

RWANDA ENERGY GROUP

ENERGY UTILITY CORPORATION LIMITED (EUCL)

ELECTRICITY ACCESS ROLL-OUT PROGRAMME (EARP)

RWANDA ELECTRICITY SECTOR STRENGTHENING PROJECT (RESSP)

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY OF
CONSTRUCTION OF ELECTRICAL TRANSMISSION AND DISTRIBUTION
NETWORK IN SELECTED DISTRICTS OF SOUTHERN PROVINCE OF
RWANDA**

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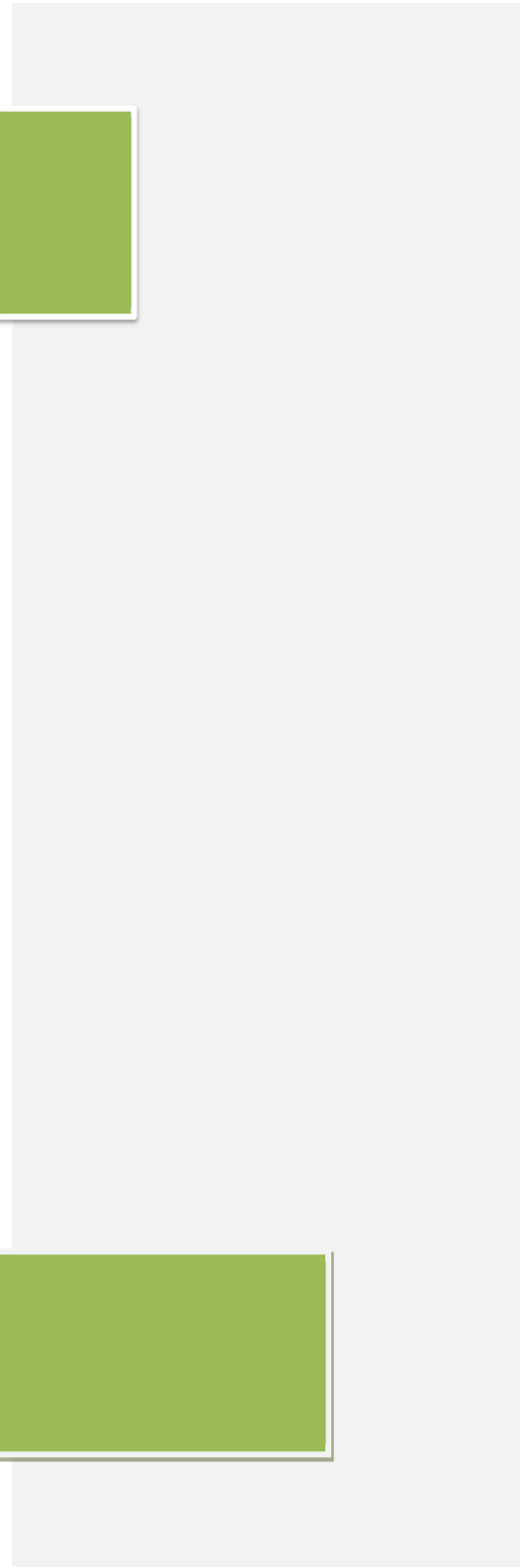
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EXECUTIVE SUMMARY

Background

The Government of Rwanda, in its effort to sustain economic growth, has increased and stabilized the power production and distribution, hence reducing power shortages. The Government of Rwanda (GoR) also exercises a strong leadership role in donor coordination and has begun to work with donors on a clearer division of labour by identifying areas of individual donor comparative advantage.

In connection with the mentioned strategy, the Government of Rwanda through Energy Utilities Corporation Limited (EUCL) has embarked on a country-wide electricity utilities and distribution to realize the secondary EDPRS II targets. The EDPRS target regarding energy sector is to connect around 45% of household by 2017. Once the network has been extended and covers large rural Centers, connection cost will be significantly reduced per connection (ESMF-EUCL,2015).

The general objective of this intervention is supplying sufficient reliable and affordable energy for all Rwandan. The specific objective is to improve the access to reliable on-grid electricity services for households and priority public institutions in rural areas of Rwanda.

A number of development partners so far committed to support the program including: World Bank IDA, World Bank, African Development Bank, BADEA, OFID, Saudi Funds, Netherlands and others. World Bank as main donor funded the Government of Rwanda to undertake the construction of distribution and transmission network in 5 Districts of the Southern Province namely Kamonyi, Nyanza, Muhanga, Huye and Nyamagabe District. The project shall in total construct 212.3 kms of medium voltage, 186.9 kms of low voltage to make a total of about 10.741 households. However, the construction and distribution of electrical lines at the sites will have key potential impacts (positive and negative) on the surrounding and connected communities.

In Rwanda, legislative and policy framework for environmental assessment are clearly highlighted the most of the laws, policies and guidelines such: Constitution of the Republic of Rwanda, Rwanda Vision 2020, National Environment Policy, National Environment Law, Environmental

Impact Assessment Regulation, Ministerial order N° 003/2008 for 15/08/2008 relating to the requirements and procedure for Environmental Impact Assessment.

Before starting the project at the field, an Environmental Impact Assessment will be carried out in order to comply with laws and environmental safeguards. However, activities will have adverse impact and will be addressed by proposing key mitigation measures.

ACRONYMS

ADB	African Development Bank
BP	Bank Policies
CAS	Country Assistance Strategy
CFL	Compact Fluorescent Lamp
CSP	Country Strategy Paper
DDP	District Development Plan
EA	Environmental Assessment
EAC	East African Community
EARP	Electricity Access Roll out Programme
EDPRS	Economic Development and Poverty Reduction Strategy
EIA	Environmental Impact Assessment
EPC	Engineering Procurement Construction
ESA	Environmental Security Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
EWSA	Energy Water and Sanitation
FDG	Focus Discussion Group
GEF	Global Environment Facility
GDP	Growth Domestic Product
GoR	Government of Rwanda

HH	Households
IDA	International Development Agency
IMCE	Integrated Management of Critical Ecosystem
IWRM	Integrated Water Resources Management
MDG	Millennium Development Goal
MINAGRI	Ministry of Agriculture
MINALOC	Ministry of Local Government
MINEAC	Ministry for East African Community
MINECOFIN	Ministry of Finance and Economic Planning
MININFRA	Ministry of Infrastructure
MINIRENA	Ministry of Natural Resources
NAFA	National Agro Forestry Authority
NEPAD	New Partnership for Africa's Development
OFID	OPEC Funds for International Development
OP	Operational Facility
PPE	Personal Protective Equipment
PPP	Policy, Plan, or Program
PRSP	Poverty Reduction Strategy Plan
RAP	Resettlement Action Plan
REMA	Rwanda Environment Management Authority
RESSP	Rwanda Electricity Sector Strengthening Project

RPF	Resettlement Plan Framework
SEA	Strategic Environmental Assessment
SWAp	Sector Wide Approach
UNCBD	UN Convention on Biological Diversity
UNCCD	UN Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	UN Framework Convention on Climate Change
WHO	World Health Organization

GLOSSARY OF TERMS

Environment: The physical factors of the surroundings of the human being including land, water, atmosphere, climate, and the biological factors of fauna and flora as well as the cultural, social, and economic aspects of human activity(Adapted from REMA 2006).

Environmental impact: Effects on the environment and natural resources that may be positive and/or negative and produce benefits and/or costs(Adapted from REMA 2006).

Environmental Impact Assessment (EIA): The systematic evaluation of a project to determine its impact on the environment and natural resources(Adapted from REMA 2006).

Environmental security: A condition in which a nation or region, through sound governance, capable management, and sustainable utilization of its natural resources and environment, takes effective steps toward creating social, economic, and political stability and ensuring the welfare of its population(FESS 2009).

Environmental sustainability: Management of natural resources and the environment that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Policy: Strategy with defined objectives, set priorities, rules, and mechanisms to implement objectives. (Adapted from Partidário 2009)

Plan: Priority, option, or measure for resource allocation according to resource suitability and availability, following the orientation of and implementing relevant sectorial and global policies(Adapted from Partidário 2009).

Program: Organized agenda with defined objectives to be achieved during program implementation, with specification of activities and program investments, in the framework of relevant policies and plans (Adapted from Partidário 2009).

Project: A detailed proposal, scheme, or design of any development design or development activity, which represents an investment, involves construction works, and implements policy/planning objectives(Adapted from Partidário 2009).

Scoping: A process of establishing the principal issues to be addressed in the SEA, the decision criteria, and indicators of desirable outcomes.

Screening: A process of determining whether SEA is required for a specific PPP.

Social sustainability: Social sustainability refers to the continuous betterment of human well-being and welfare through access to health, nutrition, education, shelter, and gainful employment, as well as through maintenance of effective participation in decision-making within and across generations(Adapted from Maler and Munasinghe 1996).

Stakeholders: Individuals, communities, government agencies, private organizations, non-governmental organizations, or others having an interest or stake in the SEA process and outcomes of the policies, plans, and/or program (Adapted from REMA 2006).

Strategic Environmental Assessment (SEA): “A systematic, on-going process for evaluating at the earliest stage, the environmental quality and consequences of alternative visions and development intentions incorporated in Policy, Planning or Programme initiatives to ensure full integration of relevant biophysical, economic, social and political considerations(EAC 2005).

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CHAP I: INTRODUCTION

Energy is crucial to Rwanda economic growth. In Rwanda, electricity is the second most important source of commercial energy for the formal sector after petroleum fuels. Commercial and industrial establishment as well as institutions and households in the country use electricity.

Rwanda remains among the lower per capita electricity and petroleum products consumption countries in the world. Only about 65.000(6-8%) of households had access to grid supplied power, almost entirely in the main urban areas. Grid extension has been extremely limited and economically justified only to meet rural industrial loads and emerging population clusters (Richard Ngendahayo, 2014).

To realize the primary EDPRS target for the electricity sector, the Government of Rwanda through REG has embarked on countrywide programme of tripling access by 2012 to about 16% of households and at least 50% of identified public institutions in health, education and local administration and reach consumers and services providers currently off the national grid with an overall schedule of the EARP activities extending up to end of 2017(SEA-EARP.2013).

Rwanda like any other world countries and a signatory to the Rio declaration and a number of other International Environmental treaties and protocols has embarked on actions to protect, preserve and improve the quality of the environment and ensure sustainable development. The protection and safeguarding of environment has become an important concern in Rwanda. Key environmental challenges concern high growth population depend on limited resources, deforestation, soil erosion, over grazing, misuse of wetlands and poor waste management associated with negative impacts on human health and biodiversity thus a hindrance to sustainable development of the country.

In accordance with the environmental law, polices, guidelines and World Bank policies, the implementation of each activities will be assessed and predicted the significance of the impacts, the impacts will be measures in compliance with the national regulations and international standards.

In same way ,the present study will highlight on the potentials environmental and social impacts of the subprojects in this area, and will facilitate to identify corresponding mitigations measures

that will be put in place for avoiding, reducing, minimizing or compensating potentials adverse impacts likely to arise in the cause of project implementation.

I.1.OBJECTIVES OF THE ESIA STUDY

The main objective of the project being to increase access to electricity in Rwanda, particularly in Southern Province, below is the specific objectives:

- To construct medium voltage lines of 212.3km
- To construct low voltage lines of 186.9km
- To install 114 transformers
- To connect an number of facilities, water pumps stations, markets, commercial centers, mining ,telecom towers, cells, sectors offices, health centers,primary,VTC and secondary schools.

I.2.APPROACH AND METHODOLOGY OF THE STUDY

The methodology of the study involved a preliminary assessment of the project, known as the scoping study; where project literature, preliminary technical studies were reviewed and field visits were done in all Districts of Southern Province in order to understand the project, identify its boundaries and relevant key stakeholders.

Literature review of Institutional, legislative and policy framework was done with a number of laws, policies, protocols and conventions such as; Organic law determining the modalities of environmental management in Rwanda, Organic law on land management, Resettlement Policy Framework (RPF), Environmental and Social management Framework (ESMF) and natural resources and World Bank environmental and social guidelines.

Public consultation- From the scoping exercise, stakeholders were identified in three categories. (1) First category of Government officials, (2) Second category of local government officials and (3) Third category of locals and PAPs likely to benefit or be affected the project. Public consultation was carried with people from these stakeholder categories.

During the Public consultation, the study applied different participatory methods, namely; interviews, one-to-one discussions, focused group discussions (FGD) and official meetings with stakeholders. Discussions were guided key questionnaires, census survey form and stakeholders were asked to raise their concerns on the proposed project. Issue raised by one individual or a group of people was cross-checked by discussing it over with other individuals or groups. It is from these concerns that the likely impacts were determined and summarized in chapter 10.

Baseline data collection- Information was collected on the existing physical, biological, socio-economic environment of *Nyamiyaga sector* in **Kamonyi District**, *Kinazi* and *Ntongwe* Sectors in **Ruhango Districts**, *Nyagisozi*, *Cyanika*, *Mbazi*, *Mugano*, *Rwabicuma* and *Busasamana* Sectors in **Nyanza District**, *Kigoma*, *Kinazi*, *Rwaniro* Sectors in **Huye Districts**, *Musange*, *Mugano*, *Mushubi* and *Nkomane* in **Nyamagabe Districts** project area.

Physical socio-environment analysis- involved determining the areas topography, climate, flora and fauna for selected project sites to determine likely eco-sensitive areas and predict flora and fauna that could emerge with the introduction of this project., involved collecting socio-economic primary data from field and matching it with secondary data obtained from desk reviews. Methods of obtaining field data were mainly through public consultation and expert observation.

Impact assessment applied number of tools and techniques to determine the nature (positive or negative), extent (spatial), occurrence (one-off, intermitted or constant), magnitude, whether reversible or irreversible, direct or indirect, probability of occurrence and significance with and without mitigation. For each adverse impact identified, its level of significance was indicated, mitigation measures for the predicted impacts were proposed and an Environmental Management Plan (EMP) developed.

A comprehensive report including all collected data, analysis of the data, anticipated impacts, proposed mitigation measures, an Environmental Management Plan and Monitoring Plan has been prepared. This has been shared with REG for inputs and constructive remarks, before World Bank and finally RDB.