FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

ETHIOPIAN ELECTRIC UTILITY (EEU)

ENVIRONMENTAL & SOCIAL SCREENING REPORT OF SOMALI REGION DOLO ZONE DANOT WOREDA QORILE TOWN

BY

LIGHT TO ALL PROJECTS

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ACRONYMS

ARAP	Abbreviated Resettlement Action Plan
CIS	Corrugated Iron Sheets
EHS&Q	Environment, Health, Safety and Quality
EEP	Ethiopian Electric Power
EEU	Ethiopian Electric Utility
EMP	Environmental Monitoring Plan
ESMP	Environmental and Social Management Plan
EPE	Environmental Policy of Ethiopia
FDRE	Federal Republic of Ethiop
MEFCC	Ministry of Environment, Forest and Climate Change
LV	Low Voltage
KV	Kilo Volt
KW	Kilo watt
WP	watt power
MoA	Ministry of Agriculture
masl	Meter Above Sea Level
OD	Operational Directive
OP	Operational Policy of the World Bank
PAPs	Project Affected Persons
PIU	Project Implementation Unit
RIC	Resettlement Implementation Committee
ROW	Right of Way
ESS	Environmental and Social
ESS	Energy storage system
LTA	Light To All

1. Introduction

1.1. Back ground

Government of Ethiopia has planned and launched a project Light To All to access solar mini-grid energy electrification in all rural area which are out of the main grid. For the time being 12 sites are under process namely in Amhara Benbaho and Wasel, in Oromia Behima, Beltu and Mino, in South Nation & nationality Omo rate and Tum, in Benshangule Albasa, in Gambella Ungoge, in Afar Kusrewad , Somali Qorile and in Tigray region Arae.

Somali region, Dolo zone, Danot Woreda, Qorile town is one of these 12 project sites has been visited by the team. In the town solar mini grids Project of LV lines and the place that will be excavated for the installation of solar panels and power house were visited and conduct socio economic survey and made consultation with city administration and Kebeles officials.

The total land area that will be excavated for the installation of solar panels setting of generator, batteries and power house is 5950m^2. The place is vacant and free from any public or private properties as shown bellow in the figure.

Qorile is one of town in Danot woreda in Somale region, with a total population of 42,409. Among this 19,405 are males and 23,004 are females. The city administration consists one urban and three kebeles. There are also one health care and two health posts in the town.

Qorile has two primaries, one secondary and one high school (total 4 schools). Most part of the woreda is covered by sparsely desert forest and bushes with lot of wild animals and birds are common.

The town is located approximately 1,252 km east of Addis Ababa, having a latitude and longitude of and 05.0168°N 29.04°E coordinates respectively and an elevation of 797 meters above sea level with an estimated area of 16km^2 hectares. The town is very attractive because of its naturally endowed resource and variety and diversity of wildlife.

Qorile city lies in the eastern part of Ethiopia at an altitude of 665 upto 750 m.a.s.l. The town enjoys kola type climate with an average temperature ranges from 38c° to 27 c°. Most of the time average temperature of Qorile is 32c°. But the highest temperature in the town is recorded from March to May (up to 39 c°) and the lowest monthly temperature is recorded in the town is during in August (27 c°). The annual rainfall in the town is unknown in because there is no metrology stations.

The Population size of Qorile town is estimated to be 42,409 according to the Danot wored council 12-month report for the year 2019. Annual growth rate of the population is unknown. Majority of the residents (75 %) falls in the young age group that is (15 – 59 years of age). This age also known as the economically active population but does not imply that everyone in that age group is employed and productive. 25 % of the residents fall into the age group of 0 -15 and 60 years and above. 96 % of the residents of Qorile town are Muslims. Above 98 % of the residence are Somali ethnic groups and they speaking only Somalic language but the educated ones can speak Amharic and English. Somalic is their working language. The rest below 2 % are from other ethnics groups. With regard to migration, the economic development of the town and its surrounding rural kebel/towns/ with the expansion of urban settlements and education sector become pulling factors for rural-urban migration. As a last resort, especially young and landless farmers migrate to the town. The town is plane area.

In terms of road network, Qorile is connected with Addis Ababa around 1,012 km asphalt roads and 240 km rural seasonal road, a total of 1,252 km from Addis Ababa to Qorile. No other optional road to go to Qorile town.

There are only 3 schools in the town. All are governmental owned schools, among these two of them are primary schools and the rest one is high school. No kindergartens, Preparatory, colleges and university in the vicinity. The total number of students enrolled in the year of 2019 in both primary and secondary schools are 2085 and 875 respectively (total 2960). Of

which 1,628 are female and the rest 1,332 are male students.

The current water source of Qorile is only rainy season ground water. While they are searching pool water for themselves and for animals and the current potable water coverage is estimated almost to none.

In terms of road network, Qorile is connected with Addis Ababa around 420 km asphalt roads and 245 km rural seasonal road, a total of 665 km from Addis Ababa to Qorile. No other optional road to go to Qorile town.

Qorile has only four schools in the town which of them one 1-4 first cycle school, one 1-8 primary school, one high school and one preparatory school. All are governmental owned schools. There have No kindergartens, colleges and university in the city. The total number of students enrolled in the year of 2019 in both primary and secondary schools are 3,085 and 1,875 respectively and in total 4960. Of which 2,628 are female and the rest 2,332 are male students.

1.2. The main activities in Qorile Site

- ✓ Concrete pole foundation civil works and pole erection;
- ✓ Line stringing;
- ✓ Laying underground 175 kw cable;
- ✓ Power house, control room and staff residence construction;
- ✓ Solar panel and combiner box and battery installation;
- ✓ Construction of guard houses
- ✓ Solar panel field
- ✓ Excavation of site
- ✓ Fencing, road, gate, septic tank and water tank

Table 1: Consolidated accessories for solar energy project in the Town.

ITEM OF THE ACCESSORIES	**unit**	**QUANTITY**
Lithium iron phosphate ($LiPo_4$) and energy density battery greater than 110Wh/kg	kwh	450
Monocrystalline photovoltaic panels, power output from single photovoltaic panel less than 250Wp	kwat	225
Solar photovoltaic array mounting with a capacity of 25kwp	kwat	225
Mini grid tied solar PV inventor for AC transmission technology	set	8

System enclosure / container	set	1
Remote monitoring system including communication battery ,estate of charge and revenue grade metering at output of power generation system	set	1
Cable and bus bares for PV & ESS system	set	1
Lighting protection and earthing system for power plan	set	1
Diesel generator 380/220 VAC complete with earthing system, protection system, metering system, volt meter, ammeter and frequency meter	set	1
Mandatory spare parts no exceeding 2% of equipment value example 1 set consumable, 6400liter diesel oil and 120 G 3G/LTE	set	1
Other items for installation and commissioning of solar power generation plant on turn-key basis. Example AC combiner box	set	2
	Installation And Commissioning Of Solar Power Generation Plant	
Guard house	set	1
Staff duplex house	set	1
Service quarter	set	1
Road, fence and gate	set	1
Water tank	set	1
Septic tank	set	1
Solar panel field	set	1
Installation	set	1
Commissioning	set	1
	Other Recommended Spare Parts	
PV inverter	set	**1**
Battery cell	set	**2**
Power conversion system	set	**1**
AC combiner box	set	**1**
Power module	set	**1**
	Source: - Contract agreement document lot 4 December 2019	

1.3. The Objective of the Project

- ✓ Provide new and renewable power supply,
- ✓ Increase electrification coverage
- ✓ Supply of electricity to deep rural areas
- ✓ Increasing economic activities social development and simplify the life of rural women and children
- ✓ Decrease deforestation due to fire wood

- ✓ Reducing environmental burden by using sustainable and renewable energy sources.

As we have tried to check both from the design and at field the mini solar energy project LV lines works generally will follow free road corridor and there are minimal social and environmental impacts in the project area. But as it has been said above, the place that will be excavated for solar panel going to have both environmental and social impacts unless mitigation measures are taken to minimize, avoid or reduce the impacts.

1.4. The LV distribution Lines right of way

The LV distribution line network will be connecting to the mini solar grid station with inner city passes through open area because no sub roads corridor in the town except very narrow local walks ways. There are no environmentally sensitive areas like historical or archaeological, forest, churches, schools, endangered species, wetland, graveyards, national park, protected areas and others in the right of way recognized by any organization.

According to EEA directive to electric lines, LV (a class of nominal system voltages less than 1000V) line does not require right of way clearance.

2. ENVIRONMENTAL AND SOCIAL SCREENING REPORT

The result of the screening report whether an ESIA, ESMP, CRMP, RAP or ARAP is required and will be included in the project application form.

Name of the Project: Light to All

Name of the Proponent: Under Univesal Electric Access Program, Light To All

Address: Addis Ababa Arada sub city, woreda 08 at Erri Bekentu Bridge

Location of the site (including maps/sketch): Somali Region, Dolo Zone, Danot woreda, Qorile Town

Types of activities at the project site (new construction, excavation, periodic maintenance maintains, operation, installation).

New Construction Of Solar Mini Grid

Total area of the construction site: 5,950 m^2

This report is to be kept short and concise.

Table 2: Site selection

No	**physical data**	**Yes/No** answer and bullet lists preferred except where descriptive detail is essential
1	Extension of or changes to the existing alignment/aesthetic values?	No
2	Any existing property transfer to project?	No
3	Any plans for new construction?	yes
4	Any property relocates from the project site to somewhere else?	No

2.1. Environmental and social impact identification and classification (ESIAIC)

By considering the location of **Light to All Solar Energy construction project at** Somali Region, Dolo Zone, Danot woreda, Qorile Town, we rate the sensitivity of the proposed site in the following table according to the given criteria. According to the criteria higher ratings do not necessarily mean that a site is unsuitable. The rate does indicates a real risk of causing undesirable adverse ES impact or effects and that more substantial environmental and/or social planning may be required to adequately avoid, mitigate or manage potential effects if any. The following table should be used as a reference.

Table 3: ES impact identification and classification (using √)

Environmental/social issues	site sensitivity		
	low	**medium**	**high**
Natural habitats	✓		
Water quality and water resource availability and use	✓		
Natural hazard vulnerability, flood, soil stability/erosion	✓		
Cultural property	✓		
involuntary resettlement	✓		
indigenous people	✓		

Table 4: checklist of impacts

Excavation (construction): transportation, operation, site clearance etc...	potentials for ES adverse impact site sensitivity				
	none	**low**	**medium**	**high**	**unknown**
disturbance of economic activities that leads to loss of property or income		✓			
number of stream crossing or disturbances		✓			
wet season excavation	✓				
creation of quarry sites or borrow pits		✓			
significant vegetation removal		✓			
wildlife habitats or population disturbed		✓			
environmentally sensitive areas or sites disturbed	✓				
cultural or religious site disturbed	✓				
economic or physical resettlement required	✓				
new settlement pressure created	✓				
others(specify)					

2.2. Detailed questions

Preliminary environmental information: like that of the previous, **YES/NO** answers and bullet lists preferred except where descriptive detail is essential.

State the source of information available at this stage (EPC report, ESIA or other **environmental study)**

Has there been litigation or complaints of any environmental nature directed against the proponent or ELEAP solar power project**?** **No**

identify types of activities and likely environmental impact: similarly, YES/NO answer and bullet lists preferred except where descriptive detail is essential			
Questions	**Risks**	**Impacts**	**Opportunities**
What are the likely environmental impacts, opportunities, risks and liabilities associated with the proposed project?	flood	sound and dust formation	✓ job opportunities ✓ increase food security ✓ strong social ties ✓ relation and cohesion of people ✓ improved social health ✓ decrease women burden

Determine environmental screening category: YES/NO **answer and bullet lists preferred except where descriptive detail is essential**.

Mitigation of pollution: YES/NO **answer and bullet lists preferred except where descriptive detail is essential**.

Question	"yes or no"
Does the LTA solar energy project have the potential to pollute the environment or contravene any environmental laws and regulations?	No
Will the project require or use any pesticide/rodenticide/ insecticide or any other else?	No
If so, then the proposal must detail the methodology and equipment incorporated in the design to constrain pollution within the laws and regulations to address the effect	
Does the design adequately detail mitigation measures?	Yes

Environmental and social assessment report: or Environmental study required: YES/NO answer and bullet lists Preferred except where descriptive detail is essential.	
if screening identifies environmental issues that require an ESIA or IEE study, does the proposal include the ESIA or IEE study	No
indicate the scope and time frame of any outstanding environmental study	No
Does it require environmental monitoring plan?	Yes
If the screening identifies environmental issues that require long term or intermittent monitoring (effluent, gaseous discharge, water quality and soil deterioration, air quality and noise) does the proposal detail adequate monitoring requirement?	Yes

2.3. Action

List outstanding actions to be cleared before CET and NR consortium project appraisal. Approval/rejection YES/NO answers and bullet lists Preferred except where descriptive detail is essential.	No, it is free from public properties
Approval/rejection YES/NO answers and bullet lists Preferred except where descriptive detail is essential	
If proposal is rejected for ES reason, should the solar power project be considered and what additional data would be required for reconsideration.	The project is not rejected for environmental reason

2.4. SOCIAL SCREENING

1.1.1. Public participation/information requirement: Yes/No answers and bullet lists preferred except where descriptive detail is essential.

Does the proposal require, under national or local laws, the public to be informed, consulted or involved?	Yes
Has consultation been completed?	Yes
Indicate the timeframe of any outstanding consultation process	September_ October , 2019
Refer to relevant legislative acts in Ethiopia	

1.1.2. Land and resettlement: Yes/No answers and bullet lists preferred except where descriptive detail is essential.

Social Safeguard Screening Checklist	Yes/no answer
Will the sub project activities reduce other people's access to their economic resources, like land, pasture, water, public services or other resources that they depend on?	No
Will the project result in resettlement of individuals or families or require the acquisition of land (public or private, temporarily or permanently) for its development?	No
Will the project result in the temporary or permanent loss of crops, fruit trees and household infra-structure (such as granaries, outside toilets and kitchens, etc.)?	No
Will the project require excavation near any historical, archaeological or cultural heritage site?	No
Might the project adversely affect vulnerable people (e.g., elderly poor pensioners, physically challenged, women, particularly head of Households or widows etc.) living in the area?	No
Reroute Map prepared for the specific project site is required (for the new sites).	No
Was the project assigned a team of experts to follow up resettlement issues?	Yes

Stakeholders/Public Consultation	
How sufficient were the previous consultations?	Very satisfactory with Regional level stakeholders, but moderate with PAPs
Are previous PAPs informed and consulted for the process and outcomes?	Yes
Are there committees established at Woreda levels for Resettlement implementation and Property Valuation? Are PAPs aware of them? How efficient and effective are they? If yes, what is done?	No because no affected people
Was there a plan for livelihood restoration?	No, because there is no displaced people
Were the people identified for special assistance, during the first assessment? What is done for these people?	No
Are there any health and safety problems existed in the project site? Include- transmission of communicable disease like STDs and HIV/AIDS in the work sites, dust, noise or any other impacts (through labor influx) brought about by the project activities.	Yes
Grievance Redress Mechanism(GRM)	
Are there mechanisms available for PAPs to register their grievances and complaints?	Yes
PAP's awareness of the GRM	
Records of the GRM; registered cases and responses/actions taken.	No
What number of project level grievances were reported and addressed, to date?	No
Were there vulnerable groups identified previously?	No
Will people need to be displaced, and therefore require compensation and resettlement assistance?	No
Are the relevant authorities aware of the need for a resettlement process, involving a census, valuation, consultation, compensation, evaluation and monitoring?	Yes, but there is no PAPs to proceed the next process.
What level or type of compensation is planned?	None
Who will monitor actual safeguard implementations/ institutional responsibility?	EEU, LIGHT TO ALL PROJECT MONITORING AND EVALUATION OFFICE

3. Categorization and recommendations

3.1. Categorization

	Schedule1 project to be fed in to the standard process determined by EPA
B	**Schedule2** project will require an EIA and necessitate process the inclusion of environmental and social mitigation enhancement measure in the design and implementation of the project through the use of standard construction contract clauses and an environment management plan
	Schedule3 project is not subjected to environmental assessment as no potential impacts are anticipated. Therefore, the category of the proposed project is laid under **category B (schedule 2).**

4. Conclusion and recommendations

Generally, in Qorile town all LV routes and the place that will be excavated for the installation of solar min grid panels and control room including all other accessories, guard and staff duplex house, are visited and screened based on the checklist.

Based on the conducted checklists the identified environmental and social impacts is not significant and easy to control and manage. Since the category of the proposed project is laid under **category B (schedule 2),** project will require an EIA and necessitate process the inclusion of environmental and social mitigation enhancement measure in the design and implementation of the project through the use of standard construction contract clauses and an environment management plan. The project contractor shall prepare ESMP to manage the activities of the impact during the whole construction phases (it is one of the requirements set in the contract).

Based on the above data the following recommendations are forwarded:

- Care must be taken during pole transportation, pole erection and line stringing because in this line bushes can be affected.
- Waste and dust must be controlled during construction; dispose the waste properly especially lubricants and use water for dust formation if necessary during construction.
- As far as the distribution network is LV and it ABC (Aerial Bundled Conductor), cutting or trimming of trees are not necessary.
- Follow up must be conducted to check whether the contractor is implementing all the activities based on the agreement and ESMP.
- Used batteries and other accessories must be disposed based on the National policy of the country because the waste from these spare parts is very hazardous.