The policies also help in assessing the potential impacts of the proposed project on physical, biological, socio-economic and physical cultural resources, including transboundary and global concerns, and potential impacts on human health and safety. MEAP has triggered a number of policies that will be used to assess, evaluate and direct the implementation of the project. The triggered policies are OP4.01- Environmental Assessment, OP4.04-Natural Habitat, OP 4.09 Pest Management, OP4.11-Physical and Cultural Property, OP4.12-Involuntary Settlement, and OP4.36 Forest. Table 1 below presents summaries of the triggered policies and how they will be addressed in MEAP.

Table 1: Summary of World Bank Safeguards in relation to MEAP

OP No.	Summary of Safeguard Policy	Safeguard Policy Triggered/Not Triggered	MEAP Project Implications on the Safeguards	Remarks
OP 4.01	Environmental Assessment: The Bank requires an environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. Projects are screened to determine the appropriate extent and type of EA. The Bank classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.	Triggered	Extension of power distribution lines will involve loss of vegetation, and some uptake of land and these activities will trigger this safeguard.	Because details of specific locations of the project are not known, a framework for conducting Environment Assessments on such activities have been provided in this ESMF. The project is under Environmental Assessment Category B because the likely impacts are readily identified, mitigated and managed. Site-specific ESIAs/ESMPs shall be prepared, consulted upon and disclosed both in country and at World Bank's infoshop before the start of any construction activity during project implementation.
OP 4.04	Natural Habitat: The Bank supports the protection, maintenance, and rehabilitation of	Triggered	Some sections of the MEAP will involve uptake	MEAP infrastructure will traverse natural habitats such as wetlands,

	natural habitats and their functions. The conservation of natural habitats is essential for long term sustainable development.		of sections of natural habitats such as wetlands and wildlife/forest especially when extending the grid in Salima, Mangochi, Nkhotakota, Nkhata-Bay and Karonga (along Lake Malawi) for example.	and forest reserves. Impacts of the project on such habitats will be mitigated through measures outlined in this ESMF. Subsequent projects will prepare separate ESIAs, Project Briefs and ESMPs.
OP No.	Summary of Safeguard Policy	Safeguard Policy Triggered/Not Triggered	MEAP Project Implications on the Safeguards	Remarks
OP 4.09	Pest Management: This policy helps the borrower to manage pests that affect either agriculture or public health, The policy also applies to management of all chemicals that pose a threat to the environment and the Bank supports a strategy that promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides.	triggered	The distribution power lines will involve handling, storage and use of wooden creosote-treated poles. Creosote is used as a fungicide, insecticide, miticide, and sporicide to treat distribution poles.	The use of creosote-treated poles will be closely managed by verifying that the poles are well treated and dried. The management of poles will also be done carefully and staff working with poles will be given PPEs that will reduce any bodily contact with the poles. Cement poles will also be explored and if deemed cheaper and accessible, the

				project will use more of the cement poles than wooden poles.
OP 4.11	<p>Physical Cultural Properties: This policy addresses physical, cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance.</p> <p>The Bank supports the preservation of cultural properties which include sites with archaeological, paleontological, historical, religious or unique natural values. It seeks to avoid impacts on such sites.</p>	triggered	There will be general excavation works as well as grid extensions works and for this reason, this safeguard policy is triggered.	Though the level of impacts on PCRs cannot be ascertained at this stage, it is expected that, excavation works may affect unknown PCRs. A Chance Finds Procedure has been outlined in the Annex 7 of this ESMF for management of unknown Cultural resources in the project and management of known PCRs including avoiding such sites, relocation or translocation and where unavoidable, compensation. Some of the PCRs in the project areas will be outside the infrastructure alignments.
OP 4.12	<p>Involuntary Resettlement: This policy includes safeguards to address and mitigate these risks and recommends involuntary resettlement instruments which include a resettlement plan, a resettlement policy framework and a</p>	Triggered	Resettlement and compensation issues are anticipated to arise during grid extension and intensification works	A Resettlement Policy Framework has been prepared for MEAP which defines measures and modalities of handling resettlement challenges in the project. In addition, the MEAP

	resettlement process framework.		through private lands and sections of protected areas.	project budget has provided for compensation costs.
OP 4.36	Forests: The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests.	Triggered	Grid extension and intensification works are likely to take up sections of roadside forest areas. Management of any likely impacts on forests shall be addressed through guidance provided in the ESMF, specific ESIA's and ESMPs.	Forest and trees will be affected in the implementation of the project mainly clearing them for wayleaves and also installation of transformers. The compensation of lost forest has been outlined in the ESMF and the Forest department will work hand in hand with MEAP PIUs to mitigate and establish village woodlots.

4.5 World Bank Environmental, Health and Safety guidelines

The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). These industry sector EHS guidelines are designed to be used together with the General EHS Guidelines document, which guides users on common EHS issues potentially applicable to all industry sectors. These guidelines are considered for implementation of MEAP, and with specific application to the construction of power distribution lines and installation of solar PV systems.. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. The EHS Guidelines for Electric Power Transmission and Distribution include information relevant to power transmission between a generation facility and a substation located within an electricity grid, in addition to power distribution from a substation to consumers located in residential, commercial, and industrial areas.

Where Malawi regulations differ from the levels and measures presented in the EHS Guidelines, the MEAP project will be expected to achieve whichever is more stringent, and for this case, the EHS guidelines. If less stringent levels or measures than those provided in these EHS Guidelines are appropriate, given specific MEAP circumstances, a full and detailed justification for any proposed alternatives will be needed as part of the site-specific environmental and social assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment. In short, the EHS guidelines shall be used in conjunction with applicable Malawian laws such as the Occupational Health and Safety Act and Waste Management Regulations.

4.6 Gaps between the national laws and the World Bank safeguards policies

The Malawi national laws and regulations cover quite a number of issues that aim at protecting the environment and the social capital of its citizen. However, some issues are not well covered or not fully explicit. MEAP will endeavour to follow policies, rules and regulations that best addresses the situation. Below are highlighted a number of gaps that exist between the national laws and the Bank's safeguards policies.

- a) The Bank's safeguard policy on forest protection (OP 4.36) includes the values of the forest. In the Malawi law's compensation of forest, damage is mainly based on the physical and economic benefits these provide. For example, the values of fruit trees and timber trees differ because of the economic benefits they offer. The values of trees like carbon sequestration or catchment conservation are not taken into account. MEAP will endeavor to include the values of forest to the ecosystem and not only the replacement of the economic benefits that are deemed lost due to the project activities.
- b) The National Environmental assessment procedures are very elaborate as they demand a project brief that is evaluated by the National Technical Committee on Environment (TCE) to assess whether the project requires a full ESIA or just an ESMP. OP 4.01 of the Bank requires an assessment of the project but does not provide for the procedures to evaluate the project. The national laws provide for such detailed procedures. However, enforcement and monitoring of such is very weak by the National authorities. MEAP through the Safeguards staff will ensure that these procedures are duly followed and records of activities will be kept for future reference.
- c) The provisions in the Occupation health and Welfare Act (1997) in the laws of Malawi are important. The laws are however not clear regarding thresholds and levels that trigger punishments. This has resulted in a number of projects being implemented without following these guidelines. In addition, the enforcement of these rules has been weak. MEAP with the safeguard experts will continually monitor that all contractors and implementers of the activities are adhering to these regulations in the act. The Safeguards experts in MEAP will closely follow the Banks occupation healthy and welfare rules as they are clearer and have indicators and levels that can be easily implemented.
- d) Gender-based violence and sexual abuse aspects are weak in the national laws. Currently, the country is reforming and developing the regulations on how these can be managed in work environment. The Bank safeguards policies have well clearly defined rules and regulations on these and MEAP will closely follow these guidelines and apply to all contractors and staff working in the project sites. The Bank's

safeguards staff will ensure clarity on GBV requirements and expectations in contractor and consultant bid documents, including the requirements for Codes of Conduct (CoC) which address GBV.

4.7 Some of the Preliminary Key Stakeholder Concerns and views

Consistent with best practice in developing ESMFs, consultations were held with relevant stakeholders; key project stakeholders were identified for consultations. The stakeholders and beneficiaries of the project were identified after undertaking a literature review and preliminary consultations. The stakeholders consulted included Environment Officers and experts, ESCOM Management team that included, project Managers, procurement manager, Marketing manager and human resources Manager and Environmental and Social expert. Consultations were also held with Electricity Engineers and local communities in some potential areas of implementation of the project. Priority was given to communities where new electricity installation had been made as they provided a platform to understand issues that negatively affected them and hence could be used as lessons for the MEAP areas. Detailed discussion and issues raised are presented in Annex 7.

In general, they were in agreement with the project and looked forward to its implementation. Critical issues were mainly centred around procurement of environmentally friendly materials like cement poles in place of wooden poles. ESCOM has had a number of discussions on these issues and MEAP could be used as a study project on the use of cement poles instead of wooden poles.

Another issue that was raised during the discussion with the marketing team was the keeping of records of grievances both during the implementation and operation of the project. The team noted that there are no records that have been kept and could be used to improve on subsequent projects. These records could also help improve the supply of electricity under the MEAP and subsequent projects.

Main issues raised by most communities were the lack of feedback and procedures for grievances. The communities reported that when they have issues raised, e.g. encroachment of ESCOM in their land without permission and damage of their property, there is an unclear procedure that they could follow to launch their complaints. Where the complaints are launched successfully, feedback takes time to come and they end up spending a lot of resources following up on the issues with ESCOM. In other cases, the communities raised concerns about individual households raising a grievance and subsequently being excluded from the supply of electricity. .

5.0 POTENTIAL IMPACTS AND THEIR MITIGATIONS MEASURES

5.1 Positive impacts

MEAP is envisaged to have significant positive impact to the livelihood of the customers and also to the environment. Below, are the potential positive impacts of the proposed activities of MEAP.

5.1.1 Reduction of Carbon Emissions

The provision and increased access to electricity for households and small business (like restaurants) that currently use polluting energy sources, for cooking and generating electricity (diesel and petrol generators) will directly lead the reduction of carbon emissions as there is likely to be reductions in the use of these polluting energy sources. However, the magnitude of this impact will depend on the level of affordability of the electricity by the locals.

5.1.2 Reduced indoor pollution

Provision of electricity in homes and restaurants will reduce the use of firewood and charcoal. In Malawi, this indoor pollution from cooking with firewood and charcoal has been highlighted as a significant cause of respiratory diseases among women. Charcoal and other solid biomass (wood, charcoal, dung, and agricultural waste) uses are also associated with poor energy services and household air pollution (HAP) which causes 4.3 million premature deaths globally (Smith et al., 2014)—more deaths than from malaria, HIV/AIDS and tuberculosis combined. Therefore, the electricity will reduce such deaths.

5.1.3 Reduction in negative pressure on women and girls

Women and girls bear a disproportionate share of the burden of biomass energy collection exacerbated by deforestation, and exposure to smoke-based HAP during cooking. Further, access to electricity will increase the use of cleaner and modern sources of cooking equipment hence not only empowering women by easing these burdens, but their use could also save lives but it's also a potentially life-transforming achievement in the combined areas of energy, environment and health.

5.1.4 Improved Security

Improvement and extension of the electricity will lead to improved security through better lighting in and outside houses and where possible street lighting in the urban and peri-urban areas and their environs which will contribute to the security of residents and investments. This will increase the potential for business and increase investments that may have positive economic impacts on individuals, households and the country.

5.1.5 Improved delivery of social services in health and education

The extension of electricity will bring about improved delivery of services by sectors such as health and education. In the health sector, such access to electricity has a positive impact in maternity wards in district hospitals, clinics and health centers where women currently are asked to bring candles to be used during delivery. Electricity will likely reduce post-natal fatalities and contribute to improved health of women and children.

In schools, the provision of electricity presents an opportunity for students to have more studying time in the evening and an opportunity to having better laboratories and education facilities like computers and the internet. This has huge and long-term implications of the country's economic development.

5.1.6 Employment Generation

During the implementation of the project, ESCOM plans to use more local people to help in the clearing of wayleaves, installation of poles and wires and transformers and accessories. This will create employment in the short run. This impact is positive and will affect the local retail business owners who would mainly benefit from secondary effects of increased incomes and spending power of construction workers. The project, therefore, presents a significant positive impact which should be enhanced.

5.1.7. Improved livelihoods

Lack of reliable electricity is a disincentive towards acquiring household items such as fridges and television sets and utilization of the same. During consultations, a number of

households with such household items complained that utilization of these is being hampered by poor electricity access. The people welcomed the project emphasizing that it will enable families acquire and buy perishables in bulk like milk and meat which will help planning and running of their homes.

5.1.8 Incentives for small-scale enterprises

There are several local individuals who are operating some income generating activities such as salons, barber shops, restaurants, maize mills and min shops for food and groceries. However, due to lack of electricity, their operations are hampered and very costly, and some have even abandoned the businesses due to lack of electricity for their operations. The provision of electricity to these areas will increase the business opportunities and income to many individuals and households and hence contribute to the improvement of livelihood in the country.

5.2 Potential Negative Impacts

A number of potential negative impacts have been identified from looking at similar projects, literature review and consultation with different stakeholder. These negative impacts are likely to be observed during and after implementation of the project activities. These are presented below followed by mitigation measures that should be put in place to reduce the negative impacts.

Implementation stage

5.2.1. Loss of vegetation

Installation of distribution and service drop lines will likely lead to loss of vegetation through site clearance for wayleaves. This is likely going to affect forest areas, wetland, woodlots, cropland and even homesteads where they have trees including fruit trees. This is one of the serious community concerns, especially where fruit trees are cut due to the need to keep the wayleaves. As these are a requirement in the Energy and Electricity Acts, a number of mitigation measures will be taken,

- a) The first mitigation measure is from the OP4.36 guidelines that promoted avoiding or reducing before mitigating the negative impacts. Therefore, cutting down trees will be avoided where possible. However, where it will be necessary to cut trees be it in forest land or customary land, the following will be the mitigation measures
- b) Where such trees are cut in the customary and privately-owned land, compensation will be given to the affected household according to the stipulated rates in the Forest Act of 2016.
- c) Where such losses occur in village woodlots and village forest reserves, e.g. graveyards, replanting more other trees in agreed new areas with the village committees and leaders will be done. This will be to replace the cut trees and even add more trees planted in the communities.
- d) Where such trees are cut in Government forest reserves, game reserves and national parks, first care will be taken to avoid lines to pass through such protected areas. Where it will not be possible, reforestation programs will be implemented with selected villages and areas recommended by the Forestry Department.

5.2.2 Loss of habitats

There may be potentially small-scale and localized loss of habitats due to the construction works especially while working in sections of the forested areas wetland, national parks and game reserves. However, the project is not expected to cause significant damage to the habitat given that only a width of 15 meters for distribution lines will be taken up by the project in case a project passes through a protected area. However, if the length of the line passing through the protected area is long, significant damages to the natural habitat may be experienced. Therefore, the project will endeavour to avoid passing distribution lines through protected areas where possible. In such a case the construction of the lines will follow already existing road networks to reduce areas to be cleared. The following mitigation measures will be implemented:

- a) Restrict the distribution lines within the road reserve areas;
- b) Avoid routes that fragment the woodlots and forests;
- c) Adjust pole placement to be within edges of the road to minimize vegetation loss;

- d) The Project of trimming of vegetation in wayleaves should focus on trees that exceed 5m high in areas along forest edges and Wildlife Reserves and Protected areas; and
- e) A restoration tree planting Project is recommended in consultation with either the Forestry Department at National level or the respective District Assemblies.

5.2.3 Soil Erosion Concerns

Soil erosion concerns arising from the erection of the poles for the distribution lines will involve digging and later backfilling.

- a) If the digging is done during the rainy season, care should be taken to ensure that all dug holes are filled before next rainfall event. This should be done by digging only holes that can be filled within a day. Holes should not be left unfilled over several days during the rainy season as this may lead to the dug soil being eroded.
- b) And, if holes are poorly compacted, loose soils may be eroded, leading siltation of drainage channels. This will be mitigated through proper compaction of the pole holes.

5.2.4 Concerns regarding creosote on Wooden Distribution Poles

The distribution lines sub-component involves handling, storage and use of wooden creosote-treated poles. Creosote is used as a fungicide, insecticide, miticide, and sporicide to treat distribution poles. Exposure to creosote vapours can irritate the lungs. Exposure to small amounts of creosote over time by direct skin contact or by contact with creosote vapours can cause: blistering, peeling, or reddening of the skin, damage to the eyes and increased sensitivity to sunlight amongst others. Since Creosote is listed on the UN List of Dangerous Goods, this will dictate the level of vigilance necessary for the safe handling of the poles. The main objectives of ensuring proper handling and use of creosote-treated poles are to ensure the protection of the workforce and the prevention and control of releases and accidents. These objectives shall be addressed by integrating prevention and control measures, management actions, and procedures into day-to-day business activities in accordance with the World Bank General EHS guidelines. Precautions when working with creosote-treated poles include:

- i. The Contractor should only procure poles that have been well seasoned and dried (not having dripping creosote);

- ii. Contractors shall be required to develop and implement Standard Handling Procedures (SOPs) for creosote-treated poles, specifically focusing on the use of protective gear, storage, transportation, the removal of any accumulated fluid, such as rainfall, to ensure application and use of standard health and safety practices;
 - i. Workers should be provided with appropriate personal protective equipment (PPEs) such as wear long-sleeve shirts and long pants and use gloves impervious to the chemicals;
 - ii. Workers to minimize unnecessary contact with poles treated with creosote materials;
 - iii. The poles should not be placed in water-logged areas and should not come in contact with public drinking water;
 - iv. Disposal of off-cuts of poles should not be by burning but be collected and handed to a licensed hazardous waste management agent alongside other hazardous wastes such as PV materials in the project.
 - v. Wash work clothes separately from other household clothing.
 - vi. The workers should regularly be taken through safety drills, and emergency preparedness training is allowing for quick and efficient responses to accidents could result in human injury or damage to the environment.

A more sustainable option to avoid the chemical hazards of creosote-treated poles is to use cement or concrete poles. ESCOM has not yet fully adopted these, but several countries in sub-Saharan Africa like Zimbabwe and Kenya have started using such poles and they are very durable and more sustainable than wood. ESCOM will pilot the use of concrete poles in this project and hopefully roll them out to other projects in future and later phase out the use of wooden poles all together.

5.2.5 Occupational Safety and Health (OSH) for the workers and the Public

Most occupational health and safety issues during the construction of electric power distribution lines prevention and control are well documented and practised by ESCOM. The occupational health and safety hazards specific to electric power transmission and distribution projects primarily include live power lines, working at height, electric and magnetic fields and exposure to chemicals. These impacts include, among others, exposure to physical hazards from use of heavy equipment and cranes; trip and fall hazards; exposure to dust and noise; falling

objects; work in confined spaces; exposure to hazardous materials; and exposure to electrical hazards from the use of tools and machinery.

ESCOM will endeavour to mitigate the negative impacts of the dangers the workers will be exposed to. This is to be mitigated through the provision of gloves, safety boots, coveralls and goggles and First Aid Kits on site for the safety of the workers as well as constant awareness on the need for the use of Personal Protective Equipment (PPEs). Since the voltage of the distribution lines is 33 kV, 11KV and drop downs of 400V, the Minimum Working and Clear Hot Stick Distance should be 0.71 meters according to the World Bank EHS for Electric Power Transmission and Distribution. The EHS document should also be used to guide overall management of OHS issues

In summary, the mitigation measure will include:

- a) All workers need to be provided with the recognized and appropriate Personal Protective Equipment while at the construction site including hardhats, gloves, and safety belts for climbing up the poles, boots, and overalls. Use of PPE will have to be strictly enforced.
- b) Competent workers and staff should be allowed to operate any machinery and equipment to reduce the incidents of accidents.
- c) During the construction, the project site should be completely sealed off and warning signs erected informing the public to keep off the construction site when construction is in progress.
- d) The Contractor should continuously train his staff or conduct refresher training to ensure that the staff is up-to-date with knowledge of new or latest equipment.

5.2.6 Potential Disruption of supply of electricity and business and other existing customers

During the construction of the extension lines and service drops, there is a possibility of interference with the supply of electricity to existing customers. This will be done to allow the new connections to the existing distribution lines. Households and business operators in urban areas as some kiosks and petty traders will likely be affected. In extreme cases, other business operators may be asked to close down for a day or two to allow equipment (e.g. Transformers) and machinery to be installed. This plus the temporary disconnection of power to existing users will

be mitigated through adequate notification to enable affected persons to adjust their work with minimum interference.

The works along the road will likely affect traffic flow during its implementation. This will be mitigated through employing traffic guides (flagmen) to control traffic at both approaches and use of safety signage with labels such as “Work in Progress.”

5.2.7 Loss of land, assets and livelihood

During the implementation of MEAP, installation of MV and LV distribution lines, step-down transformers will more likely lead to the acquisition of a sizeable portion of land in project sites. This is likely to lead to land acquisition on a permanent or temporary basis for investments’ specific infrastructures. These investments will also likely affect livelihoods. The impact will vary in degree depending on the nature of investment under the MEAP. For instance, the installation of MV distribution lines and step down and other structures related infrastructures could result in the partial or total loss of land, assets, and livelihoods of the communities in the project area and may require relocation and displacement. The exact impact of the investments under the MEAP is not yet known, and it will only be known when the actual sites for the distribution lines are identified.

MEAP will endeavour to document and compensate all loss of land and livelihood. The details of how this will be done have been addressed in the Resettlement Policy Framework (RPF) which has highlighted procedures on how land will be acquired and compensated.

5.2.8 Concerns related to the influx of population

a) HIV/AIDS Concerns

Current HIV prevalence among adults ages 15 to 64 years in Malawi is 10.6 per cent. This corresponds to approximately 900,000 people living with HIV in Malawi. During construction, workers may travel to new remote areas and camp for some days. The interactions between workers and the local communities may bring about new AIDS infections on either side. Creating awareness of HIV/AIDS and providing facilities for prevention of transmission will be ensured and enforced to all contractors working in MEAP subprojects. It is therefore proposed that the contractors designate one staff as HIV/AIDS Focal person who will work with existing HIV/AIDS

institutions to provide condoms and related HIV/AIDS services to the workers such as sensitization and counselling. HIV/AIDS management plan will be prepared prior to construction works by the PIUs.

b) Gender Based Violence (GBV) and sexual exploitation and abuse (SEA)

Presence of external workforces and an increase in incomes during construction may lead to cases of gender-based violence. Family disputes tend to increase where incomes are increasing and, either men are seeking other women or women go out to sell foodstuff, and their husbands suspect infidelity, which in turn may raise cases of gender based violence. The risk of GBV will be assessed in individual ESIAs/ESMPs and mitigation measures will be outlined in Contractor ESMPs. In addition, the MEAP PIU will make certain the availability of an effective grievance redress mechanism (GRM) with multiple channels to initiate complaints, monitor and enforce codes of conduct for contractor workers and ensure that local workers and communities are sensitized on gender based violence. This could be done through leaflets, community drama and local radio.

c) Insecurity and theft

In addition to the above, increase population influx will also attract insecurity incidences like theft and rape. Similarly, contractors will be trained on how to enforce good behaviours among their workers. Fliers and posters will also be distributed in the construction sites warning the workers and the communities of these dangers at the same time serving as a deterrent to would-be rapist or thieves. Local leaders will be engaged in identifying local community member who has integrity and good social standing to be recruited as casual workers. In addition, local leaders will be assisted in forming and developing security measures and activities to reduce theft and insecurity in the construction site during construction and after.

5.2.9 Noise from Construction Crew and Traffic

The noise levels in most parts of the proposed project areas are low, typical of a village setting. In addition, the traffic volumes on the roads in the project areas are also low. Construction crew may not be that many and may not introduce many vehicles in the project area. The noise levels are unlikely to increase substantially. This impact will as well be temporal and low. Most of the construction activities will be carried out by manual labour with few trucks delivering labour and materials to the sites. The works will be implemented during daytime to minimise impacting

on peoples' sleep. There should be a deliberate provision of noise prevention equipment's where necessary.

Operation and utilization of electricity

5.2.10 Community health and safety

Community health and safety impacts during the utilization of electricity include electrocution, electromagnetic interference and visual amenity. Electrocution can happen in the household if any member of the community or households including children touches bare live wires or when they try to extend connections of electricity to other houses. Community awareness of the dangers of electricity will be conducted. This will include radio programs and posters informing the community and households of the dangers of interfering with electricity wires and equipment.

Electromagnetic interference impact will occur where houses are constructed under distribution lines of 66kv, 33kv and even 11kvs. These affect radio and TV waves making it difficult for communities and households to access and get connected to the radio and TV stations. Additionally, electromagnetic fields created under the 66, 33 and 11kv lines directly affect human health in particular, children brain development. The project will ensure that exposure of the public to electromagnetic fields will be avoided. Installation of transmission lines or other high voltage equipment above or adjacent to residential properties or other locations intended for highly frequent human occupancy, (e.g. schools or offices), should be avoided.

All in all, site-specific health and safety measures shall be developed during implementation and included in the respective ESMPs. The development of these measures shall be guided by the World Bank General EHS Guidelines and Environmental, Health, and Safety Guidelines Electric Power Transmission and Distribution. Monitoring should be designed and implemented in consultation with the Department of Environmental Affairs as part of the occupational health and safety monitoring program. Facilities should also maintain a record of occupational accidents and diseases and dangerous occurrences and accidents. During the planning of the lines and before construction, all affected people will be informed, and where applicable these will be relocated, and compensation provided before the construction of the distribution lines.

5.2.11. Increased hazardous wastes

Due to the increase in electricity access at household level electricity bulb use will increase. Consumers will increase their demand for bulbs some of which may be the mercury-containing bulbs. Awareness campaigns on the dangers of mercury will be part of the mitigation to help communities to properly handle used bulbs as some of them might contain mercury. MEAP will also distribute subsidized energy saving bulbs to the targeted customers who will be connected through the project. The increased use and number of new households using bulbs will increase the amount of wastes from used bulbs. The currently, promoted bulbs have less or no mercury which was a concern in the old energy inefficient bulbs. However, the glass can still pose a health hazard to the communities if not properly disposed of. MEAP and ESCOM will promote safe disposal of the used bulbs by installing collection bins in the communities and later handing over the waste bulbs to district and city assemblies to handle and safely disposal used bulbs.

5.2.12 Vandalism of infrastructure

Vandalism and theft of installations after construction leading to electrocution for the thieves and disconnection of power to connected consumers continues to be a major problem in a number of places in the country where vandals tend to steal transformer oils, copper wires as well as some of the distribution related equipment. This impact is to be mitigated through:

- a) The Project Implementation Team sensitizing the communities on the adverse effects of stealing and vandalizing electrical installation through radio Projects and messages through religious gatherings;
- b) During construction, the contractors should hire those workers who have been vetted by their local area leadership and with letters of introduction from local chiefs and village leaders.
- c) For copper wires that are used for earthing transformers, concrete cement will be applied on top of the wires to make it difficult to remove the copper wires.
- d) Project equipment should be guarded during construction, and all workers will be provided with identification tags to reduce intruders to working areas;

- e) Identification tags to be provided to all the workers on the project sites and such identifications will remain the property of the contractor once an employee leaves employment;
- f) Registered Security Guards should be recruited to specifically guard project property; and
- g) Contractors to work closely with area local leadership to help address security and safety at the sites and the campsite.

5.2.13 Concerns over Transformer Oil Spillages

There is potential for accidental spillages from transformer oil at any stage of project cycle that can be a source of concern in the equipment storage yard. However, transformer oil is not normally always stored onsite as such; it is transported to the sites for purposes of filling transformers that may have leaked their oil during transportation, storage, or installation. It is suggested that all transformers in the equipment storage yard should be placed on wooden platforms laid in high-density polyethene bags spread with sawdust to soak away and contain oil leakage. The Contractors shall also be required to develop and implement Standard Handling Procedures for Transformers to take care of any oil spillage during transportation, storage and installation.

The potential negative impact of solar electric generation (component 2)

As this component will be directly implemented by partners and the PIU will facilitate and manage the loan facility, mitigation of these will mainly be in the conditions that will be given to the successful partners who will be accessing the loan and grant facilities.

5.2.14 Health Risks from PV installations

Potential human health risks could occur from the leaching of materials from broken photovoltaic modules. Leaching from cracked or broken modules may occur while the modules are still in service or after they have been disposed of. The primary chemicals of concern from the leaching of photovoltaic modules are heavy metals such as cadmium and selenium. Accidental fires on rooftops or combustion of spent modules in a municipal solid waste incinerator could theoretically release fumes or vapours into the atmosphere. The inhalation of these fumes or vapours by nearby populations could affect human health. The nearby populations are of primary

concern because the concentrations of chemicals in the air decline rapidly as distance from the source increases (Moskowitz, 1995). Disposal of large quantities of modules in a single landfill could lead to increased potential risks to humans and biota. The leaching of chemicals from these landfilled modules has the potential to contaminate local ground and surface water.

As part of the implementation of the project, and in line with the WB General EHS Guidelines, a comprehensive Hazardous Waste Management Plan will be put in place to cater for waste from PV and grid extension and intensification activities. The overall goal of the waste management plan is to reduce and safely dispose of waste generated in all aspects of project implementation.

- a) Operate in a manner consistent with the principles of sustainable development recognizing that a key element of this is to inhibit the flow of wastes to the natural environment; and
- b) Identify, track and dispose of in an environmentally responsible manner all potentially hazardous waste streams generated by project implementation, including oils, scrap metals, plastics, packaging.

5.2.15 Health Risks from PV battery accessories

The other health risks associated with PV installations relate to the batteries which have a high Lead (Pb) content. Serious personal health concerns will arise if Lead from the batteries come in contact with humans, especially children. Therefore, how the batteries are stored, transported, handled during use domestically, and then disposed at the end of the life cycle is crucially important. Experience with similar systems in other developing countries requires that serious measures be taken to avoid exposing people to the Lead in the batteries. Therefore, the specifications for the batteries should be clearly provided in the procurement documents.

With regard to their disposal, the recommendation is for the supplier of the batteries to be required to collect all disused batteries, and he/she should be responsible for their storage, recycling and otherwise disposal. It is further suggested that the bidding documents for the procurement for PV accessories such as batteries should include amongst others:

- a) The potential suppliers to submit Battery Disposal Management Plan (BDMP) alongside their bids which will be reviewed by REA and the respective implementing agencies;
- b) The bid documents should include in its evaluation criteria, an assessment of a BDMP;

- c) The suppliers will also be required to provide training material in the form of easily readable leaflets in local languages on the risks and safe use, storage and handling of the PV materials; and
- d) There should be comprehensive monitoring of the implementation of these plans by the implementing agencies and REA so that the Supplier is held accountable to non-conformity of their items/supplies should it arise.

5.4 Hazardous Waste Mitigation Measure and Management/Disposal Plan

This ESMF contains potential mitigation measures through which the adverse impacts associated with hazardous waste emanating from disposal of used batteries from the solar energy can be managed. The mitigation measures or guidelines have been designed in order to avoid, minimize and reduce negative environmental and social impacts at the project level.

5.4.1 Procurement of Electronic Equipment from Credible Manufacturers

MEAP will put in place the mitigation measure to ensure that all hazardous and electronic devices to be used in the PV installation and batteries are procured from manufacturers that are credible and that all equipment will have a clear date of manufacture and warranty. This will avoid procurement of refurbished or used second hand electronic devices with a shorter shelf life a common problem that leads to generation of hazardous waste as a result of obsolescence.

5.4.2 Recycling

Hazardous wastes generated from MEAP Component 2 project activities will be collected by the companies operating the standalone solar systems, installation and providing after sale services for the standalone solar system (Component 2). The parts that can be recycled to be separated and reused.

5.4.3 Handling and Disposing of hazardous wastes

The Environmental Affairs Department is mandated to give licenses to credible waste disposal companies. Only licensed companies will be allowed and linked to the PV solar companies. It will be a requirement for disbursements of grants and loans that the companies

indicate waste-handling procedures and present the approved licenses of respective waste disposal companies.

5.5 Mitigation plan

A number of mitigation measures have been proposed for the above negative environmental and social impacts of the project activities. The implementation of the proposed mitigation measures will be the responsibility of the different institution. Some of the mitigation measure may not require additional resources and may be part of the normal activities or procedures. However, there are other activities that will require additional resources like the establishment of afforestation programmes at the village level. The table 2a and 2b below presents that main mitigation measures and the institution that will be responsible. Table 2a presented the generic mitigation measures while table 2b presented specific measure for the use of creosote treated wooden poles. For mitigation measures that require resettlement or compensation for the loss of land or assets/property, the RPF provides details on the procedures on how this will be done and the cost implication.

Table 2a: Proposed mitigation Plan

Impacts	Description of mitigation measures	Responsible Institution
Solid Waste	<p><u>Solid nontoxic waste</u></p> <p>Adequate waste receptacles and facilities should be provided at project sites/campsites and in several locations for disposal of used bulbs.</p> <p>Training and awareness of Safe Waste Disposal in construction camps for all workers.</p> <p>Waste disposal sites for used bulbs should be at dumpsites approved by the EAD and District</p>	Contractors, PIUs and EAD

	Assemblies. These will be special bins that will be placed at specific site in the project areas.	
Impact on traffic and public safety	Only roadworthy vehicles and trucks should be used to avoid frequent breakdowns on the roads. Only experienced drivers should be employed. Contractors must provide training for drivers; Establish speed limits; Enforce safe driving and take disciplinary action against repeat offenders	Contractors
Soil Erosion	Minimize land clearing areas as much as possible to avoid unnecessary exposure of bare ground to the elements of the weather. Re-vegetate cleared areas as early as possible using native plant species. These will include local grass and trees in collaboration with the Department of Forestry. As much as possible, avoid construction work in the rainy season. Most of the excavation and installation of poles should be done in dry season to avoid excavated soil from washing away.	Contractor, PIU, Department of Forestry
Loss of vegetation trees and land cover	Avoid cutting trees and installation of distribution lines and transformers in forested areas. Establish village afforestation projects in affected areas. Any replacement of trees where it will not be possible to replace on same locality, close by villages will be asked to allocate customary land they could be used to establish a woodlot. The seedlings for the woodlot will be locally grown and not bought from other areas. This will also help the to build local capacity in tree nursery	Contractors, Forest Department PIUs

	establishment.	
Impact on flora and fauna and habitat	<p>Avoid unnecessary exposure and access to sensitive habitat areas. The project activities like installation of transmitting and distribution lines will mainly avoid sensitive areas like wetlands and natural forest.</p> <p>For identified or suspected sensitive habitats (swamps/ wetlands), regular inspection or monitoring should be carried out in the area prior to starting and during work. If confirmed that a habitat for some species will be affected, a Biodiversity Management Plan will be developed.</p>	Contractors, Forest Department PIUs
Loss of employment and livelihoods	<p>Those whose livelihood is affected should be assisted to ensure they will not be worse off as a result of the project. This can include livelihood assistance, provision of new jobs immediately without any loss of income. The social assessments and socio-economic surveys, which will be undertaken for the preparation of individual investments/subprojects as well as the resettlement action plans, should assess these issues and provide measures in accordance with the Resettlement Policy Framework (RPF).</p> <p>Contractors should use local labor as much as possible and where available. As much as possible, all unskilled labor should be contracted or obtained from the local community.</p>	Contractors PIUs, District Assemblies
Loss of land and other assets	Due process should be followed to establish the true owner of any land, be it individual, family or communal land. Once established, the project	PIU, Contractor, Ministry of Lands, District Assemblies

	should acquire the site by paying appropriate compensation in accordance with the resettlement policy framework (RPF), which would be the replacement cost of the assets lost.	
Loss of structures/properties	For a project site to be used, irrespective of the land ownership, appropriate compensation should be paid for any structures/ properties which are permanent structures at the site as well as an investment made for any development on the land.	Contractors, District Assemblies PIUs
Impact on access among communities living in the project areas	Measures will be considered in the projects' design to ensure that communities are not divided and if they are as a result of a project, appropriate measures are taken to mitigate this impact.	Contractors, District Assemblies PIUs
Impacts on human health and public safety	<p>The Project will require all contractors to implement an Environmental, Health and Safety (EHS) plan which will outline procedures for avoiding health and safety incidents and for emergency medical treatment. This will be achieved by making it a component of the contractual agreement.</p> <p>Contractors will be required to wear suitable Personal Protective Equipment (PPE) including hard hats, high-visibility vests, safety boots and gloves and life vests as appropriate in accordance with the EHS plan.</p> <p>Enforce use of PPEs at all times for all staff and labourers and ensure supervision of the same to minimise accidents</p>	Contractors PIU

		All construction and other workers will be sufficiently trained in the safe methods pertaining to their area of work to avoid injuries.	
Labor Influx Management		<p>Develop site specific measures before the contractor starts work and update them as necessary to reflect project developments. Overall, adequate monitoring and adaptive management of the potential impacts from labor influx are key to properly addressing them and mitigating risks. Recruit as many local workers from the areas as possible. Provide training for the local communities to acquire skills needed for work opportunities if there is reasonable time especially on monitoring and maintenance.</p> <p>Develop a Labour Influx Management Plan and Workers Camp Management Plan for all subprojects that will have a high labour influx rating. Outline the contractor's responsibilities on influx management in contracts, including the provision and enforcement of a workers' code of conduct</p>	Contractor PIU and District Assemblies
HIV/AIDS Spread and other related public health diseases		Design HIV/AIDS awareness, sensitisation and prevention program for each project that extends to the communities as a whole. These will be done at the beginning of the project, and periodic awareness campaigns using fliers and local radio programmes will be promoted.	Contractors and PIUs
increase in GBV due to influx of people and an increase in		Train workers and communities on GBV and how to avoid it using several means like posers, community dramas and radio programs.	Contractors and PIUs

income for workers and other income generating activities		
Labour and employment-related impacts	<p>Ensure that the local communities are given priority in relation to employment and provided with training (skills) to provide future labour in the project, e.g. operation and maintenance. Ensure that workers are provided with satisfactory working conditions and work environment including pay in accordance with the laws of the country</p> <p>Ensure that child labour is not tolerated in the project;</p> <p>The project to prepare redundancy plans and packages to be discussed with affected workers which will include retraining and retooling of affected workers and aim to avoid labor strife</p>	Contractors
Health Risks from PV installations	<p>Operate in a manner consistent with the principles of sustainable development recognizing that a key element of this is to inhibit the flow of wastes to the natural environment; and</p> <p>Identify, track and dispose of in an environmentally responsible manner all potentially hazardous waste streams generated by project implementation, including oils, scrap metals, plastics, packaging</p>	PIU, Grant management team, Successful private companies
Health Risks from PV battery accessories	The potential suppliers to submit Battery Disposal Management Plan (BDMP) alongside their bids which will be reviewed by REA and the respective implementing agencies;	PIU, Grant management team, Successful private

	<p>The bid documents should include in its evaluation criteria, an assessment of a BDMP;</p> <p>The suppliers will also be required to provide training material in the form of easily readable leaflets in local languages on the risks and safe use, storage and handling of the PV materials; and</p> <p>There should be comprehensive monitoring of the implementation of these plans by the implementing agencies and REA so that the Supplier is held accountable to non-conformity of their items/supplies should it arise.</p>	companies
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Table 2b: Mitigating impacts of wooden poles treated with creosote.

	Detailed mitigation measure	Responsibility
Sourcing	<ul style="list-style-type: none"> Evaluating the cost and benefit of using alternative pole materials (e.g. steel, concrete, and fiberglass). ESCOM is already exploring use of concrete poles by 20%. MEAP will work on identified gaps in using concrete poles and scale up to use of concrete poles to 50%. MEAP will continue to monitor and evaluate performance of concrete poles for further improvements. It will also offer an opportunity to evaluate the supply of high quality concrete poles in Malawi. Sourcing of wooden poles will be done from well-established factories with track records of no pollution or poor management of the creosote when treating the poles and the requirements will be included in the procurement procedures. Consider use of alternative preservatives (e.g. copper azote). Poles that have been treated with other preservative will be given a high priority. Wooden poles supplies with alternative not polluting preservative will be preferred to supply wood for MEAP. 	PUI/ ESCOM

Transportation	<ul style="list-style-type: none"> • Only well dried poles will be procured and transported in well ventilated vehicles. • Transportation of the wooden poles will not be done in rainy season to avoid the poles being soaked in the rain and the preservative being soaked away into the environment. 	Contractors
Storage	Storage of the poles will be done in a dry and well covered storage facilities. Poles will be kept dry and avoid being soaked by rains or water.	Contractors
use	<ul style="list-style-type: none"> • Installation of the poles will not be done in wetland or places where there is continuous flow of water. • The poles will also not be installed in sensitive areas with wildlife and animals that can be affected by the chemicals. • Personnel handling the poles will have to wear PPE all the time and avoid direct contact of the poles to the skin • All PPE used will be washed and dried before using it in other areas 	Contractors
Disposal	<ul style="list-style-type: none"> • Undertake appropriate disposal of used poles. Used and damaged poles will be collected and disposed-off with absolute care. • The poles will be crushed and properly dumped at Landfill. 	PUI/ ESCOM/ EAD/ District Assemblies

6.0 ESMF IMPLEMENTATION FRAMEWORK

6.1 MEAP Institutional Implementation Arrangements for the ESMF

The institutional framework under which the Malawi Electricity Access Project will be implemented will involve a number of Government agencies, policies and legal framework. It should be noted that Malawi boasts a very good legal framework in terms of management of environment. There is currently the Energy Act, Electricity Act, Rural Electrification Act, new Environmental Management Act, Forest Act and a number of other legal instruments that have been discussed above. Therefore, MEAP will have at its disposal all these legal instruments to use for smooth implementation of project. However, constraints in most of the Government Agencies including ESCOM as a parastatal is the capacity in terms of human resources and other physical resources that can help in monitoring of the project. Below we discuss the agencies responsibilities and their capacities in Management of MEAP.

6.1.1 Electricity Supply Corporation of Malawi (ESCOM)

Mandate and Responsibility - The ESCOM is the agency responsible for distribution of electricity in Malawi. The MEAP will be housed in ESCOM which will be managed under a Project Implementation Unit (PIU). ESCOM will established a PIU and will be responsible for planning, coordination, monitoring and evaluation, and the implementation of all activities of MEAP component 1. The PIU shall be responsible for oversight role and the implementation of mitigation measures and general compliance of the project with any permits, licenses and approval conditions and related regulations and standards on the environment and compensation on land, trees and any structures they will require to be demolished or removed to make way for the distribution lines. The Unit will be responsible for ensuring that, the project facilities comply with the environmental and social requirements as shall be detailed in the contract documents as well as with other guiding contractual provisions and documentation.

Environmental Capacity-ESCOM does not have enough in-house capacity in terms of qualified staff to implement this ESMF. Currently, there is only one filled position responsible for environmental issues in addition to compensation and addressing grievances from the public. In

the MEAP, the PIU will have Environmental Specialist and Social Specialist to manage and oversee implementation of environmental and social safeguards instruments.

6.1.2 Ministry of Natural Resources Energy and Mining (MoNREM)

i) Department of Energy

Mandate-Department of Energy is the Government arm that houses the Energy and Electricity Acts. The Acts stipulates a number of critical standards and legal standards that have to be followed. For example, the width of wayleaves and the allowable distance between distribution lines and other infrastructure. In MEAP the Department will manage component 2 and will also ensure that the mitigation measures associated with component 2 are adhered to companies that will be offered the grants and loans to supply solar energy equipment.

Safeguards Capacity- The Department of Energy has specialists responsible for energy and natural resources management. They also have enough capacity to monitor and help in the implementation of the ESMF. The capacity is in terms of staff numbers and also knowledge. However, they do not have enough capacity in terms of transport and other equipment to assist them in the monitoring of the ESMF. However, the department has a good policy and Act that will be instrumental in guiding the implementation of EMA.

ii) Environmental Affairs Department (EAD)

Mandate and Responsibility - EAD is specifically mandated by the Environment Management Act as the principal agency in Malawi charged with the responsibility of coordinating, monitoring, supervising, and regulating all environmental management matters in the country. The Department will be an Authority as stipulated in the new revised Act of 2017. One of the key institutional mandates of The Environmental Authority includes among others ensuring the observance of proper safeguards in the planning and execution of all development projects including those already in existence that have or are likely to have a significant impact on the environment. The role of EAD and (the Environmental Authority) will be to review and approve environmental impact assessments and Project Briefs as well as monitoring project implementation in accordance with the Environment Management Act and the respective regulations.

Safeguards Capacity – EAD has the technical capacity in terms of environmental knowledge in both policy and legal areas. They have the mandate and well positioned to monitor the MEAP through its Environmental Impact Assessment (EIA) Unit. In addition, to the District Environment Officers in the respective project areas that will be able to report any cases of noncompliance. EAD Environmental Inspectors do capture social issues/complaints during their inspections where feasible. However, EAD is constrained by the inadequate number of staff and in most cases may not monitor projects they deem of low-moderate environmental and social impacts. In addition, they are also resource constrained since they do not have enough funds to take care of projects monitoring and compliance follow up. Therefore, PIUs in the MEAP should support EAD to conduct routine checks on the project's activities. Joint supervision will be encouraged where resources will be pulled and EAD staff included in the monitoring of activities. Overall, EAD captures both environmental and social issues either through the mandatory annual compliance audits or through monitoring reports by the respective District Environment Officers who are gazetted Environment Inspectors. Therefore, there is a need for close coordination between the MEAP and EAD in order to fully integrate social issues into the monitoring reports prepared by the MEAP Environmental Unit.

iii) Forest Department

The construction of distribution lines may traverse or pass along forested areas under private, communal and the Forest Department. Mandated to manage Forest Resources, the Forest Department will be a crucial stakeholder where sections of the forest will be impacted by the MEAP activities. Mitigation programs that will include afforestation activities will be managed and supervised by the Forestry Department.

Capacity – Forest department has Forest offices at National, district and even sub-district level that will inspect and report any impacts on the forests. These will also be responsible for implementing the mitigation project at the village level.

6.1.3 District Assemblies

Mandate and Responsibility - District and Local Council will be vital in the implementation of the project by sensitizing communities on the project as well as their District Environment and Community Development Officers taking care of environmental and social aspects of the project

at their levels. The issues of compensation are handled at the district council level, and these will be used to disburse compensation and also handle grievances and complaints from the community. The DEOs and CDOs in the respective areas of project implementation will have to monitor the projects to ensure that mitigation measures are adequate and are well integrated into the subproject proposals. DEOs and CDOs will also have to review all MEAP environmental and social assessment reports and provide comments during their review to EAD before issuance of approvals. The Role of the DEOs and CDOs will also be to ensure that MEAP subprojects are implemented in accordance with EMA conditions of approval. They will also attend the inspection meetings for the project and be able to point out issues of concerns. Specifically, the CDOs will oversee the implementation of compensation aspects and other social issues such as complaints.

Safeguards Capacity—Every district has a designated District Environment Officer whose responsibility is to monitor all environmental affairs of the district including compliance of activities with their jurisdiction. In addition, every district has a Community Development Officer (Social officer) who is responsible for mobilizing communities to participate in projects as well as coordinating and reporting on the impact of projects (positive and negative) on the communities. District Land officer are also in place for some of the project districts to handle land-related issues of the MEAP. However, the districts (specifically the DEOS and CDOs) will require facilitation by PIU to monitor and report project implementation as provided for in the ESMF budget.

6.1.4 The Role of the Contractors

The Role of the Contractor, which will be as per the contract will be accountable for the overall implementation of the mitigation measures, and this will be monitored and supervised by the PIU's Environmental Officer. As such, an ESMP will be prepared for each sub-project, and BDMP for off-grid investments activities by an independent environmental and social expert. In the schedule of works, the Contractor will include all proposed mitigation measures, and the Supervising Engineers will also ensure that the schedules and monitoring plans are complied with. This will lend a sense of ownership to the Contractor. The Contractor on his part will also be responsible for planning, implementing and reporting on mitigation measures during the execution of the project works. The Contractor will also be required to apply standard quality assurance procedures in full compliance with the EADs approvals.

Capacity – The Contractors are unknown at this point. However, the selection criteria will include past environmental performance as well as the adequacy of the contractor’s staff to put mitigations in place effectively. As per the World Bank new bidding requirements on ESHS, each bidding company should indicate having three staff for the environment, social and H&S as the selection of prerequisite among other criteria. This will be enforced during the bidding process.

6.1.5 Role of Land Valuers

The application of the valuation exercise on the ground will be done in the presence of at least two local council leaders with the participation of the affected persons. Values assigned to assets must be based on the market rates approved by the respective districts. Where this is not possible, the Government Valuer will be engaged to do this. If a Government Valuer handles this process, the depreciation cost will not be imputed, and the consent of the affected person on the outcome of the process must be sought in order to arrive at agreements on the total profile of losses and compensation.

6.1.6 The World Bank

The World Bank will be responsible for the review and clearance of ESMPs, ESIAs/Project Briefs as well as independently monitoring the project’s environmental and social performance about the respective safeguards through implementation support supervision missions. World Bank will also be responsible for reviewing regular monitoring reports and officially disclosing the ESIAs on its website. Technical guidance may also be provided by the World Bank to MEMD/PCU and implementing Agencies as needed from time to time. This technical assistance will include training of the PIU and government agencies in environmental and social management and also the current World Bank and Malawi Government policy and legal framework.

6.2 Overall Responsibility of Environmental and Social Safeguards Staff

The overall implementation of the Environmental and Social Management Framework will be a responsibility of MoNREM and ESCOM. However, different institutions will have roles and responsibilities that are different and highlighted in figure 10 below. The ESMF will be

implemented through the two PIUs, one from ESCOM for component 1 and the other Department of Energy for component 2. The PIUs will have the following responsibility among other

- a. Ensuring that affected households, business operators and communities local government departments have up-to-date information on project activities.
- b) Facilitating identification of project activities that will require environmental and social impact assessments and developing terms of reference for consultants to carry out the specific ESIA.
- c) Coordinating environmental and social commitments and initiatives with relevant government agencies.
- d) Supervising and monitoring ESMP implementation and producing periodic reports.
- e) Training ESCOM, contractors, and communities on environmental and social safeguards issues and implementation of ESMPs.
- f) Facilitating land acquisition and resettlement processes as required.
- g) Coordinating with, and receiving feedback from, the Independent Third-party Monitoring Agencies.

The Forest Department and Environmental Affairs Departments (EAD) under MoNREM will provide technical expertise in tree replanting and evaluation of the compensation if forests or trees are affected, and EAD will be responsible for evaluation and approving ESIA and project briefs. The World Bank will be an overseas of all the safeguards issues and providing capacity building of all institution. At District level, the District Council will help in the monitoring the implementation of the activities and disbursement of compensations to PAPs. At Area Development Committee (ADC) and Village Development Committee (VDC) levels, the community will be involved mainly to channel grievances from the PAPs as highlighted in the GRM section 6.3.

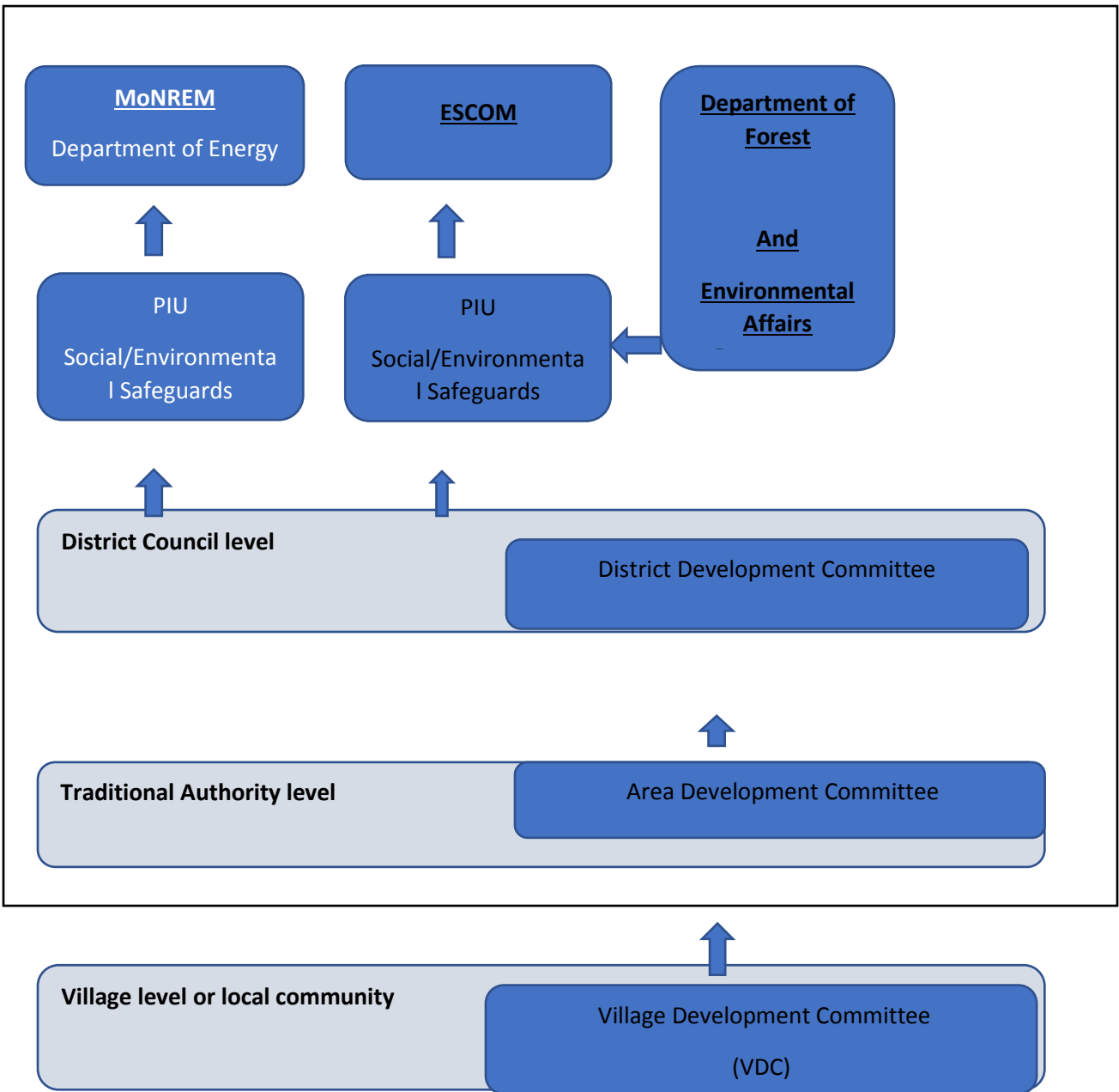


Figure 10: Implementation structure of the ESMF.

6.3 Grievance Redress Mechanism

The MEAP will be implemented across the country. Experience from the previous project in the electricity sector reviews a number of grievances from the communities regarding unpaid compensation, unauthorised entry into private properties and damage of properties or installation

of electrical equipment on private property. Grievance redress mechanisms provide an effective avenue for expressing concerns and achieving remedies for communities, promote a mutually constructive relationship and enhance the achievement of project development objectives. Grievance redress mechanisms are increasingly important for development projects where ongoing risks or adverse impacts are anticipated. They serve as a way to prevent and address community concerns, reduce risk, and assist larger processes that create positive social change. It has been learned from many years of experience that open dialogue and collaborative grievance resolution represent good business practice both in managing for social and environmental risk and in furthering project and community development objectives.

6.3.1 Community Expectations When Grievances Arise

Grievances during the MEAP are likely to arise from a number of sources. However, the likely main sources will be damage of crops, encroachment of private customary land and delays in compensation. When local people present a grievance, they generally expect to receive one or more of the following responses: timely and quick acknowledgement of their problem, an honest response to questions about project activities, an apology, compensation, modification of the conduct that caused the grievance and some other fair remedy. In voicing their concerns, they also expect to be heard and taken seriously. Therefore, the MEAP and ESCOM shall assure people that they can voice grievances and the project will work to resolve them without bias.

6.3.2 Procedures and Time Frames

There is no ideal model or one-size-fits-all approach to grievance resolution. The best solutions to conflicts are generally achieved through localized mechanisms that take account of the specific issues, cultural context, local customs, and project conditions and scale. In its simplest form, a grievance mechanism can be broken down into the following primary components:

- Receive and record/enter a complaint in a complaints log book or register.
- Screen and validate the complaint.
- Formulate a response.
- Select a resolution approach, based on consultation with affected person/group and the local leaders.

- Implement the approach.
- Settle the issues.
- Track and evaluate results.
- Learn from the experience and communicate back to all parties involved.

6.3.3 Grievance Prevention

There are many ways to solve issues before they even become grievances proactively. MEAP PIU and ESCOM will be aware and accept that grievances do occur, that dealing with them is part of the work and that they should be considered in a work plan. In the MEAP the following will be followed to ensure that grievances are kept at the minimum:

Provide sufficient and timely information to communities.- Many grievances arise because of misunderstandings; lack of information; or delayed, inconsistent, or insufficient information. Accurate and adequate information about a project and its activities, impacts, remedial measures and an approximate implementation schedule, should be communicated to the communities. The project will include the grievance redress mechanism as part of its pre-implementation awareness activities to let the community know that they can register complaints. A Grievance Redress Committee (GRC) at the Village level or community level will be formed at the beginning of the project. This will be part of the existing Village and areas development committees. Where the committee is already in existence, MEAP will work with Grievance redress Mechanism existing structures. The committee will elect a representative. This person will be involved in informing the Communities and about the existence and operation of the MEAP. This will be enhanced further using signage on-site, or other appropriate understandable-to-the local population means during project implementation. The respective implementing agencies will have an important role in ensuring that affected communities have a full understanding of the GRM and the procedures to be followed in filing complaints. Appropriate communication channels and means of communication should be used. Information on the steps to be followed by the GRC in handling grievances will be incorporated into the process of mobilizing and creating awareness of the project.

Conduct meaningful community consultations- MEAP through the PIU will inform community representatives about the GRM and explain the various ways of accessing it. A range of mitigation measures to reduce potential negative environmental and social impacts of project activities on communities will be discussed and agreed with community representatives as an integral part of project development. These will be included within the project's ESMPs and should reduce the number of potential grievances. The MEAP will continue the process of consultation and dialogue throughout the implementation of the project. This will be done through posters, radio and TV drama and programs. Sharing information, reporting on project progress, providing community members with an opportunity to express their concerns, clarifying and responding to their issues, eliciting communities' views, and receiving feedback on interventions will benefit the communities and the project management.

Build capacity for project staff and contractors -All project staff of MEAP and Contractors will be provided with adequate information on the project such as project design, activities, implementing schedules, and institutional arrangements as well as enhanced skills in effective communication, understanding community dynamics and processes, negotiation and conflict resolution, and empathizing with communities and their needs. Building trust and maintaining good rapport with the communities by providing relevant information on the project and responding effectively to the needs and concerns of the community members will help solve issues before they even become grievances. It is also important that field-level staff and Contractors provide regular feedback on their interactions with the communities to MEAP. The Project Management will ensure that copies of the standard grievance registration forms are available to members of the GRC and are kept in sufficient numbers at the respective levels. This should enable local communities to access the forms easily. It is important to note that the capacity building will incorporate gender aspects.

6.4 Grievance Redress Process

Grievance procedures are required to ensure that PAPs are able to lodge complaints or concerns, without cost, and with the assurance of a timely and satisfactory resolution of the issue. The procedures should also ensure that the entitlements are effectively transferred to the intended beneficiaries. Under MEAP, grievances may arise from members of communities who

are dissatisfied with (i) criteria for the selection of companies of component 2, ii) how project materials/equipment are distributed, iii) compensation issues (these are well covered in RPF), iv) conduct of contractor etc. This chapter sets out the measures to be used to manage grievances.

Currently, ESCOM does not have any set of procedures or protocol that are followed for GRM. For projects, the grievance mechanism differs depending on the activities. Each project comes with its redressal mechanism as such there is no written procedure. During operation of projects, the procedure has been to encourage the aggrieved party to complain in writing to senior Managers or CEO of ESCOM. MEAP will have well setout procedures for grievance resolution that will be that will be followed and documented. Figure 11 presents the schematic diagram of the steps that will be followed in the grievances redress procedure.

A grievance log will be established at the District level and copies of the records kept PIU to be used for monitoring of complaints. The grievance redress mechanisms will be designed with the objective of solving disputes at the earliest possible time which will be in the interest of all parties concerned.

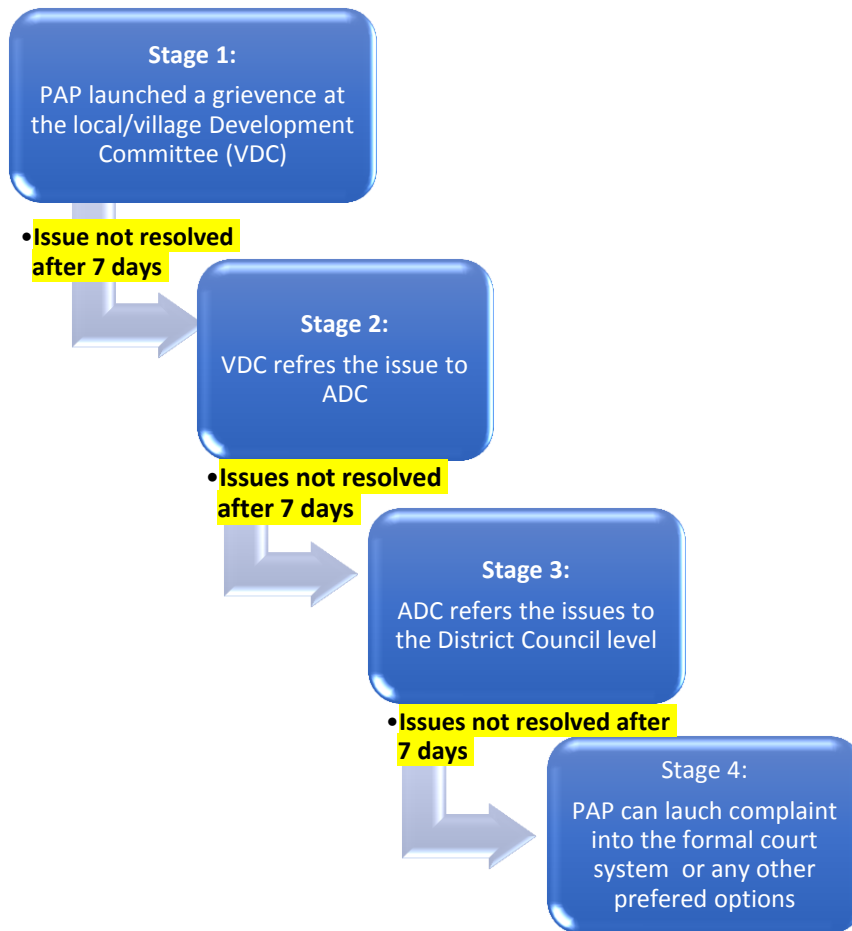


Figure 11: Schematic diagram of the grievance's management procedure

6.5 Procedures for grievance management

The procedures for grievances management will be done from the village level as indicated in the figure 11 above. The PAP will launch any grievance linked to MEAP to the VDC as a starting point. The detailed procedure is as below:

Stage 1: The affected person will file his/ her grievance, in writing or verbal to the Village Development Committee. The PAP will be directed to fill the grievance form (Annex 5) and where the PAP cannot write, a responsible committee member of the VDC will assist the PAP with filling in the grievance form. The grievance form should be signed and dated by the aggrieved person. A copy of this completed form will be submitted to the PIU through the District Council for records and ease of monitoring of grievances. The VDC will assess the issues, resolve and provide

feedback to the PAP. During assessment, if it is noted that the grievance is criminal in nature, the PAP will be encouraged to launch the issue with necessary institution, in this case, the Malawi Police. If the grievance is within other institutions mandate, the VDC will be required to source response/addressal from such institutions and provide feedback to the aggrieved within 7 days. If the issue is not resolved within seven (7) days or the PAP is unsatisfied with the proposed resolution, the VDC will refer the matter to the Area Development Committee (ADC).

Stage 2:

Once the issue is referred to ADC, the committee will conduct due diligence and any other investigations required to assist in resolving the issue. The ADC will assess, resolve and provide feedback. In case the raised issues are the mandate of other institutions e.g. MEAP PIU, Chiefs, District Council etc, the ADC, will refer/consult necessary institutions to address the grievance and provide feedback to the PAP within 7 days. If the matter is not resolved within seven 7 days or the resolution is unsatisfactory to the PAPs, the ADC will refer the issue to the District Council.

Stage 3: If the issue is brought to the District Council, who are also mandated to help resolve such matters, they will be given seven (7) days to find solutions for the issue. The District Council will help to facilitate resolution of their complaint and ensure that the matter is addressed in the optimal way possible.

Access to Other Grievance Redress Systems

If the matter at the District Council cannot be resolved or the resolution is unsatisfactory to the PAP, the PAP is at liberty to explore any other means outside the articulated procedure for MEAP. The PAPs could launch the matter in the formal judicial system or with World Bank Grievance Redress System or Independent Inspection panel of the World bank or any other alternative means available to them. Information on how to submit complaints to the Bank's Grievance Redress Service and the Bank Inspection Panel will be disclosed to the public during various project meetings with stakeholders and community sensitization meetings.

6.6 Grievance Log

Copies of all grievances at the VDC will be collected and given an individual reference number that will be used to track and record all actions on the matter. These grievances will be compiled in a log form at district level and the Safeguards staff from the PIU will collect all grievances at the district level for monitoring and following up. The log will contain a record of the person responsible for an individual complaint, the nature of the complaint, the name of the aggrieved, the nature of the proposed resolution and the acceptance, or otherwise, of the proposed solution by the aggrieved person and records dates for the following events as indicated in table 3 below:

Table 3: Grievance log table at district level

Name of complainant	
Age (optional)	
Gender	
Village/Location/TA and District	
Date received:	
Received by:	
Location where complaint is received	
Issue type: Request or Concern or Grievance	
Summary of grievance	
Action taken or to be taken	
Responsible institution/person to take action	
Date response was sent to the complainant	
Status of grievance	
The date the complaint was closed out;	

When the grievance is redressed and resolved a form will be filled and filed to indicate at what stage this was resolved and what was the final resolution. This will also be used to monitor the progress of the GRM.

6.8 Monitoring Complaints

The Social Safeguards Officer of the PIU will be responsible for:

- i. Collecting monthly report detailing the number and status of complaints, type of complaints, levels of complaints, and actions to reduce complaints at district level from the Social Development officer;
- ii. Resolving any outstanding issues that are a responsibility of the PIU.
- iii. Capacity building of all committees at VDC and ADC on the GRM.
- iv. Monitoring the functionality of the GRM systems.

7.0 ENVIRONMENTAL AND SOCIAL SCREENING, REVIEW, AND APPROVAL PROCESS

7.1 Screening Process, Impact and Risk Approach

7.1.1 Environmental and Social Screening Framework in Malawi

The Malawi Environment Management Act (1996) and the Malawi EIA guidelines (1997) prescribe the conduct for Environmental Impact Assessment for development projects. However, these instruments do not contain guidelines regarding the screening, identification, assessment and mitigation of potential localized impacts of small-scale investments, where the project details and specific project sites are not known for example the MEAP.

7.1.2 Environmental and Social Screening in this Framework

Environmental and Social Screening Process outlined below complies with Malawi's EIA procedures for meeting the environmental and social management requirements, as outlined in the EIA guidelines. The Environmental and Social Screening Process also meets the requirements of the World Bank's OP 4.01 Environmental Assessment. It provides a mechanism for ensuring that potential adverse environmental and social impacts of MEAP are identified, assessed and mitigated as appropriate, through an environmental and social screening process.

7.1.3 Application of the Screening Processes

Since the specific details and locations of MEAP activities are not known at this time, the environmental and social screening process is necessary for the review and approval of the subprojects, for the development of new and the rehabilitation of existing facilities or infrastructure. The objectives of the screening process are to:

- a) Determine the level of environmental work and the type of follow-up safeguards instrument required (i.e. whether an ESMP or ESIA is required; whether the use of Environmental Rules for Contractors, Chance Finds Procedures, and other simple mitigation measures will suffice; or whether no additional environmental work is required);
- b) Determine the appropriate environmental category for each activity.

- c) Determine which World Bank Safeguard Policies apply to (are triggered by) the subproject;
- d) Determine appropriate mitigation measures for addressing adverse impacts;
- e) Incorporate mitigation measures into the development plans;
- f) Determine which construction and rehabilitation activities are likely to have potential negative environmental and social impacts;
- g) Determine if there will be land acquisition, impact on assets, loss of livelihood, and/ or restricted access to natural resources;
- h) Indicate the need for a Resettlement Action Plan (RAP), which would be prepared in line with the Resettlement Policy Framework (RPF);
- i) Facilitate the review and approval of the screening results regarding construction and rehabilitation proposals; and
- j) Provide guidelines for monitoring environmental and social parameters during the construction, rehabilitation, operation and maintenance of the infrastructure service facilities and related project activities.

7.1.4. The Process

The extent of environmental and social work that might be required, prior to the commencement of construction of the distribution line, service drops will depend on the outcome of the screening process described below.

Step 1: Screening of Sub-Project Activities and Sites

Before going to the field, a desk appraisal of the construction and rehabilitation plans, including infrastructure designs, will be carried out by the PIU Environmental and Social Specialists. Subsequently, the Specialists will also carry out the initial screening in the field, using the Environmental and Social Screening Form (Annexe 1). The screening form, when correctly completed, will facilitate the identification of potential environmental and social impacts, the determination of their significance, the assignment of the appropriate environmental category (consistent with OP/BP 4.01), the determination of appropriate environmental and social mitigation measures, and the need to prepare an Environmental and Social Impacts Assessments/Environmental and Social Management Plans (ESIAs/ESMPs) and/or Resettlement

Action Plans (RAPs). The Guidelines of Environmental Impact Assessment also demands that such project should have a proper project brief which the EAD determines and recommends for either an ESMP or a full ESIA.

Step 2: Assigning Appropriate Environmental and Social Categories

The environmental and social screening form, when completed, will provide information on the assignment of the appropriate environmental and social category to a particular activity for construction of new structures, expansion of the existing network, or rehabilitation of existing structures. The PIU Environmental and Social Specialists will be responsible for assigning the appropriate environmental category to the subprojects consistent with the requirements of OP/BP 4.01 and based on the criteria provided in this ESMF. If Resettlement Action Plans (RAPs) are prepared, these would be reviewed and approved by the Commissioner for Lands, consistent with the Resettlement Policy Framework as well as the World Bank, prior to initiating compensation and commencement of project activities.

Step 3: Deciding the Required Type of Environmental and Social Work

After reviewing the information provided in the environmental and social screening form, and having determined the appropriate environmental category, the Environmental Affairs Department will review the screening form and, if agreed, a formal approval will be issued depending on the category determined through the screening process.

7.1.5 Use of the Environmental and Social Screening Form

The Environmental and Social Screening Form (Annex 1) will be completed by the Environmental and Social Specialists. In situations where the screening process identifies the need for land acquisition, loss of assets, or loss of livelihoods, a RAP shall be prepared consistent with the standards and guidelines outlined in the Resettlement Policy Framework and the World Bank's Involuntary Resettlement Policy, OP 4.12.

The Social Specialist will confirm that any land donation was truly voluntary and free of community pressure or coercion. Where community land was donated, MEAP PIU will confirm the land was vacant, not being utilized by any individual and that the donor was not forced/pressurised.

7.1.6 Environmental and Social Impact Assessment Process

The assessment process will identify and assess the potential environmental and social impacts of the proposed installation activities and materials, evaluate alternatives, in term of the construction sites and even the materials as well as design and implement appropriate mitigation, management and monitoring measures. These measures will be captured in a project-specific Environmental and Social Management Plan (ESMP) or Environmental and Social Impact Assessment (ESIA), as needed, based on the environmental screening carried out for each sub-project.

Preparation of any ESMPs, ESIA, and/or RAPs will be carried out in consultation with the relevant Ministries but mainly MoNREM (Environmental Affairs Department, Forest Department, and Energy department), Ministry of Land, Housing and Urban Development and Local Government, along with potentially affected persons. The Environmental Social and Safeguard Specialists, in close consultation with the Environmental Affairs Department, will arrange for the (i) preparation of the ESMP/ESIA terms of reference; (ii) recruitment of a service provider to prepare the ESMPs/ESIAs; (iii) public consultations; (iv) review of ESMPs/ESIAs by PIU; (v) review and approval of the ESMPs/ESIAs by EAD through Malawi's national ESIA approval process; and, finally, (vi) World Bank review and approval.

The Social Specialist will arrange for the preparation of any RAPs, following the provisions outlined in the Resettlement Policy Framework. The Ministry of Lands, Housing and Urban Development, Physical Planning and Surveys must approve any RAPs produced; copies of the RAPs will be sent to the Bank for review and clearance prior to the commencement of civil works.

7.1.7 Review and Recommendation for Approval/Disapproval

Where an ESMP or ESIA has been prepared, EAD will review the reports to ensure that all environmental and social impacts have been identified and that effective mitigation measures have been proposed. Where a RAP has been developed, the PIU will ensure World

Bank review, and clearance of the RAP before compensation is provided. RAPs will then be reviewed for approval by the Ministry of Lands, Housing and Urban Development.

7.2 Screening Process

7.2.1 Overview

The screening aims at categorizing the sub-projects into one of the following environmental and social categories. The Environmental Specialist in charge of the screening will propose the environmental category in consultation with the Social Specialist as necessary. The screening will also help to propose whether a proposed subprogram will further require a full-fledged Resettlement Action Plan (RAP), per procedures outlined in the Resettlement Policy Framework.

- **Category A: *An MEAP sub-project would be categorized as A if it would likely result in one or more major adverse environmental impacts.*** Category A projects require a full ESIA. Some projects in MEAP are expected to have any Category A subprojects.
 - **Category A1:** Distribution line of 66 and 33kv passing through natural forest, Game reserves and national parks and passing through already populated residential areas.
 - These will require clearing a least 15 meters wide corridors that will have several acres of land cleared.
 - In residential areas, this will require relocation and demolition of several houses. This will at all cost be avoided, but in case it has to be done a full EISA will have to be carried out together with the RAP.
- **Category B: *MEAP Category B subprojects have potential environmental impacts that are less severe than under Category A and can readily be mitigated as follows:***
 - **Category B1:** *For MEAP Category B1 subprojects, no further environmental assessment work is required; however, the subproject must fully apply the relevant, generic mitigation measures specified in the ESMF, including the Environmental*

Rules for Contractors and Chance Finds Procedures. Examples of MEAP subproject types that are likely to be classified as Category B1 include:

- Construction and installation of service drop lines
- Installation of step-down transformers from 33 and 11kv lines to 400 v lines
- **Category B2: *For Category B2 subprojects, further environmental assessment work is required, specifically the preparation of a separate Environmental and Social Management Plan with tailored, site-specific environmental mitigation measures (not just the generic ones).***
- It is possible that for a few MEAP Category B2 subprojects--where in-depth, site-specific fact-finding would be needed to ascertain the likely environmental (including social) impacts--a subproject-specific ESIA would also be required. The scope of such an ESIA would be limited to the environmental and related social issues of specific concern, as identified in the screening process. For any Category B2 subprojects with their ESIA, the ESMP will comprise a portion of the ESIA.
- **Examples of subproject types that are likely to be classified as Category B2 include:**
 - Installation of new household electricity connections
- **Category C: *MEAP activities are classified as Category C if they do not involve civil works and if no significant environmental issue has been identified and no specific mitigation measures are required.*** In such cases, subproject implementation can proceed without reference to additional environmental requirements.

7.2.2 Screening Form

The screening form (Annex 1) formalizes a rapid field investigation to screen on-site whether any environmental and social issues may require specific attention and supplemental environmental assessment work. All proposed interventions will undergo the screening process in order to identify all potential environmental and social issues. The PIU Environmental Social and Safeguards Specialists will conduct the screening.

7.3 Assignment of Category to Subprojects and other Activities

7.3.1 CATEGORY "A" Activities

Category A activities are those with potentially major adverse environmental impacts. Some activities are expected under the MEAP.

7.3.2 CATEGORY "B" Sub-Projects

A sub-project categorized as "B" will either implement mitigation measures as outlined in this ESMF and based on the recommendations of the environmental and social screening process (for Category B1 activities), or, a separate ESMP report will be prepared (for Category B2 subprojects).

Category B1 Sub-Projects (Not Requiring Further Environmental Safeguard Instruments)

As mentioned above, sub-projects categorized as B1 will not require any further environmental assessment work. They will, however, apply the Environmental Rules for Civil Works Contractors (see Annexe 3), Chance Finds Procedures (see Annexe 4), and other generic requirements presented in this ESMF. The Environmental Rules for Contractors and Chance Finds Procedures are to be appended to all construction-related contracts under the MEAP. If any MEAP subproject entails significant social impacts and requires the development of a RAP (Resettlement Action Plan), then this will be conducted in accordance with the procedures outlined in the MEAP Resettlement Policy Framework.

Category B2 Sub-Projects (Requiring a separate Environmental and Social Management Plan)

Examples of issues requiring the implementation of specific mitigations in cases where specific environmental or social issues are identified and where a change in the design or siting of the subproject is not possible to include:

- Impacts on land without physical displacement or significant impacts on livelihoods,
- Potential for heavy traffic at construction phase through inhabited areas,
- Construction in water bodies (pipeline river crossings, water works in river beds-intakes),

ESMPs (and ESIAs, if any) for Category B2 subprojects will be carried out by independent, experienced specialists; include meaningful public consultation in accordance with OP 4.01; and

include public disclosure of relevant documents in a culturally-adequate form (terms of reference, draft ESMP report, etc.), and demonstrate that the public's comments and observations have been taken into consideration. The suggested contents of a subproject-specific ESIA (including ESMP) are detailed in Annex 5. As part of ESMP preparation, it may be concluded that changes to the design or the siting/routing of facilities are required.

Consultation and Disclosure for all Category "B" Sub-Projects

Public Consultation

For all Category "B1" sub-projects, public consultation will include the following steps:

- Identification of interested parties (beneficiary neighbouring communities, communities potentially affected by the sub-project, downstream water users, local authorities, regional authorities);
- Information on the proposed sub-project and its likely impacts, seeking feedback on the impact
- identification and general mitigation measures as they are described in this ESMF.

For all Category "B2" sub-projects, public consultation will include the following steps:

- Identification of interested parties (beneficiary neighbouring communities, communities potentially affected by the subprogram, electricity users, local authorities, regional authorities);
- Initial step of consultation, before further environmental assessment work is undertaken: one initial meeting with each of the identified parties, presenting the sub-program and seeking input on the scope of work for further environmental assessment work;
- Second step of consultation, after further environmental assessment work is complete: presentation of the results of the environmental assessment, including the presentation of identified impacts and proposed mitigations, seeking input on these proposed environmental management measures; this second step will include dissemination to identified interested parties of a summary of the environmental assessment in local

language (generally Chichewa in southern and central region and Tumbuka in Northern Region).

On average, it is estimated that 2 to 5 meetings will be required for each of the above two steps of consultation for Category “B2” sub-projects. The consultation will be undertaken by the PIU Social Specialist. Any consultation meeting will be documented. Format in Annex 6 can be used for documenting consultation meetings.

Disclosure

In conformance with OP 4.01, subproject-specific ESMP or ESIA reports under Category B2 will be made available to the public as follows:

- a) Disclosure Notices in local newspapers with wide circulation and soft copies of reports will be available on ESCOM websites. Hard copies will be available at PIU offices – MEAP.
- b) Disclosure (at least one copy of the full report and copies of the summary in Chichewa) at the World Bank country office in Lilongwe.
- c) Disclosure through the World Bank Website.

7.3.4. Category “C” Sub-Projects

Sub-projects for which the screening process does not identify any specific environmental or social issues are categorized as “C”. A sub-project categorized as “C” will not require any further environmental and social assessment work and implementation can proceed immediately.

7.4 Review and Clearance of Environmental Screening Results

In conformance with Malawi EIA guidelines, environmental screening results are to be reviewed. and cleared by EAD (the Malawi Government agency with a mandate to review and approve environmental and social screening and ESIA study documents). A sample of screening forms will be reviewed by the World Bank during MEAP implementation.

7.5 Review and Clearance of ESMPs

For Category B2 sub-projects, ESMPs (and ESIAs, if any) will be reviewed by EAD as follows:

- a) Review of the scope of work (Terms of Reference),
- b) Review of the draft ESMP,
- c) Clearance of the final ESMP.
- d) For these sub-projects, ESMPs (and ESIAs, if any) will be reviewed by the World Bank as follows:
- e) No-objection on the scope of work (TOR) and consultant contract,
- f) Review of the final ESMP after it has been reviewed and cleared by EAD.

7.6 Environmental and Social Management Process

This ESMF contains potential mitigation measures and monitoring indicators through which the adverse impacts for specific subproject investments may be managed. As has already been noted, some subprojects will require an ESMP. The ESMP should at a very minimum contain the following items, among others:

- a) Description of the possible adverse effects that the ESMP is intended to address;
- b) Identification of project design alternatives that would meet similar objectives, and a description of why these projects are not viable, especially if they have a lesser environmental or social impact;
- c) Description of planned mitigation measures, and how and when they will be implemented
- d) Program for monitoring the environmental and social impacts of the project, both positive and negative;
- e) Description of who will be responsible for implementing the ESMP.
- f) Cost estimates.

8.0 ENVIRONMENTAL AND SOCIAL MONITORING

8.1 Social Monitoring

Monitoring aims to determine whether interventions have been effective in dealing with the negative impacts, whether further interventions are needed, or monitoring is to be extended in some areas. Monitoring indicators will be very much dependent on specific project contexts. The PIU Environmental and Social Specialists will be responsible for overall monitoring and reporting on compliance with the ESMF ensuring that the subproject is screened, their safeguards instruments are prepared, cleared and disclosed prior to approval. The PIU will also ensure that contractors executing the works are implementing the specific ESMP for the subprojects that require it and submit reports on ESMP implementation as required. Annexee 2 contains a checklist of general issues to be followed up on for sanitation related activities.

Reports on subproject components implementation will be shared with the Bank. The PIU will keep records on complaints received, resolved, accidents, and other environmentally or socially related topics of relevance and importance for this project. This data will be reflected in biannual reports on safeguard compliance to be furnished to the Bank. The Bank will conduct periodic audits of the projects and access documented information. Any project-related fatalities or serious injuries will also be reported to the World Bank. The monitoring indicators with verified indicators and responsible institutions are as in the table below.

Table 4 – ESMF Monitoring Indicators and Responsibilities

Monitoring level	Monitoring issue	Verifiable indicators	Responsibility
ESMF level	Adequate dissemination of ESMF and RPF to stakeholders	Records of consultations and meetings	PIU PIU
	Capacity building and training programs	Workshop reports	
Subproject Level	Preparation of ESMP (or ESIA)	Independent consultants hired to prepare ESMP, ESIA, and RAP documents	PIU PIU
	Environmental Permitting	Environmental permits for sub-projects, Environmental Management Plans	

	Monitoring and evaluation	Monitoring reports (monthly quarterly and annual) Daily on-site compliance Compliance overall	PIU Contractor (Supervising Engineer) Contractor and PIU
	The preparation of the Screening Forms	Records of the Screening Form applied in all subprojects.	PIU, Contractor

It is important to note that although contractors and others may be responsible for particular activities, the PIU is ultimately responsible to ensure the implementation of any mitigation or other activities contained in this ESMF. During project construction, the Supervising Engineer is responsible for ensuring environmental compliance. The above table presents the proposed monitoring indicators and responsibilities.

8.2 Reporting

8.2.1 Annual Report

PIU will develop a brief annual environmental monitoring report. The report contents will generally be the following:

- A summary of Environmental and Social Screening reports, with a table summarizing which subprograms have been assigned to each of the screening categories,
- A summary of ESMPs developed during the year,
- A summary of environmental monitoring carried out on systems at both construction and operation phases.
- Handling of grievances in the year

9.0 ESMF IMPLEMENTATION BUDGET

The actual cost each MEAP investment will be determined during project briefs and ESIA or EMP depending on the recommendations from EAD. The total cost of the mitigation budget in MEAP will depend on the number of investments that will be made and the proposed activities. For example, depending on the damaged forest area the cost of reforestation will be determined.

Included in the budget is the monitoring of the mitigation activities. This monitoring will be done jointly by the PIU and EAD staff. EAD as government department has adequate human capacity but most time lack financial resources to monitor the project activities. Therefore, MEAP PIUs will jointly monitor the activities with EAD.

The training session will also be conducted. These will be aimed at equipping contractors, and all other partners on the national laws and regulation and the Banks safeguard policies. The training session will be done at least twice, at the beginning of the project and midway in the project. The World Bank or hired independent consultant will deliver this training to contractors and all other implementing partners.

Table 5: Indicative ESMF Budget for the Next Five Years

	Indicative Budgetary Item	No.	Unit cost (USD\$)	Total cost (USD\$)
1.	Stakeholders trainings/ consultation forums on ESMF	3	5,000.00	15,000
2	Preparation and implementation of specific instruments (ESMPs and ESIAs)	sum	sum	300,000
3	Monitoring and evaluation of ESMP implementation	sum	sum	50,000
4	Compensations for PAPs	sum	sum	Included in RPF budget
5	Implementation of grievance redress mechanism	sum	sum	20,000
6.	Safeguards staff/consultants	sum	sum	315,000
7	Training and capacity building	sum	sum	80,000
	Sub-total			780,000
	Add 20% contingency			156,000
	Total			936,000

Annexe 1: ENVIRONMENTAL AND SOCIAL SCREENING FORM (ESSF)

Environmental and Social Screening Form for the Screening of Potential Environmental and Social Impacts of MEAP Activities

1. Introduction

This Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of planned construction, and implementation of activities under MEAP. First, the form will guide in selecting projects and activities that will require full ESIA or not depending on the category in which they fall after the evaluation. The form will assist in the identification of any environmental and social impacts and their mitigation measures. It will also assist in the determination of requirements for further environmental and social work as needed.

The form helps to determine the characteristics of the prevailing local biophysical and social environment with the aim of assessing the potential impacts of the construction and installation of electricity on the environment by the activity.

The ESSF will also assist in identifying potential socio-economic impacts that will require mitigation measures and resettlement and compensation. The ESSF will mainly be used by the MEAP PIU under the responsibility of the Environmental and social specialist.

2. Guidelines for Screening

The specialist should undertake the assignment after:

1. Gaining adequate knowledge of baseline information of the area.
2. Gaining knowledge of proposed project activities for the area.
3. Having been briefed/trained in environmental and social screening.

The form is to be completed by the PIU Environmental and Social Specialists.

PART A: GENERAL INFORMATION

Subproject Name	
Estimated Cost (MK)	
Subproject Site	
Subproject Objectives	
Proposed Main Activities:	
Name of Evaluator/s	
Date of Field Appraisal	

PART B: BRIEF DESCRIPTION OF THE PROPOSED ACTIVITIES

Provide information on the type and scale of the construction and potentially affected areas (e.g. area, land required, number of people and infrastructure to be affected and the approximate size of structures)

Provide information on the construction activities including support/ancillary structures and activities required to build them, e.g. need to quarry or excavate borrow materials, water source, access roads, forest resource and human settlements etc.

Describe how the construction activities will be carried out. Include description of support/activities and resources required for the construction.

**PART C: ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION OF THE SUB PROJECT SITE
BRIEF DESCRIPTION**

Category of Baseline Information	Brief Description
GEOGRAPHICAL LOCATION * Name of the Area (District, T/A, Village, town, location) * Proposed location of the subproject (Include a site map of at least 1:10,000 scale/or coordinates from GPS)	
LAND RESOURCES * Topography and Geology of the area * Surface water resources (presence of rivers, reservoirs and lake.) * Soils of the area * Mainland uses and economic activities	

Forest cover and natural resources	
BIOLOGICAL RESOURCES Flora (include threatened/endangered/endemic species) Fauna (include threatened/endangered/endemic species) * Sensitive habitats including protected areas, e.g. nature reserves and forest reserves and game parks	
CLIMATE * Temperature * Rainfall	
SOCIAL * Number of people potentially impacted Type of infrastructure that will be potentially impacted, (houses, shops etc) * Type and magnitude of impacts (i.e. impact on land, structures, crops, the standard of living) * Socio-economic overview of persons impacted	

PART D:

**SCREENING CRITERIA FOR IMPACTS DURING
SUBPROJECT IMPLEMENTATION, AREAS OF IMPACTS
AND IMPACTS**

EVALUATION AND POTENTIAL MITIGATION MEASURES

Screening Criteria for Social and Environmental Impacts

Item	Areas of Impacts				Impacts Evaluation						Potential Mitigation Measures
	Is this subproject site/activity within and/or will it affect the following environmentally sensitive areas?				Extent of coverage (on site, within 0.5km or beyond 1km)			Significance (Low, Medium, High)			
		No	Yes		On Site	Within 0.5-1 km	Beyond 1 km	Low	Medium	High	
1.0	Screening Criteria for Social and Environmental Impacts										
1.1	National parks or game reserve										
1.2	Wetlands										
1.3	Productive traditional agricultural /grazing lands										

1.4	Areas with rare, endangered or other interest flora or fauna								
1.5	Areas with outstanding scenery/tourist site								
1.6	Within steep slopes								
1.7	Forested or near forest or will impact forest								
1.8	Along lakes, beach or river								
1.9	Near or in industrial activities								
1.10	Near or in human settlements								
1.11	Near or in cultural heritage sites								
1.12	Within prime surface runoff								
1.13	Will the subproject discharge to or otherwise impact water bodies?								
2.0	Screening Criteria for Impacts during Implementation and Operation								
	Will the implementation and operation of the subproject within the selected site generate the following externalities/costs/impacts?								
2.1	Deforestation								
2.2	Soil erosion and siltation								
2.3	Siltation of watercourses, dams								
2.4	Environmental degradation arising from mining of construction materials								
2.5	Damage to wildlife species and habitat								
2.6	Increased exposure of communities/workers to								

	chemical pollutants								
2.7	Hazardous wastes, (pipes, etc.), PCB's, pollution from unspent PV batteries and used bulbs.								
2.8	Nuisance - smell or noise								
2.9	Reduced water quality								
2.10	Increase in costs of water treatment								
2.11	Soil contamination								
2.12	Loss of soil fertility								
2.13	Salinization or alkalinisation of soils								
2.14	Reduced flow and availability of water								
2.15	Long term depletion of water resources								
2.16	Incidence of flooding								

	Will the implementation and operation of the subproject activities within the selected site generate the following socio-economic costs/impacts?								
3.0 Screening Criteria for Social and Economic Impacts									
3.1	Loss of land/land acquisition for human settlement, farming, grazing								
3.2	Loss of assets, property, houses, agricultural produce, etc.								
3.3	Loss of livelihood								
3.4	Require a RAP or ARAP								

3.5	Loss of cultural sites, graveyards, monuments ⁴								
3.6	Disruption of the social fabric								
3.7	Interference in marriages for local people by workers								
3.8	Spread of STIs and HIV and AIDS, due to migrant workers								
3.9	Increased incidence of communicable diseases								
3.10	Health hazards to workers and communities								
3.11	Changes in human settlement patterns								
3.12	Conflicts over use of natural resources, e.g. water, land, etc.								
3.13	Conflicts on land ownership								
3.14	Disruption of important pathways, roads								
3.15	Increased population influx								
3.16	Loss of cultural identity								
3.17	Loss of income generating capacity								
4.0	Consultation (comments from beneficiaries and other project affected peoples)								

With respect to the World Bank Safeguard Policies, the Environmental Assessment Policy (OP 4.01) applies broadly to all the types of potential impacts listed in the above table. It should be understood that (i) Category A in this ESMF corresponds to Category A in OP 4.01; (ii) Categories B1 and B2 in this ESMF correspond to Category B in OP 4.01, and (iii) Category C in this ESMF corresponds to Category C in OP 4.01. Furthermore, (i) the Natural Habitats Policy (OP 4.04) applies to (is triggered by) Impacts 1.1-1.2, 1.4, 1.7-1.8, 1.13, 2.1, 2.5, and 2.14-2.15; (ii) the Physical Cultural Resources Policy (OP 4.11) applies to Impact 3.5; and (iii) the Involuntary Resettlement Policy (OP 4.12) applies to Impacts 3.1-3.4.

⁴ Subprojects affecting cultural property negatively either should be redesigned to avoid any damages, or, they will not be undertaken by the project.

PART E: OVERALL EVALUATION OF THE SCREENING PROCESS ON THE SITE AND PROJECT ACTIVITY

The result of the screening process would be either:

- The subproject would be **Category A** if it were likely to result in one or more major adverse environmental impacts. Category A subprojects would require a full ESIA, subject to review by Malawi's Environmental Affairs Department (EAD).
- Category A subprojects could be expected under the MEAP during construction of 66kv distribution lines and min hydro generation sites.
- The subproject would be **Category B1** if no further environmental assessment work is required, but the subproject must fully apply the relevant, generic mitigation measures specified in the ESMF, including the Environmental Rules for Contractors and Chance Finds Procedures.
- The subproject would be **Category B2** if further environmental assessment work is required, specifically the preparation of a separate Environmental and Social Management Plan (ESMP) with tailored, site-specific environmental mitigation measures (not just the generic ones). For any MEAP Category B2 subprojects--where in-depth, site-specific fact-finding would be needed to ascertain the likely environmental (including social) impacts--a subproject-specific ESIA would also be required. The scope of such an ESIA would be limited to the environmental and related social issues of specific concern, as identified in the screening process. For any Category B2 subprojects with their ESIA, the ESMP will comprise a portion of the ESIA.

The MEAP subproject or other activity would be Category C if it does not involve civil works and no significant environmental issue has been identified, such that no specific mitigation measures are required. In such cases, subproject implementation can proceed without reference to additional environmental requirements.

Completion by PIU	
Is This Project Likely To Need An ESIA	YES/ NO
List A/B Paragraph Numbers	
Date Exempted	
Date Forwarded To EAD	
Name & Signature of Environmental and/or Social Specialist/s	

Completion by EAD	
Date Received from MEAP:	
Dated Reviewed:	
Date of Submission of Project Brief	
Date of Submission of ESIA Reports	
Date of Approval/Rejection	

NOTES:

- Once the Environmental and Social Screening Form is completed, it is analyzed by the Environmental and Social Specialist/s from the PIU who will classify it into the appropriate category based on predetermined criteria and the information provided in the form.
- All projects' proponents exempted from further impact assessment must be informed to proceed with other necessary procedures.
- Any projects recommended for a specific ESIA will have to follow the procedures outlined in section 24 and 25 of the Environmental Management Act, and the Malawi Government's Guidelines for Environmental Impact Assessment Appendix C, page 32.

ANNEXE 2: ENVIRONMENTAL RULES FOR CONTRACTORS

1 General Applicability of the Environmental Rules and ESMP

These general environmental guidelines apply to any work to be undertaken under the MEAP. All work must be conducted in accordance with the World Bank Group *General and Water Supply and Sanitation Environmental, Health and Safety Guidelines (EHS)*. The Construction and Demolition guidance in the *General Guidelines* is particularly pertinent. For certain work sites entailing specific environmental and social issues, a specific Environmental and Social Impact Assessment, including an Environmental and Social Management Plan (ESMP), has been prepared to address the above-mentioned specific issues in addition to these general environmental guidelines. In addition to these general Environmental Guidelines, the Contractor shall, therefore, comply with any specific ESMP for the works s/he is responsible for. The Contractor shall be informed by MEAP about such an ESMP for certain work sites and prepare his/her work strategy and plan to fully take into account relevant provisions of that ESMP. If the Contractor fails to implement the approved ESMP after written instruction by the works supervisor to fulfil his/her obligation within the requested time, the Client reserves the right to arrange for execution of the missing action by a third party because of the Contractor.

Notwithstanding the Contractor's obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an ESMP where such an ESMP applies.

These Environmental Rules, as well as any specific ESMP, apply to the Contractor. They also apply to any sub-contractors present on Program work sites at the request of the Contractor with permission from the Client.

2 General Environmental Protection Measures

In general, environmental protection measures to be taken at any work site shall include but not be limited to:

- (a) Minimize the effect of dust on the environment resulting from earth mixing sites, vibrating equipment, construction-related traffic on temporary or existing access roads, etc. to

ensure safety, health and the protection of workers and communities living in the vicinity of work sites and access roads.

- (b) Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) comply with World Bank and Malawian standards and are generally kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.
- (c) Prevent any construction-generated substance, including bitumen, oils, lubricants and wastewater used or produced during the execution of works, from entering into rivers, streams, irrigation channels and other natural water bodies/reservoirs.
- (d) Avoid or minimize the occurrence of standing water in holes, trenches, borrow areas, etc. mainly when sinking holes for electricity poles.
- (e) Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. Restore/rehabilitate all sites to acceptable standards.
- (f) Upon discovery of graves, cemeteries, cultural sites of any kind, including ancient heritage, relics or anything that might or believed to be of archeological or historical importance during the execution of works, immediately report such findings to the Client so that the Ministry in charge of Culture may be expeditiously contacted for fulfilment of the measures aimed at protecting such historical or archaeological resources. See Chance Finds Procedures in Annexe 4.
- (g) Prohibit construction workers from engaging in the exploitation of natural resources such as hunting, fishing, and collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities. Prohibit explicitly any purchase of bushmeat, as well as the transport of bushmeat in Contractor's vehicles.
- (h) Prohibit the transport of firearms in Program-related vehicles.
- (i) Prohibit the transport of third parties in Program-related vehicles.

- (j) Implement soil erosion control measures to avoid surface run off and prevent siltation, etc.
- (k) Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.
- (l) Ensure that, in as much as possible, local materials are from legally authorized and (insofar as can be feasibly determined) environmentally sustainable sources.
- (m) Ensure public safety and meet Malawian traffic safety requirements for the operation of work to avoid accidents.
- (n) Ensure that any trench, pit, excavation, hole or other hazardous feature is appropriately demarcated and signposted to prevent third-party intrusion and any safety hazard to third parties.
- (o) Comply with Malawian speed limits, and for any traffic-related with construction at

Project sites.

- (a) Ensure that, where the unskilled daily-hired workforce is necessary, such workers are hired from neighbouring communities as much as possible. This should be done in close collaboration with a local chief who will be able to identify honest community members who will not turn back and steal the wire and transformer oil.
- (b) Generally, comply with any requirements of Malawian law and regulations.

Besides the regular inspection of the sites by the supervisor appointed by the Client for adherence to the Contract conditions and specifications, the Client may appoint an environmental inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. State Environmental Authorities may carry out similar inspection duties. In all cases, as directed by the Client's supervisor, the Contractor shall comply with directives from such inspectors.

Unless duly requested by the Contractor and authorized by the supervisor, no servicing of vehicles is permitted at the drilling site.

3 **Installation of electricity poles for distribution, and service drop lines**

No trench shall be left open for more than seven days unless duly authorized by the supervisor upon Contractor's request. Trenches and other excavation works shall be demarcated and/or signposted to avoid third-party intrusion and risks of injury or death.

General conditions related to topsoil stripping, storage and restoration apply.

4 **Waste Management**

All drums, containers, bags, etc. containing oil/fuel/surfacing materials and other hazardous chemicals shall be stored at construction sites on a sealed and/or bonded area in order to contain potential spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed of at designated disposal sites in line with the applicable World Bank Group Environmental, Health, and Safety Guidelines as well as Malawi government waste management regulations.

In the event of a limited hydrocarbon spill, the Contractor will recover spilled hydrocarbons and contaminated soils in sealed drums and dispose of them in an authorized waste management facility. All drainage and effluent from storage areas, workshops, housing quarters and generally from construction sites shall be captured and treated before being discharged into the drainage system in line with applicable government water pollution control regulations.

Used oil from maintenance shall be collected, properly stored in sealed containers, and either disposed of appropriately at designated sites or be recycled. Entry of runoff into construction sites and staging areas shall be restricted by constructing diversion channels or holding structures such as berms, drains, dams, etc. to reduce the potential of soil erosion and water pollution.

Construction waste shall not be left in stockpiles along the road but removed and reused or disposed of on a daily basis. Where temporary dump sites for clean excavated material are necessary, they shall be located in areas, approved by the Client's supervisor, where they will not result in supplemental erosion. Any compensation related with the use of such sites shall be settled prior to their use.

Areas for temporary storage of hazardous materials such as contaminated liquid and solid materials shall be approved by the supervisor and appropriate local and/or relevant national or

local authorities before the commencement of work. Disposal of such waste shall be in existing, approved sites. Waste containing hazardous materials is to be disposed of at authorized locations in a manner to discourage reuse or scavenging.

5 Quarries and Borrow Areas

The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas. The location of quarries and borrow areas shall be subject to review and approval by relevant local and national authorities.

New extraction sites:

- a) Shall not be located less than 1km from settlement areas, archaeological areas, cultural sites - including churches and cemeteries, wetlands or any other valued ecosystem component, or on high or steep ground.
- b) Shall not be located in water bodies, or adjacent to them, as well as to springs, wells, well fields.
- c) Shall not be located in or near forest reserves, natural habitats or national parks.
- d) Shall be designed and operated in the perspective of an easy and effective rehabilitation. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5m in height, are preferred.
- e) Shall have clearly demarcated and marked boundaries to minimize vegetation clearing and safety hazards for third parties.

Vegetation clearing shall be restricted to the area required for safe operation of construction work and installation of power lines. Vegetation clearing shall not be done more than two months in advance of operations.

Stockpile areas shall be in areas where trees or other natural obstacles can act as buffers to prevent dust pollution, and generally at a distance from human settlements. The wind shall be taken into consideration when siting stockpile areas. Perimeter drains shall be built around stockpile areas.

The Contractor shall deposit any excess material in accordance with the principles of these guidelines, and any applicable ESMP, in areas approved by local authorities and/or the supervisor.

6 Rehabilitation of Work and Camp Sites

Topsoil shall be stripped, removed and stored for subsequent rehabilitation. Soils shall not be stripped when they are wet. Topsoil shall not be stored in large or high heaps. Low mounds of no more than 1 to 2m high are recommended.

Generally, rehabilitation of work and camp sites shall follow the following principles:

- To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.
- Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.
- Ensure reshaped land is formed so as to be stable, adequately drained and suitable for the desired long-term land use and allow natural regeneration of vegetation.
- Minimize erosion by wind and water both during and after the process of reinstatement.
- Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise.

7 Traffic Management and Community Safety

Location of temporary access roads shall be done in consultation with the local community and based on the screening results, especially in important or sensitive environments. Temporary access roads shall not traverse wetland areas or other ecologically sensitive areas. The construction of any access roads shall be submitted to a prior consultation process with potentially affected communities that will be documented (minutes of meetings) for the Supervising Engineer's review and approval.

Upon the completion of civil works, all temporary access roads shall be ripped and rehabilitated.

Measures shall be taken to suppress dust emissions generated by Program traffic.

Maximum speed limits for any traffic-related with construction at MEAP sites shall be the following, a) Inhabited areas: 50 km/h b) Open road 80 km/h.

8 Compensation of Damage to Property

Compensation of land acquired permanently for Program purposes will be handled under Client responsibility based on the provisions of the RPF. However, in the event that the Contractor, deliberately or accidentally, damages property, he shall repair the property to the owner's satisfaction and at his own cost. For each repair, the Contractor shall obtain from the owner/user a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.

In any case, where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the Supervising Engineer.

9 Contractor's Health, Safety and Environment Management Plan (HSE-MP)

Within six weeks of signing the Contract, the Contractor shall prepare an HSE-MP to ensure the adequate management of the health, safety, environmental and social aspects of the works, including implementation of the requirements of these general conditions and any specific requirements of an ESMP for the works. The Contractor's EHS-MP will serve two main purposes:

The Contractor's HSE-MP shall provide at least:

- A description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an ESMP;
- A description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- A description of all planned monitoring activities and the reporting thereof; and
- The internal organizational, management and reporting mechanisms put in place for such.

The Contractor's HSE-MP will be reviewed and approved by the Client before start of the works. This review should demonstrate if the Contractor's HSE-MP covers all of the identified impacts and has defined appropriate measures to counteract any potential impacts.

10 HSE Reporting

The Contractor shall prepare bi-monthly progress reports to the Client (PIU, MEAP and ESCOM) on compliance with these general conditions, the sub-program ESMP if any, and his own HSE-MP.

The Contractor's reports will include information on:

- HSE management actions/measures taken, including approvals sought from local or national authorities;
- Problems encountered in relation to HSE aspects (incidents, including delays, cost consequences, etc. as a result thereof);
- Non-compliance with contract requirements on the part of the Contractor;
- Changes in assumptions, conditions, measures, designs and actually works in relation to HSE aspects; and
- Observations concerns raised and/or decisions taken with regard to HSE management during site meetings.

The reporting of any significant HSE incidents shall be done as soon as practicable. Such incident reporting shall, therefore, be done individually. The Contractor should keep his records on health, safety and welfare of persons, and damage to property. It is advisable to include such records, as well as copies of incident reports, as appendixes to the bi-monthly reports. Details of HSE performance will be reported to the Client.

11 Training of Contractor's Personnel

The Contractor shall provide sufficient training to his personnel to ensure that they are all aware of the relevant aspects of these general conditions, any program ESMP, and his HSEMP, and can fulfil their expected roles and functions. Specific training will be provided to those employees that have particular responsibilities associated with the implementation of the HSE-MP. Training activities will be documented for potential review by the Client.

Amongst other issues, training will include an awareness session for all employees on HIVAIDS addressing the following topics:

- What is HIV/AIDS?

- How is HIV/AIDS contracted?
- HIV/AIDS prevention.

12 Penalties for Non-Compliance

In the HSE-MP, the Contractor shall specify strict penalties (warnings, dismissal, etc.) and transparent enforcement procedures for non-compliance by any employees or contracted personnel. The Supervising Engineer shall oversee the Contractor's timely and appropriate application of these procedures during project construction.

Any material (non-trivial) environmental or social damages by the Contractor due to non-compliance with these Rules must be rectified before the Contractor will be eligible to receive his final payment.

Hazardous (Battery) Disposal Management Plan

In component 2, there is a high probability of hazardous materials mainly from batteries. The supplier will therefore be required to develop a detailed management plan. The framework below presents how these hazardous materials will be handled from purchasing, handling, storage, utilization to after battery life(disposal). These are based on the current National laws in Malawi. The overall objective is to ensure safety of human beings, flora, fauna and the environment at large. General objectives will include commitments to the following:

- Reduce the hazardous waste by procuring new unused materials of good quality.
- Reduce or eliminate the release of pollutants into the environment.
- Promote awareness amongst employees and the community.

The 4 Rs will be enforced

<i>Management Objective</i>	<i>Example 1</i>	<i>Example 2</i>
<i>Remove aspect:</i>	Avoid storing and disposing in sensitive locations	Replace current methods with better options
<i>Reduce severity of aspects:</i>	line and seal landfill pits as appropriate	Cover waste to reduce litter, odor, risk to fauna
<i>Repair the environment:</i>	Rehabilitate landfill site	Protect site from access by animals and people
<i>Reliability of management:</i>	Undertake training and awareness raising of all staff and surrounding community	Ensure appropriate signs and systems are in place

The plan will also include responsibilities for specific tasks, infrastructure that will be required to support hazardous waste management, equipment and materials and protective wear. Proper procedure will be included in the plan for management of hazardous wastes at households and public institutions that will benefit from component 2 investments.

Scope, content and structure of Battery Disposal Management Plan (BDMP).

For all the private companies bidding to get grants and loans to supply solar batteries, they will have to develop a Management plan with the following content

1) Type of batteries to be sources

- a) A detailed description of the batteries to be sources and their specific uses and conditions of use should be highlighted

2) The source of manufacturers

- a) The manufacturer of the batteries should be identified. The only manufacturer with a good reputation and producing first-hand materials will be acceptable
- b) Date of manufacturing and expiry date of the batteries

3) Transportation and storage of the batteries

- a) The methods or transportation into the countries and how the batteries will be stored before being sold.

4) Mode of collection and disposal of used batteries

- a) There should be a mode of how used batteries will be collected and methods of disposing of them.
- b) There should be detailed information to user households on how the how used batteries will be recollected and disposed of. Information on the dangers of the batteries should also be given to the households to avoid them disposing of them carelessly.

Annex 3: CHANCE FINDS PROCEDURES

1. Chance Finds Procedures

Chance Find Procedures outline, step by step, what needs to be done when projects come across archaeological sites, historical sites, remains and objects, including graveyards or individual graves during excavations or construction. This procedure responds to OP/BP 4.11- Physical Cultural Resources. This Policy addresses physical, cultural resources which are defined as movable or immovable objects, sites, structures that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical, cultural resources may be located in urban or rural settings and may be above or below the ground.

2. Chance Finds Procedures for MEAP

If the contractor of the distribution lines discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavations or construction, the implementers will carry out the following steps:

- a. Stop the construction or excavation activities in the area of the chance find;
- b. Delineate the discovered site or area;
- c. Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Department of Antiquities take over;
- d. Notify the Social Specialist of MEAP-PIU or the Project Manager who in turn will notify the responsible officer in the Departments of Antiquities immediately (within 24 hours or less);
- e. A responsible officer from the Department of Antiquities would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage;

those include the aesthetic, historical, scientific or research, social and economic values;

- f. Decisions on how to handle the finding shall be taken by the responsible authorities at the Department of Antiquities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;
- g. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Department of Antiquities to ESCOM; and
- h. Construction work could resume only after permission is given from the responsible local authorities or department responsible for culture or antiquities concerning safeguard of the heritage.

Annex 4: TYPICAL SCOPE OF WORK FOR A SUBPROJECT-LEVEL Environmental AND SOCIAL IMPACT Assessment (ESIA) and ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

A. Typical ESIA Scope of Work

1. Certain MEAP subprojects might require a subproject-specific ESIA, although many more are expected to require only an ESMP.

2. In preparing a subproject-specific ESIA, the Consultant will conform to the following regulations and policies:

- Malawian environmental regulations,
- The World Bank's OP 4.01 and other applicable safeguard policies,
- The applicable World Bank Group Environment, Health and Safety Standards
- The MEAP Environmental and Social Management Framework (ESMF).

3. The Consultant's scope of work will include:

- Initial consultations with the implementing agency ESCOM and EAD
- **Review of the regulatory and policy background:**
 - Based on Malawian legislation and regulation identified in the ESMF, the Consultant will identify any relevant changes which may have occurred since the time the ESMF was prepared, and identify the practical implications thereof in preparing the ESIA,
 - Based on World Bank policies identified as applicable in the ESMF, the Consultant will review any relevant changes and identify practical implications thereof,
 - The Consultant will summarize in the ESIA report the applicable regulatory and policy background with a focus on practical implications in terms of ESIA process, including public consultation and disclosure, ESIA scope of work, Contents of the ESIA report.
- **Sub-project description:** Based on documentation prepared by the implementing agency, the Consultant will prepare a brief sub-project description, with a focus on those physical components of the sub-project that may entail environmental and/or social impacts.

- **Public consultation:** The Consultant will implement the following phases of public consultation, in coordination with the implementing agency, which may be willing to participate in this public consultation process:
 - Identification of interested parties (beneficiary neighbouring communities, communities potentially affected by the subprogram, local authorities, national authorities);
 - The initial step of consultation, before further environmental assessment work is undertaken: one initial meeting with each of the identified parties, presenting the sub-program and seeking input on the scope of work for further environmental assessment work;
 - Second step of consultation, after further environmental assessment work is complete: presentation of the results of the environmental assessment, including the presentation of identified impacts and proposed mitigations, seeking input on these proposed environmental management measures; this second step will include dissemination to identified interested parties of a summary of the environmental assessment in local language (generally Chichewa in the centre and southern region and Tumbuka in the northern region);
 - Any public consultation meeting undertaken by the Consultant will be documented through minutes of the meeting;
 - Main issues raised during consultation meetings will be summarized in the ESIA report, with a description of the way these issues were addressed in the ESIA process;

- **Baseline Assessment:** The baseline assessment will address:
 - Physical and bio-physical environment (climate, topography at the sub-program site(s), geology, hydrogeology, surface water, soils, erosion sensitivity, flora, fauna, including the identification of any protected or endangered species),
 - Land use at the sub-program site(s) and in its (their) vicinity,
 - Human environment: description of neighbouring communities (population size, population structure and demography, socio-political organization, livelihoods, access to public services),

- The baseline assessment will be summarized using the format presented in the “typical EA report structure” hereunder;
- Reports of field observations and bibliography used will be presented as appendices;
- **Impact assessment:** The methodology for impact assessment shall be briefly presented. Typically, impacts will be assessed along the following lines:
 - Extension in space,
 - Duration of time,
 - Probability of occurrence,
 - Magnitude
- The combination of these parameters will be summarized in an all-encompassing measure of “significance”, which will be the basis for impact assessment and prioritization of mitigations;
- Where changes in the program design (such as the re-siting or re-routing of a sub-project facility) may allow eliminating one or several identified impacts, these changes (and generally, any project alternative) will be discussed;
- **Mitigations and ESMP:** Based on the MEAP Environmental and Social Management Framework, the Consultant will develop a sub-project Environmental and Social Management Plan (ESMP), which will include as a minimum for each identified impact:
 - A description of the mitigation measures,
 - A description of monitoring measures,
 - Implementation responsibilities,
 - Cost,
 - Assessment of residual impact after implementation of the mitigation;
 - If any changes to the Environmental Rules for Civil Works Contractors presented as an appendix to the ESMF are warranted, the Consultant will propose such changes.
- **Deliverables:** The Consultant will produce:
 - A summary program description in local language for purposes of public consultation (see
 - above),

- A First Draft ESIA report for submission to the Client
- After initial Client's comments have been included in a revised version, a Second Draft ESIA report, including a summary in local language for purposes of public consultation,
- After public consultation results have been included, a Final ESIA report for public disclosure along the lines specified in the ESMF.

B. Typical Structure of an ESIA Report (for subprojects where some of the below-stated issues do not apply, the scope of the ESIA will accordingly be more limited):

1. Executive summary

2. Introduction

- Scope of the ESIA
- Team in charge of the ESIA, with list of consultants involved and task of each
- Summary of requirements applying to the ESIA:
- General Malawian legal requirements
- ESMF requirements
- RPF requirements
- Other World Bank requirements if applicable
- Time frame for implementation of the ESIA

3. Description of the Proposed Subproject

- Technical components, including description of the methods used for construction and operation
- Outline of the main alternatives
- Sub-Program decommissioning at the end of the operation period
- Implementation arrangements
- Implementation schedule and cost

4. EA Methods

- Terms of Reference of the ESIA, and process through which they were arrived at

- Description of the methods used for the ESIA, including description of field investigations, mathematical models, social investigations, available literature
- Description of standards and guidelines used
- Statement on the extent of involvement
- Identification of information gaps and uncertainties

5. Consultation

- Identification of interested parties
- Description of consultation with affected parties (timeframe, methods)
- Main issues arising from consultation and how they were addressed in the ESIA process

6. Description of the baseline environmental, socio-economic and health conditions

- Focus of the baseline assessment depending on the nature of the sub-program and on its likely impacts
- Description of the physical environment (climate, topography, geology, hydrogeology, surface water, soils in the sub-program area)
- Flora and fauna - brief description of the baseline situation at the program site, with a specific focus on endangered species if any, and assessment of the general biodiversity situation in the program area
- Description of the human environment:
- Identification of neighbouring communities, description thereof, demography, sociopolitical conditions),
 - Land use pattern, land tenure, and related social organization,
 - Livelihoods
 - electricity usages
 - Noise
 - Development status, e.g. emerging business areas or settlement areas.

7. Subproject Impacts

- Generally, prediction and assessment of each impact at all stages of the subproject for each alternative, including but not limited to;

- Construction phase
 - Employment
 - Impact on land use
 - Impact of electricity use
 - Impact of electricity distribution lines
 - Impact of service drop lines
 - Impact on flora and fauna, with a specific focus on endangered species if any
 - Noise, dust and vibration
 - Impact on soils (compaction by drilling equipment, removal of topsoil)
 - Potential uses of the environment that will be affected
- Operation phase
 - Impact of increase electricity supply in the area
 - Impact of changes in water regimes on flora and fauna, and bio-diversity in general, with specific focus on wet zones if any
 - Potential uses of the environment that will be affected
- Decommissioning phase
 - Summary table assessing the significance of each identified impact in terms of magnitude, extension, duration or frequency of occurrence and probability of occurrence

8. Consultation Process

- Description of the consultation process (who was consulted, how, when)
- Results: the main issues raised and how they are addressed in the program design and the EA in general

9. Mitigation Measures

- Table showing for each identified impact at each of the main three phases of the program the proposed mitigation measures, with narrative justifying them
- Table showing the residual impacts once the mitigation measures are implemented

10. Monitoring & Evaluation

Table showing for each identified impact the monitoring measures that will be taken, with indication of indicators used, frequency of measurement, frequency of reporting and any relevant details on the methods to be used for collecting and treating monitoring data

11. Environmental and Social Management Plan (ESMP)

If part of the subproject ESIA, the ESMP needs to provide the pertinent details regarding each of the planned environmental mitigation, enhancement, and monitoring measures and corresponding implementation arrangements that would be a part of the subproject. In addition to a sufficiently detailed text description, the ESMP needs to include a table showing, for each identified impact, the planned mitigation and monitoring measures and the corresponding institutional responsibilities, the implementation schedule, and the estimated cost and funding source.

If the ESMP is a free-standing document (with no subproject-specific ESIA), it also needs to provide, in addition to the above-mentioned requirements, (i) a subproject description and (ii) a description of the specific environmental impacts to be mitigated. The Environmental and Social Management Plan (ESMP) is intended to ensure efficient management of environmental and social issues in subprojects. The ESMP consists of:

- Executive Summary
- Introduction
- Description of the Proposed Project
- Policy and Legal Framework on environmental assessment in Malawi and World Bank Safeguards
- Description of the Environmental Setting
- Significant Environmental Impacts
- Analysis of Alternatives
- Screening criteria and forms
- Environmental and Social Management Plan and budget
- Environmental and Social Monitoring Plan and budget
- Capacity Building and Training for Environmental Management

➤ References

➤ Annexes

☐ ToRs for the development of sub-projects ESMPs

☐ Environmental and Social Screening Form

☐ Environmental and Social Rules for contractors

☐ Checklist of environmental and social impacts from construction works

☐ Minutes of consultation meetings and list of participants

In many cases, MEAP will likely have sub-projects, most of which are small in nature without significant environmental impacts. This calls for ESMP specific actions to mitigate these impacts and conforming to the obligations stipulated in the screening exercises, the environmental checklists and all legal instruments in force. At the time of the implementation of the sub-projects, the potential environmental and social impacts must be clearly identified and a management plan formulated, implemented and the plan's performance monitored during and after execution of sub-project activities. The impacts must be avoided or neutralized where possible or mitigated in conformity with the National and the World Bank's prescriptions for sound environmental management.

Annexe 5: SAMPLE GRIEVANCE REDRESS FORM

Grievance Form		
Grievance Number		Copies to forward to:
Name of the Recorder		(Original)-Receiver Party
District		(Copy)-Responsible Party
Traditional Authority (TA)		
Village / location		
Date		
Submitting to:	First submission: TA Second submission: District Assembly Thirds submission: Magistrate court	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
INFORMATION ABOUT GRIEVANCE Define the Grievance: For second and third submission specify reasons for resubmission:		
INFORMATION ABOUT THE COMPLAINANT Name-Surname Cell phone Number Address		Forms of Receive <input type="checkbox"/> Cell number <input type="checkbox"/> Community/ Information

Village		Meetings <input type="checkbox"/> Mail <input type="checkbox"/> Informal <input type="checkbox"/> Other		
Traditional Authority				
Signature of Complainant				
DETAILS OF GRIEVANCE				
1. Access to Land <i>moreover, Resources</i> a) Forest and trees b) Lands c) Pasturelands d) House e) Commercial site f) Other	2. Damage to a) House b) Land c) Livestock d) crops e) Trees f) Other (specify)	3. Damage to Infrastructure or Community Assets a) Road/Railway b) Bridge/Passageways c) Power/Telephone Lines d) Water sources, canals <i>moreover, water infrastructure for irrigation and animals</i> e) Drinking water fg) Other	4. Decrease or Loss of Livelihood a) Agriculture b) Animal husbandry c) trees and forest d) Small-scale trade e) Other	5. Traffic Accident a) Injury b) Damage to property c) Damage to livestock d) Other
6. Incidents Regarding Expropriation and Compensation (Specify)	7. Resettlement Process (Specify)	8. Employment and Recruitment (Specify)	9. Construction Camp and Community Relations a) Nuisance from dust b) Nuisance from	10. Other (Specify)

			<i>noise</i> <i>c) Vibrations due to</i> <i>explosions</i> <i>d) Misconduct of the</i> <i>project</i> <i>personal/worker</i> <i>e) Complaint</i> <i>follow up</i> <i>f) Other</i>	
<i>Write full details of the grievances and any other measures taken to address: Solution</i>				

Annexe 6: LIST OF CONSULTATION DONE

No	NAME	ORGANIZATION
		Ministry of Natural Resource, Energy and Mining (MoNREM)
1	Khumbolawo Lungu	Energy Department
2	Gift Chiwayula	Energy Department
3	Thoko Malunga	Energy Department
4	Shamiso Najira	Environmental Affairs Department
5	Victoria Kachimera	Environmental Affairs Department
6	Christopher Manda	Environmental Affairs Department
7	Dr Clement Chilima	Forestry Department
8	Alex Kaitano	The Electricity Supply Corporation of Malawi (ESCOM)
9	Jack Thabwa	The Electricity Supply Corporation of Malawi (ESCOM)
10	Wiseman Kabwazi	The Electricity Supply Corporation of Malawi (ESCOM)
11	Clement Kana	The Electricity Supply Corporation of Malawi (ESCOM)
12	Chifundo Kameko	The Electricity Supply Corporation of Malawi (ESCOM)
13	Gift Banda	The Electricity Supply Corporation of Malawi (ESCOM)
14	Micheal Mkandawire	The Electricity Supply Corporation of Malawi (ESCOM)
15	Gertrude Malulu	The Electricity Supply Corporation of Malawi (ESCOM)
16	Lusungu Kumwenda	Mulanje Energy Generation
		Communities
17		Nkata-Bay -Kavuzi hydro mini electricity project
18		Lilongwe Kauma substation
19		Nkhota-Kota ESCOM
20		Chiradzulu Communities in Bangwe/
21		Mzuzu suburban community

Annexe 7: MINUTES FROM CONSULTATION WITH DIFFERENT STAKEHOLDERS

Institution	Name and details	Remarks
Ministry of Natural Resource, Energy and Mining (MoNREM)		
Department of Energy	Mr. Khumbolawo Lungu Mr. Gift Chiwayula Mr. Thoko Malunga	<ul style="list-style-type: none"> • The Department of Energy in the Ministry will be the main implementer of component 2 in the project. • The Staff in the Department are well trained in Environmental and safeguard issues. However, as a government department, they link well with EAD which is mandated to coordinate and manage environmental issues on behalf of the Malawi Government. • The Department also works well with other Governmental departments like the Department of Forestry, Department of Lands and other ministries.
Department of Forestry	Dr Clement Chilima	<ul style="list-style-type: none"> • The Department of Forestry welcomes this project and will work closely and support the Department of Energy and ESCOM in implementing the project. • The Project will demand electricity poles, and the Department of Forestry sees this as an opportunity to increase its awareness of the profitability of planting trees as those private investors who planted trees will benefit from selling their poles. However, there is a lack of capacity in treating the poles to make them ready for use as electricity poles. This has forced ESCOM to import poles from Zimbabwe, and South Africa. • The Department of Forestry encourages ESCOM to work closely with the department

		<p>when working in Forested areas. This includes installation of new lines and also clearing of wayleaves. The Department noted that ESCOM at times had gone alone to clear the forest. The Department of Forestry is mandated to cleared forest and sale the trees and timber and collect revenue for the government from the sales of forest products.</p> <ul style="list-style-type: none"> • Regarding compensation of cleared forests, the Department encourages the establishment of community to reforest programs where funds would be put together, and the Department would work with the rural communities to establish village forest reserves. The funds would also be used by the Department to monitor and supervise these community forest projects. • ESCOM needs to build its capacity regarding environmental management and establish a section of the department headed by a director to address issues of environmental and social impacts. This will also help to have a senior person in ESCOM who links well with directors in the government departments like EAD or DoF and the director level.
Environmental Department	Affairs	<p>Mrs Shamiso Banda Mr Biswick Mlaviwa Mr Christopher Manda</p> <ul style="list-style-type: none"> • The Environmental Affairs Department has the mandate to monitor, inspect and coordinate Environmental issues in Malawi. The department has worked with the Department of Energy and ESCOM in MAREP projects and has processed and given approved some Environmental and Social Impacts Assessment related to electricity supply. • The department is using the Guidelines to Environmental Impact Assessment and has developed several sector specific guidelines. These provide the procedures on how projects and policies that affect the environment are managed by the developers and

		<p>the Government.</p> <ul style="list-style-type: none"> • The Department welcomes MEAP and will help to facilitate the review of the ESMF to ensure that it complies with the countries regulations and legal framework to ensure that negative environmental and social issues are mitigated and communities and protected. • The Department has given a mandate to City and District Council to manage hazardous waste like battery cells that will likely come from the solar panel generation plants and the increase in electricity bulbs from households in MEAP. Provision and procedures to manage these are well laid out and the city and district councils should be equipped and able to handle these wastes.
Electricity Supply Corporation of Malawi (ESCOM)		
Environmental and way-leaves officer	Mrs Gertrude Malulu	<ul style="list-style-type: none"> • The section is heavily understaffed and deals with a diversity of issues from environmental management, wayleaves management and social and compensation issues. • There are no clear environmental management issues in ESCOM, e.g. management of oil and waste and some. The ESMF will be critical to help establish some guiding principles in the management of environmental issues. More so, ensuring that the capacity of the environmental section is increased will ensure timely and efficient implementation and management of environmental issues arising from MEAP. • Regarding Grievance Redressing Mechanisms, the procedure differs depending on the project. Each project comes with its redressal mechanism as such there is no written

		<p>procedure. ESCOM works with District Councils staff, chiefs and village Development Committees to sort out grievances.</p> <ul style="list-style-type: none"> • During operation of projects, the procedure is that the aggrieved party lodges a complaint in writing to senior Managers or CEO of ESCOM. From the written complaints, environmental issues are handled. Some non-environmental complaints are handled by customers Care Department, others by faults department and who have Call Centre which embraces all ESCOM departments. • ESCOM has used the District Councils to pay compensations to PAPs. If compensations are more than MK50,000, a bank account transfer is made to PAPs and there is a financial disclosure that is done before and after the payment. However, there have been complaining from PAPs that sometimes these payments are not done on time and sometimes not fully paid even after ESCOM had paid fully to the Districts councils.
Senior Project Management officer	Mr. Alex Kaitane	<ul style="list-style-type: none"> • MEAP is based on a study called Geospatial Electricity Needs of Malawi. The study recommends that most people be closer to the National Grid and hence it will be easy to connect them to the existing Grid. Therefore, MEAP will focus more on the distribution and drop-down connections to new customers. • Environmental and compliance issues will be enforced by ESCOM through the PIU to ensure that contractors do not undertake any shortcuts or cause additional social and environmental damage. • On the use of wooden poles, ESCOM has been learning about the benefits (financial and environmental) of concrete poles. This can be piloted in MEAP as this will be new

		<p>technology and material for ESCOM.</p> <ul style="list-style-type: none"> • There is a need to increase the capacity of the Environmental and social section regarding knowledge and staff numbers to ensure that these issues are handled on time and efficiently. The current capacity is very low and MEAP could help to build this capacity for ESCOM.
Senior Procurement manager	Mr Jack Thabwa	<ul style="list-style-type: none"> • ESCOM is yet to finalise its procurement framework. However, there is a great deal of consideration when procuring materials and equipment regarding their environmental impacts both during use and disposal after use. • There will provide a framework that will be set up for procuring goods in MEAP that will factor in environmental and social issues during the bidding process. • The Materials to be used in MEAP and labor will be locally sourced. The main materials like wooden poles will be sourced and labor be locally sourced. Labor will be sourced with consultation with local leaders. • Cement poles are a very good and sustainable way to go. However, ESCOM has not fully endorsed these poles. There has been discussion and even education visits to Zimbabwe on concrete poles. There are dangers associated with wooden poles like the chemical treatment that may pollute the soil around and even the workers who handle them when installing. • MEAP will distribute energy saver bulbs too to ensure that the consumers learn about these environmentally friendly bulbs. However, the project will also include education on waste management of the bulb after use. The Project will endeavour to work closely

		<p>with District Councils to construct bulb disposal bins in the location of the project.</p> <ul style="list-style-type: none"> • There will be a need to train staff and the community on a safe way of waste disposal.
Senior Business and Marketing Manager	<p>Mr. Wiseman Kabwazi</p> <p>Mr. Clement Kana</p> <p>Mr. Chifundo Kameko</p>	<ul style="list-style-type: none"> • The target will be both high density and low-density areas. The target is to have at least ten ready customers per transformer and target a radius of 1 km around the transformer. • There will be a challenge in high-density areas to install additional poles, and transformers as this will demand to access land and acquiring private properties. However, with experience from other projects, MEAP will work with the communities to ensure efficient targeting and supply of electricity to all demanding customers. • Concrete poles are better than wooden poles in high-density areas as they are not easily damaged from fires and sources of danger. However, there is currently no quality supplier of concrete poles in Malawi. This may have to be seriously looked at as the concrete poles will save much money in maintenance mostly in high-density areas where accessibility with large vehicles and machinery or a problem. • On waste management, the project or the district councils should have bulb crushers in different sites to handle in the increased number of bulbs that will be a waster after use but the consumers. • Record keeping is a big problem in ESCOM. Grievances and compensations have not been well kept to enable learning and correcting issues that keep reoccurring. • There is a need to have the customer service keep records of all grievances and complaints and final compensation made. This will ensure that lessons and learnt, and

		<p>future complaints well managed and eventually reduce.</p> <ul style="list-style-type: none"> • There is a need to keep GPS coordinated of all installation and sources of grievances. This will ensure easy tracking of issues and help in formulating long-lasting solutions. • There is a need to increase enforcement of ESCOM team to enforce several issues like wayleaves maintenance and vandalism of electrical equipment.
Engineer-Mzuzu	Gift Banda Michael Mkandawire	<ul style="list-style-type: none"> • Main issues on transformers to be considered are the compensation where land has been acquired for transformers or consent forms to be signed on times where land has been given free to ESCOM. • A form that indicates that land has been donated to the project should be signed by the landowners and the District Council. This should also be used to ensure that such member of the community is given priority and supplied with electricity fast enough. These are selfless community members, and ESCOM should aim at reducing frustrations from such people. This will also encourage others to follow suit. • There is a need to consider fencing of some transformers and raising distribution box to at least 2.5 meters above ground to avoid children playing with it, and also deter would-be thieves to be tempted to steal • Copper earth wires on transformers are a very easy target for theft. There are a huge copper market, and some transformers earth wire is easily stolen and hence denying customers of electricity and at the same time posing dangers of electrocution to the community and the thieves themselves. Copper wires should be buried at least a meter plus and be covered with concrete. This will make stealing them very difficult. Most of

		<p>the potential suspects that steal the copper wires are the casual labors who are temporally hired during constriction by the contractors. These can learn how the wires are installed and how they can bypass the high voltage and steal the equipment be it the oil or the copper wires. A proper vetting procedure at the local level should be enforced by the contractors to ensure that ESCOM equipment is kept safe after installation.</p>
Discussions with the communities		
	<ul style="list-style-type: none"> ✓ Chiradzulu close to Bangwe Sub Station, ✓ Mzuzu Peri-urban ✓ Kauma Lilongwe ✓ Area 25 sector 9 	<ul style="list-style-type: none"> • The community is happy with the project and looking forward to accessing electricity. • However, they have experienced some issues when ESCOM is constructing distributions line <ul style="list-style-type: none"> ○ There is poor communication between the ESCOM staff and the rural community. The communities are not targeted of the projects. They saw vehicles are coming in their areas and starting to cut trees and digging pits for poles. ○ When the implementation is done during the rainy season, ESCOM vehicles will drive anywhere even in farmers' fields. Some farmers complained that their maize fields were damaged with ESCOM vehicles when they were either maintaining or installing new lines. ○ In some instances where trees were cut, when complaints were launched directly to the staff working on the ground, the farmers were referred to ESCOM head office. This made it difficult for them to launch their complaints formally. They were at times intimated that they were in ESCOM land and had no jurisdiction over

		<p>the land. In most cases, farmers were surprised as they had been no papers, or discussion to indicate that the land belonged to ESCOM.</p> <ul style="list-style-type: none"> • In cases where there were compensations to be received, the community complained that the process is not transparent and takes very long. • Where the compensations were received, the community observed that the money received and what was promised are at times different. They suspected some foul play at the District Council. • Some communities complained that ESCOM staff would enter premises without permission to install new connections. If ESCOM staff are asked why they are trespassing and asked first to seek permission, they have been cases where such customers have been denied electricity. When complaints are launched, there is no action on the ground. This is merely done by ground staff to punish customers that question the non-professional acts when dealing with owners of the premises.
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