

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

1. Location / Conditions

Location / Conditions	
Map: District Map showing the location of the survey site in Mityana District.	Conditions: Permanent and temporary wetlands seen along the road. The area is highly modified mainly with agricultural activities (rice, maize, yams, millet, vegetables). Some of the wetlands had stilt houses.

Location	Focal Patch	Surrounding Area
MA1-Position No 27 25.1 E/3 29 20.2	Seasonal wetland near stream	Maize cultivation
MA1-Position No 27 28.1 E/3 26 0.4	Seasonal wetland with a few cultiva	Paddy field
MA1-Position No 27 09.2 E/3 21 51.0	Seasonal wetland with a few cultiva	Cultivated land

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

Location	Local Point	Surrounding Area
MA1-Position No 27 14 E/3 32 19.8	Seasonal wetland with a few cultiva	Cultivated land
MA1-Position No 27 17 E/3 32 0.0	Seasonal wetland with a few cultiva	Cultivated land
MA1-Position No 27 12.5 E/3 31 42.4	Seasonal wetland with a few cultiva	Sugarcane cultivation
MA1-Position No 27 27.0 E/3 34 34.8	Seasonal wetland with a few cultiva	Paddy field
MA1-Position No 27 25.9 E/3 32 42.5	Permanent wetland with a fish pond 30 metres from the road	Paddy field

1/3

2/3

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

Location	Focal Patch	Surrounding Area
MA1-Position No 28 41.5 E/3 33 07.0	Permanent wetland with a water stream	Paddy field
MA1-Position No 28 40.7 E/3 33 12.0	Permanent wetland with a few cultiva	Maize cultivation

2. Specific Issues and Mitigation Measures

Issues	Mitigation Measures
Environmental and Social Issues:	
- Seasonal and permanent wetlands observed in the area were highly modified.	- The poles will be installed at approximately 30m apart to avoid the bio-cultures and streams.
- Water points at the hot springs were located in the lower parts of uplands.	- To cover the poles will be installed on the wetlands. The poles' locations should be away from the bio-cultures to obstruct the flow of water.
- Degradation mainly with Sedges, grasses, shrubs, thorny bushes, impatiens, palm etc.	- Licence of the vegetation and excavation will be limited to the area where the electricity poles will be installed.
Technical Issues:	
- Soft Ground	

3. Attendants

Preparatory Survey Team (PCT)	District Officials
REA Officer: <i>[Signature]</i>	District Environment Officer: <i>[Signature]</i>
REA Environment Officer: <i>[Signature]</i>	ARIMA TRIMAS: <i>[Signature]</i>
Chair Consultant: <i>[Signature]</i>	Armenia: <i>[Signature]</i>
Environmental Consultant: <i>[Signature]</i>	District Natural Resources Officer: <i>[Signature]</i>
Takukira, CHAUNA: <i>[Signature]</i>	Lubaga: <i>[Signature]</i>

Date: 21 June 2011

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

Location / Conditions: Wetlands	Focal Patch	Surrounding Area
Map: District Map showing the location of the survey site in Mityana District.		Permanent and temporary wetlands were observed in the area of highly modified areas with agriculture and fisheries. Further some small wetlands due to drainage of water bodies were observed in areas of human settlements such as Kiboga, Lubaga, etc.
MA1-Position No 28 40.7 E/3 33 07.0	Permanent wetland with a few cultiva	
MA1-Position No 27 27.0 E/3 34 34.8	Permanent wetland with a fish pond 30 metres from the road	
MA1-Position No 27 25.9 E/3 32 42.5	Permanent wetland with a few cultiva	

3/3

1/1

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

Location	Fence Point	Surrounding Area
RH-Uganda: N 0°27'29.0 E 33°13'31.2 The fence line runs along the road from the project area to the village of Kiboko.	Bushy Scrubs, Several acacia with a few palms	Paddy Field, Other vegetation, Tropical grass
RH-Uganda: N 0°28'22.0 E 33°13'56.0 Several acacia, several palm trees with some grass		
RH-Uganda: N 0°29'00.0 E 33°13'56.4 Several acacia, several palm trees with some grass		Paddy Field, Other vegetation, palm trees

2. Specific Issues and Mitigation Measures

Issue	Mitigation Measures
Environmental and Social Issues:	
- Seasonal and permanent wetlands observed in few lands were highly modified. - Water pools in the low collines were limited at the lower parts of acacia. - Degradation (result of wedge, phosphorus, stone huts, elephant galls, etc.)	- The poles will be installed at approximately 100m apart to avoid the tree collapse and impacts. - In case the poles will be installed in the wetlands and pools, distances should be away from the base catchments to obstruct the flow of water. - In case the vegetation and excavation will be limited in the area where the electricity poles will be installed.
Technical Issues:	
- Soft Ground	

2/3

3/3

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

4. Location/Conditions: Cultural Property		
Findings:		
There are no historical or cultural sites identified along the route of the proposed line.		
Kakwiro	Long Tom	Proposed Site

2. Specific Issues and Mitigation Measures

Issue	Mitigation Measures
Environmental and Social Issues:	
- The forest area of Kakwiro is covered with the original forest and no degraded forests are observed around the proposed site.	- The forest area of Kakwiro is covered with the original forest and no degraded forests are observed around the proposed site.
Technical Issues:	
- None	

3. Attendants

Preparatory Survey Team (PCT)	District Officials
REIA Officer: <i>[Signature]</i> Philip Sseguya REIA Environmental Officer: <i>[Signature]</i> Alice Ssebunya Other Consultants: <i>[Signature]</i> PS-LATA 14 Environmental Consultant: <i>[Signature]</i> Lulu J. Mwanga Takeshi Ushiroka <i>[Signature]</i>	District Local Officer: <i>[Signature]</i> Savannahs Abdu <i>[Signature]</i>

(on) 23 June 2011

1/1

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

3. Attendants	District Officials
Preparatory Survey Team (PCT) REIA Officer: <i>[Signature]</i> Philip Sseguya REIA Environmental Officer: <i>[Signature]</i> Alice Ssebunya Other Consultants: <i>[Signature]</i> PS-LATA 14 Environmental Consultant: <i>[Signature]</i> Lulu J. Mwanga Takeshi Ushiroka <i>[Signature]</i>	District Local Officer: <i>[Signature]</i> Savannahs Abdu <i>[Signature]</i>

(on) 24 June 2011

3/3

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

5. Location/Conditions: Wetlands		
Findings:		
The area has two seasonal wetlands: Nalimo seasonal wetland and Naseyombe with tributaries like Horne. The vegetation was in its natural state but the wetlands were used for grazing and watering animals. Naseyombe seasonal wetland and stream was observed passing both sections of Lukembe - Mwendwa-Tyazi and its fork - Mundindi (See BS1-2 and BS1-5).		

Location	Fence Point	Surrounding Area
BS1-1 Position: N 0°31'31.0 E 33°57'49.0	Saltine seasonal wetland with a few palms	Estimated catchment vegetation (mostly acacia)
BS1-2 Position: N 0°31'45.0 E 33°57'20.0	Horne tributary of Saltine seasonal wetland in its downstream	Natural vegetation (mostly grass and acacia)
BS1-3 Position: N 0°31'45.0 E 33°57'20.0	Naseyombe seasonal stream with a few palms	Natural vegetation (mostly grass and acacia)

1/2

The Preparatory Survey on the Project for
Rural Electrification Phase II in the Republic of Uganda

1. Specific Issues and Mitigation Measures

Issue	Mitigation Measures
Environmental and Social issues:	
- Several wetlands were observed in the land with minor forest vegetation.	- The Project Room will be designed to avoid water point and wetland.
- Water pools at the box culverts were located at the lowest points of wetlands.	- The poles will be installed at approximately 10m apart to avoid the box culverts and streams.
- Vegetation (mangroves, sedges, acacia, elephant grass, sedges, alata, thorn) bushes etc.)	- To ease the poles installation in the wetlands, the poles will be buried below ground for the benefit of minimal disruption of flow of water.
- Soft Ground	- Ensure it in the location and excavation will be limited to the area where the electricity poles will be installed.
Technical issues:	
- Soil Ground	

Date: 30/06/2011

2/2

The Preparatory Survey on the Project for
Rural Electrification Phase II in the Republic of Uganda

1. Location/Conditions: Wetlands

Location	Focal Point	Surrounding Area
HGL-1 Position: N0 27 01.0 E03 39.515	Open/semi-open wetland with a few trees	Non-existent
HGL-2 Position: N0 27 14.0 E03 40.018	Sedge grass wetland with few culverts	Paddy field
HGL-3 Position: N0 27 11.53 44 18.4	Sedge grass-wetland with a few culverts	Cultivated land

1/3

The Preparatory Survey on the Project for
Rural Electrification Phase II in the Republic of Uganda



2/2

The Preparatory Survey on the Project for
Rural Electrification Phase II in the Republic of Uganda

Location	Focal Point	Surrounding Area
HGL-4 Position: N0 27 01.0 E03 39.515	Nearest permanent stream and some water from culverts	Non-existent
HGL-5 Position: N0 27 14.0 E03 40.018	Nearest water source around with a few culverts	Many culverts

2. Specific Issues and Mitigation Measures

Issues	Mitigation Measures
Environmental and Social issues:	
- Several art and natural wetlands observed in low lands were highly modified.	- The Project Room will be designed to avoid water points and soft ground.
- Water pools at the box culverts were located at the lowest points of wetlands.	- The poles will be installed at approximately 10m apart to avoid the box culverts and streams.
- Vegetation (mangroves, sedges, alata, thorn, elephant grass, etc.)	- In case the poles are installed in the wetlands, the poles location will be away from the box culverts to avoid obstruction of the flow of water.
- Soft Ground	- Clearing of the vegetation and excavation will be limited to the area where the electricity poles will be installed.
Technical issues:	
- Soil Ground	

3. Attendants

Preparatory Survey Team (JICA)	District Officials
RCA Engineer: <i>[Signature]</i> RCA Environmental Officer: <i>[Signature]</i> Chief Consultant: <i>[Signature]</i> Environmental Committee: <i>[Signature]</i>	District Clerk Officer: <i>[Signature]</i>

Date: 27/06/11

3/3

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

1. Location/Conditions: Central Forest Reserve	
Location: Bwamba District	Conditions: Central Forest Reserve (CFR) categorized as Agricultural and Commercial Forest Plantations by National Forest Authority (NFA). Located along State Road 11, rocky hills are located on both sides of the road. Both ridges are mostly covered with native and the south side has a gully vegetation.
Location: RG1 Position: N0° 26' 17" E 03° 42' 21" - N0° 26' 47" E 03° 43' 06"	Focal Point: North east view: Rocky hill/Mesa ridges
	
	

2. Specific Issues and Mitigation Measures

Issues	Mitigation Measures
Environmental and Social Issues:	<ul style="list-style-type: none"> The road that the Project Route is proposed along will be about 4 km long. Service road on the TKA distribution lines may be required on the north side.
Technical Issues:	<ul style="list-style-type: none"> None
3. Attendants	

Date: 27/06/11

(1)

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

1. Location/Conditions: Cultural Property	
Location: Bwamba District	Conditions: A cultural site (Karamba Bungo) which consists of a colonial house located on the northern side of the road in Bwamba CR. The site is surrounded by old trees.
Location: RG1 Position: N0° 26' 48" E 03° 43' 36"	Focal Point: Cultural site (Karamba Bungo)
	
	

2. Specific Issues and Mitigation Measures

Issues	Mitigation Measures
Environmental and Social Issues:	<ul style="list-style-type: none"> The cultural site (Karamba Bungo) is located on the road that the Project Route is designated.
Technical Issues:	<ul style="list-style-type: none"> None

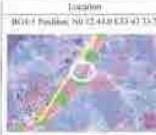
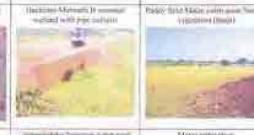
3. Attendants

Preparatory Survey Team (JICA)	District Officer
REIA Engineer: AKAHARA, Taro (Mr.) REIA Environmental Officer: Makinde, Lary Gireba (Mr.) Consultant: LUCAS THOMAS KOMWA (Mr.) Environmental Consultant: TANAKA, D.M. (Mr.)	Wakiso Environment Officer: TANAKA, John (Mr.)

Date: 27/06/11

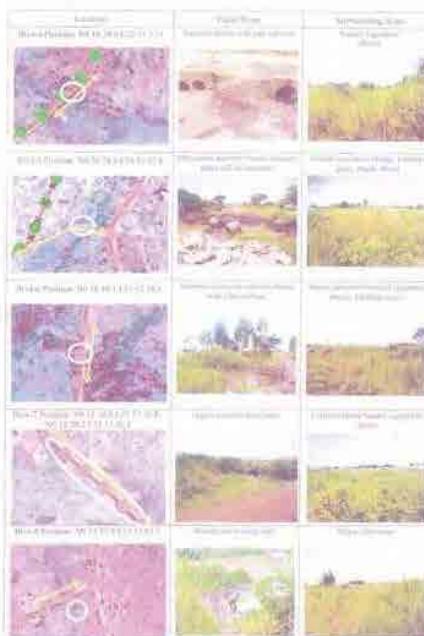
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The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda

1. Location/Conditions: Wetlands		
Location: Bwamba, Nakasongola and Bwamba District Environment Officer	Conditions: Several wetlands were observed that were all highly modified, mainly with agricultural activities (rice fields and vegetable cultivation). A seasonal flood plain of 500 meters was observed along the road route with similar agricultural activities and cattle grazing activities. (See RG4-7) Two water valley looks were also found, which are used as sources of domestic water.	
Location: RG4-1 Position: N0° 26' 41" E 03° 43' 45"	Focal Point: Bukidde-Mentura communal wetland with rice cultivation	Surrounding Area: Faddy field/Molar cultivated-Natural vegetation (Forest)
		
RG4-2 Position: N0° 26' 41" E 03° 43' 46"	Focal Point: Bukidde-Mentura communal wetland with rice cultivation	Surrounding Area: Faddy field/Molar cultivated-Natural vegetation (Forest)
		
RG4-3 Position: N0° 26' 41" E 03° 43' 47"	Focal Point: Lutapadde-Karamba valley pool	Surrounding Area: Maze cultivation
		

1/3

The Preparatory Survey on the Project for
Rural Electrification Phase III in the Republic of Uganda



1/1

<p style="text-align: center;">The Preparatory Survey on the Project for Rural Electrification Phase III in the Republic of Uganda</p>																
<p>1. Location/Conditions: Settlement</p> <p>Block Name: Nanyango, Sector: 301, Ward: 1, Environment Officer: [Signature]</p> <p>Condition: Residential buildings are situated close to the carriageway at the start of the Project Road branch to Block 301 ac Subsiding 11.</p>																
<p>2. Specific Issues and Mitigation Measures</p> <table border="1"> <thead> <tr> <th colspan="2">Mitigation Measures</th> </tr> </thead> <tbody> <tr> <td>Environmental and Social Issues:</td> <td>The project route will be designed away from residential buildings and other sensitive areas. The route will be avoided in agricultural land, open spaces, and the environment.</td> </tr> <tr> <td>Technical Issues:</td> <td>Residential buildings will be avoided in the area. The route will be designed to avoid crossing water bodies, roads, and other infrastructure.</td> </tr> <tr> <td>Attendants:</td> <td>Prepared by: [Signature] Date: 6/17/2011</td> </tr> <tr> <td>Prepared by:</td> <td>Chief Consultant: [Signature] Date: 6/17/2011</td> </tr> <tr> <td>Chief Consultant:</td> <td>Prepared by: [Signature] Date: 6/17/2011</td> </tr> </tbody> </table>			Mitigation Measures		Environmental and Social Issues:	The project route will be designed away from residential buildings and other sensitive areas. The route will be avoided in agricultural land, open spaces, and the environment.	Technical Issues:	Residential buildings will be avoided in the area. The route will be designed to avoid crossing water bodies, roads, and other infrastructure.	Attendants:	Prepared by: [Signature] Date: 6/17/2011	Prepared by:	Chief Consultant: [Signature] Date: 6/17/2011	Chief Consultant:	Prepared by: [Signature] Date: 6/17/2011		
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Contents of Drawings

- Single Line Diagram of the Project**
DWG No. UG3-E1: 33kV Distribution Network Diagram on the Project (Mayugo - Lumino)
- Route Map of the Project**
DWG No. R-01 **Route Map of the Project**
DWG No. RD-01-RD-38 **Detail** **Route Map of the Project**
- Pole Assembly Drawings for Distribution Lines**

DWG No. T-01	Pole Type A	Intermediate Pole (Line Angle: 0 – 5 degree)
DWG No. T-02	Pole Type B	Light Angle Pole (Line Angle: 5 – 30 degree)
DWG No. T-03	Pole Type C	Heavy Angle Pole (Line Angle: 30 – 50 degree)
DWG No. T-04	Pole Type D	Heavy Angle Pole (Line Angle: 50 – 90 degree)
DWG No. T-05	Pole Type E	Section Pole (Horizontal Arrangement)
DWG No. T-07	Pole Type G	Terminal Pole
DWG No. T-08	Pole Type H	Lead Break Switch (LBS) Pole
DWG No. T-09	Pole Type J	T-off Pole (Branch)
DWG No. T-10	Pole Type I	Transformer Pole (Line end)
DWG No. T-11	Pole Type K	Transformer Pole (on Line)
DWG No. T-12	Pole Type M	Bulk Metering Unit Pole
DWG No. T-13	Pole Type N	Connection Plan to the existing line (extension type)
DWG No. T-14	Pole Type Q	Sharp Angle Pole (Line Angle: 50 – 90 degree) (Horizontal)
DWG No. T-15	Pole Type R	Auto Re-closer Pole
DWG No. T-16	Pole Type W	Intermediate Pole (area to be flooded)

Drawings

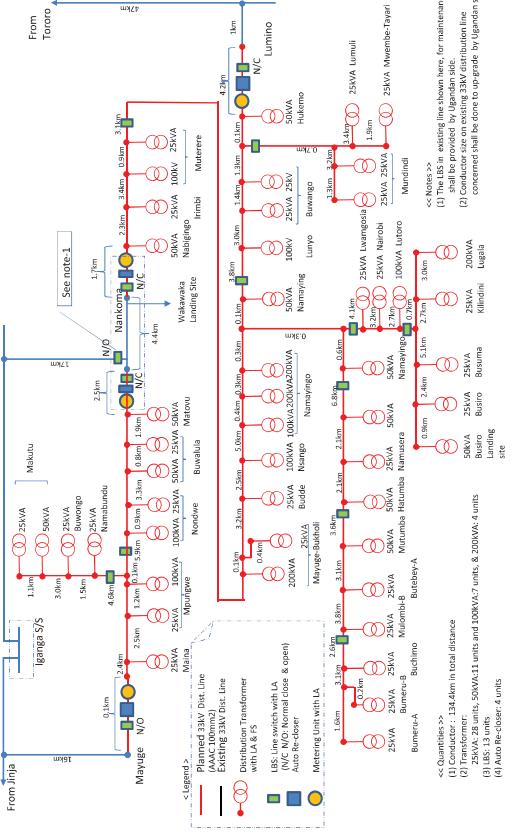


Figure E1: 3kV Distribution Network Diagram on the Project (Mayuge-Lumino).

