



**ENVIRONMENTAL AND SOCIAL IMPACT
ASSESSMENT FOR THE PROPOSED EXTENSION
OF THE GOVERNMENT NETWORK (LAST MILE)
TO MINISTRIES, DEPARTMENTS AND AGENCIES (MDAS),
LOCAL GOVERNMENTS (LGS)
AND OTHER TARGET USER GROUPS (TUGS)**

JULY, 2019

March 2018	NEMA Submission	
Date	Reason for Issue	
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ACKNOWLEDGEMENT

The study team thanks all people who provided information that made it possible to prepare this brief. The team is grateful to all stakeholders that provided information and participated in the study.

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The ESIA team also recognizes the support provided by the wider NITA-U team and the stakeholders that supported the team throughout the assessment process.

TABLES OF CONTENTS

CONSULTANCY TEAM	I
ACKNOWLEDGEMENT	II
TABLES OF CONTENTS	III
LIST OF ABBREVIATIONS	XI
EXECUTIVE SUMMARY	XIII
CHAPTER ONE	1
1.0. INTRODUCTION	1
1.1 OBJECTIVES FOR THE ENVIRONMENTAL AND SOCIAL IMPACT STUDY	1
1.2. PURPOSE AND SCOPE OF ENVIRONMENTAL IMPACT ASSESSMENT	2
1.3. ESIA STUDY TEAM AND RESPONSIBILITIES	3
1.3.1 LIMITATIONS	3
1.4. METHODOLOGY	4
1.5. STRUCTURE OF THE REPORT	5
CHAPTER TWO	7
2.0 INSTITUTIONAL, POLICY, LEGISLATION AND REGULATORY CONSIDERATIONS	7
2.1 INSTITUTIONAL FRAMEWORK	7
2.1.1. THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)	7
2.1.2. MINISTRY OF INFORMATION, COMMUNICATION AND TECHNOLOGY [MoICT] AND NATIONAL GUIDANCE	7
2.1.3 THE NATIONAL INFORMATION TECHNOLOGY AUTHORITY-UGANDA (NITA-U)	8
2.1.4 THE UGANDA NATIONAL BUREAU OF STANDARDS (UNBS)	8
2.1.5. MINISTRY OF GENDER, LABOUR AND SOCIAL DEVELOPMENT (MoGLSD)	8
2.1.6. MINISTRY OF TOURISM, WILDLIFE AND ANTIQUITIES	8
2.1.7. MINISTRY OF TRADE, TOURISM AND INDUSTRY (MTTI)	9
2.1.8. KAMPALA CAPITAL CITY AUTHORITY (KCCA)	9
2.1.9. LOCAL GOVERNMENT ADMINISTRATION STRUCTURES	9
2.1.10 NATIONAL FORESTRY AUTHORITY, NFA	10
2.1.11 UGANDA WILDLIFE AUTHORITY (UWA)	10
2.1.12 MINISTRY OF WATER AND ENVIRONMENT	10
2.2. POLICY FRAMEWORK	10
2.2.1. THE NATIONAL ENVIRONMENT MANAGEMENT POLICY, 1994	10
2.2.2 INFORMATION MANAGEMENT SERVICES POLICY DRAFT V.8 2011	11
2.2.3 ELECTRONIC WASTE (E-WASTE) MANAGEMENT POLICY, 2012	11
2.2.4 NATIONAL ICT POLICY, 2012	11
2.2.5 TELECOMMUNICATIONS POLICY, 1996	12
2.2.6 THE NATIONAL CULTURE POLICY, 2006	12
2.2.7 THE NATIONAL LAND USE POLICY, 2007	12
2.2.8 WETLANDS POLICY, 1995	12
2.2.9 NATIONAL WATER POLICY, 1999	13
2.2.10 WILDLIFE POLICY, 1999	13
2.2.11 NATIONAL GENDER POLICY, 1997	13
2.2.12 HIV/AIDS POLICY, 1992	13
2.2.13 NATIONAL DEVELOPMENT PLAN (NDP), 2010	14
2.2.14 UGANDA'S VISION, 2040	14
2.2.15 NATIONAL POLICY ON DISABILITY IN UGANDA, 2006	14
2.2.16 WORLD BANK SAFEGUARDS POLICIES	15
2.2.17 MUSEUMS AND MONUMENTS POLICY (2015)	15

2.2.18 UGANDA NATIONAL CULTURE POLICY 2006	15
2.3 LEGAL FRAMEWORK	16
2.3.1 CONSTITUTION OF THE REPUBLIC OF UGANDA, 1995	16
2.3.2 THE ELECTRONIC SIGNATURES ACT, 2011	16
2.3.3 COMPUTER MISUSE ACT, 2010	16
2.3.4 THE ELECTRONIC TRANSACTION ACT 2011	17
2.3.5 COPYRIGHT AND NEIGHBORING RIGHTS ACT, 2006	17
2.3.6 NATIONAL ENVIRONMENT (WETLANDS, RIVER BANKS AND LAKESHORES MANAGEMENT) REGULATIONS, 2000	17
2.3.7 NATIONAL ENVIRONMENT (HILLY AND MOUNTAINOUS AREAS MANAGEMENT) REGULATIONS, 2000	17
2.3.8 NATIONAL ENVIRONMENT (MINIMUM STANDARDS FOR MANAGEMENT OF SOIL QUALITY) REGULATIONS, 2001	17
2.3.9 ENVIRONMENT (NOISE STANDARDS AND CONTROL) REGULATIONS, 2003	17
2.3.10 NATIONAL ENVIRONMENT (WASTE MANAGEMENT) REGULATIONS, 1999	18
2.3.11 NATIONAL ENVIRONMENT (STANDARDS FOR DISCHARGE OF EFFLUENT INTO WATER OR ON LAND) REGULATIONS, 1999	18
2.3.12 DRAFT NATIONAL AIR QUALITY STANDARDS, 2013	18
2.3.13 OCCUPATIONAL HEALTH AND SAFETY ACT, 2006	18
2.3.14 UGANDA WILDLIFE ACT, 2000	19
2.3.15 THE PHYSICAL PLANNING ACT, 2011	19
2.3.16 PUBLIC HEALTH ACT, 1935	19
2.3.16 EMPLOYMENT ACT, 2006	19
2.3.17 WORKERS' COMPENSATION ACT, 2000	20
2.3.18 LOCAL GOVERNMENTS ACT, 2015	20
2.3.19 PETROLEUM SUPPLY ACT, 2003	20
2.3.20 ROAD ACT, CAP 358	21
2.3.21 HISTORICAL MONUMENTS ACT CAP 46, 1967 AMENDED IN A DECREE IN 1977	21
2.3.22 THE NATIONAL ENVIRONMENT ACT, CAP 153	21
2.3.23 THE NATIONAL ENVIRONMENT (AUDIT) REGULATIONS, 2006	21
2.3.24 THE NATIONAL ENVIRONMENT (ENVIRONMENT IMPACT ASSESSMENT) REGULATIONS, 1998	22
2.3.25 WORLD BANK GROUP GENERAL EHS GUIDELINES	22
2.3.26 INTERNATIONAL AGREEMENTS/ CONVENTIONS	22
CHAPTER THREE	24
3.0. ENVIRONMENTAL BASELINE CONDITIONS	24
3.1. LOCATION	24
3.1.1 OWNERSHIP	24
3.2. BIOPHYSICAL ENVIRONMENT	24
3.2.1. MORPHOLOGY, RELIEF AND DRAINAGE	24
3.2.2. CLIMATE	24
3.2.2.1 RAINFALL CHARACTERISTICS IN CENTRAL REGION	26
3.2.2.2 RAINFALL CHARACTERISTICS IN THE EASTERN REGION	28
3.2.2.3 RAINFALL CHARACTERISTICS OF THE WESTERN REGION	30
3.2.2.3 RAINFALL CHARACTERISTICS OF THE NORTHERN REGION	31
3.2.3. GEOLOGY AND SOILS	33
3.2.3.1 LAKE VICTORIA TERRANE	34
3.2.3.2 WEST TANZANIA TERRANE	35
3.2.3.3 TORORO SUITE	36
3.2.3.4 KAMPALA SUITE	37

3.2.3.5 RWENZORI FOLD BELT	38
3.2.3.6 NORTH UGANDA TERRANE	39
3.2.4 Vegetation	40
3.2.4.1 VEGETATION COVER FOR THE EASTERN-NORTHERN ROUTES	40
3.2.4.2 VEGETATION COVER FOR THE WESTERN- SOUTHERN ROUTES	43
3.2.4.3 VEGETATION COVER FOR THE CENTRAL ROUTES	44
3.2.5. FAUNA	45
3.2.5. NOISE GENERATION	46
3.3. SOCIO-ECONOMIC ENVIRONMENT	46
3.3.1. POPULATION	46
3.3.2. URBANIZATION	46
3.3.3. SAFE WATER AND SANITATION	47
3.3.4. PROJECT ENVIRONMENTAL AND SOCIAL SETTING	47
3.3.4.1 ARCHAEOLOGY AND CULTURAL HERITAGE	47
3.3.4.2 LIVING CULTURE	52
3.3.4.3 ASSESSMENT OF IMPACT	52
3.3.4.4 STRENGTHS AND OPPORTUNITIES OF THE PROJECT	53
3.3.4.5 WEAKNESSES AND THREATS	53
3.3.4.6 PROJECT AREA PHOTOGRAPHIC AND NOISE PRESENTATIONS	54
3.3.4.8 ICT ACCESS	54
CHAPTER FOUR	55
4.0. PROJECT DESCRIPTION	55
4.1. INTRODUCTION	55
4.1.1. OBJECTIVES AND JUSTIFICATION FOR THE PROJECT	55
4.2. GENERAL DESCRIPTION	56
4.3. SITE PREPARATION	56
4.3.1. CONSTRUCTION WORKS	56
4.3.2. EXPECTED CONSTRUCTION MATERIALS	56
4.4. OPERATION PHASE	57
4.4.1. DESCRIPTION OF THE OPERATIONAL WORKS/ PHASE	57
4.4.2 PROJECT COMPONENT 2. CONNECTIVITY	57
4.5. WASTE MANAGEMENT FACILITIES	58
4.6 DECOMMISSIONING PHASE	58
4.7. ROLES AND RESPONSIBILITIES	59
4.7.1. THE ROLE OF NEMA AND LEAD AGENCIES	59
4.7.2. THE ROLE OF MINISTRY OF GENDER, LABOUR AND SOCIAL DEVELOPMENT	59
4.7.3. THE ROLE OF LOCAL GOVERNMENT	59
4.7.4. THE ROLE OF THE DEVELOPER	60
4.7.5. THE ROLE OF THE CONTRACTOR	60
4.7.6. THE ROLE OF THE MINISTRY OF ICT AND NATIONAL GUIDANCE	61
4.7.7. THE LOCAL COMMUNITIES	61
4.7.8. THE MONITORING TEAM	61
4.7.9 GRIEVANCE RESETTLEMENT MECHANISM	62
4.7.10. CONTRACTORS	63
4.8. EMERGENCY RESPONSE	63
CHAPTER FIVE	64
5.0. ANALYSIS OF PROJECT ALTERNATIVES	64
5.1. FUNDAMENTAL ALTERNATIVES	64
5.1.1. A DIFFERENT TYPE OF DEVELOPMENT	64
5.1.2. A DIFFERENT LOCATION	65
5.1.3. NO DEVELOPMENT	65
5.2. INCREMENTAL ALTERNATIVES	65

5.2.1. OPTION 1: OPERATIONAL FOOTPRINT	65
5.2.2. OPTION 2: METHOD OF CONSTRUCTION WORKS TO BE USED	65
5.2.3. OPTION 3: SCHEDULING OF CONSTRUCTION ACTIVITIES	65
5.2.4. OPTION 4: SOURCING OF LABOUR AND RAW MATERIALS	66
5.2.5. OPTION 5: WASTE MANAGEMENT	66
5.2.6. OPTION 6: SITE LAYOUT	66
5.2.7. OPTION 7: SCHEDULING ALTERNATIVES	66
5.3. THE “NO GO” ALTERNATIVE	66
CHAPTER SIX	67
6.1. PUBLIC CONSULTATIONS	67
CHAPTER SEVEN	74
7.0. EVALUATION OF SIGNIFICANT ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY IMPACTS	74
7.1 PREDICTION AND ANALYSIS OF IMPACTS	74
7.2 CONSTRUCTION PHASE	75
7.2.1 POTENTIAL POSITIVE IMPACTS	75
7.2.2 POTENTIAL NEGATIVE IMPACTS	76
7.3 OPERATIONS PHASE	91
7.4 DECOMMISSIONING PHASE	97
7.5 ENVIRONMENT SOCIAL SAFETY AND HEALTH RISK ASSESSMENT	98
CHAPTER EIGHT	107
8.0. ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN (ESMMP)	107
8.1. Structure of the ESMMP	107
CHAPTER NINE	136
PROJECT DECOMMISSIONING	136
9.0. DECOMMISSIONING	136
CHAPTER TEN	137
10.0. INTRODUCTION	137
BIBLIOGRAPHY	139
LIST OF APPENDICES	
APPENDIX 1: EXAMPLE OF LAYOUTS FOR THE ROUTES IN SELECTED DISTRICTS TO BE VISITED	143
APPENDIX 2: UNRA CLEARANCE TO UTILIZE ROAD RESERVES FOR PROJECT ACTIVITIES	145
APPENDIX 3: CHANCE FINDS PROTOCOL	146
APPENDIX 4: RISK MATRIX	147
APPENDIX 5: CULTURAL HERITAGE, ARCHAEOLOGICAL AND HISTORICAL SITES	148
APPENDIX 6: PLANT SPECIES COMPOSITION	156
APPENDIX 7: EMERGENCY / INCIDENT RESPONSE SYSTEM	181
APPENDIX 8: STAKEHOLDER CONSULTATION RECORDS	182
APPENDIX 9: TORS APPROVAL	197
APPENDIX 10: RESOLUTION OF PARLIAMENT TO BORROW FUNDS FOR THE PROJECT FROM INTERNATIONAL DEVELOPMENT ASSOCIATION	199
APPENDIX 11: GENERAL SITE DESCRIPTIONS	201
APPENDIX 12: WASTE MANAGEMENT PLAN	202

LIST OF TABLES

Table 2.1: International Agreements	22
TABLE 3.1: THE REGIONS AND STATIONS USED	26
TABLE 6.1: STAKEHOLDERS' VIEWS DURING PUBLIC CONSULTATION	67
TABLE 7.1: IMPACT ASSESSMENT CRITERIA	74
TABLE 7.2: IMPACT ASSESSMENT FOR JOB OPPORTUNITIES	75
TABLE 7.3: IMPACT ASSESSMENT FOR INCOME OPPORTUNITIES	76
TABLE 7.4: IMPACT ASSESSMENT FOR CHILD LABOUR AND EXPLOITATION	81
TABLE 7.5: IMPACT ASSESSMENT FOR PROSTITUTION, MULTI-SEXUAL PARTNERS AND SOCIAL DISORDERS	82
TABLE 7.6: IMPACT ASSESSMENT FOR INCREASED CRIME INCIDENCE	83
TABLE 7.7: IMPACT ASSESSMENT FOR SEXUAL OFFENCES	84
TABLE 7.8: IMPACT ASSESSMENT FOR AIRBORNE DISEASES	84
TABLE 7.9: IMPACT ASSESSMENT FOR SLIPS, TRIPS AND FALLS	85
TABLE 7.10: IMPACT ASSESSMENT FOR TRAFFIC ACCIDENTS AND FLOW DISRUPTIONS	85
TABLE 7.11: IMPACT ASSESSMENT FOR MORALE DEGENERATION	86
TABLE 7.12: IMPACT ASSESSMENT FOR THE PHYSICAL AND CULTURAL RESOURCES (PCRs)	87
TABLE 7.13: IMPACT ASSESSMENT FOR PUBLIC FACILITIES	90
TABLE 7.14: IMPACT ASSESSMENT FOR WRULDS	91
TABLE 7.15: IMPACT ASSESSMENT ON ACCESS TO PUBLIC SERVICES AND INFORMATION	92
TABLE 7.16: IMPACT ASSESSMENT ON LOSS OF MARKET OPPORTUNITIES BY INTERNET CAFES	92
TABLE 7.17: IMPACT ASSESSMENT OF THE BURDEN OF DISEASE	93
TABLE 7.18: IMPACT ASSESSMENT ON THE RISE OF CRIME LEVELS	93
TABLE 7.19: IMPACT ASSESSMENT ON ALTERATIONS IN VISUAL AESTHETICS	94
TABLE 7.20: IMPACT ASSESSMENT ON THE RAMPANT CUTTING OF THE OFC	96
TABLE 7.21: IMPACT ASSESSMENT FOR MOBILITY DISRUPTIONS	97
TABLE 7.22: ENVIRONMENT SOCIAL SAFETY AND HEALTH RISK ASSESSMENT	99
TABLE 8.1: SUMMARY OF THE ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN FOR THE LAST MILE RCIP PROJECT COMPONENTS	108
TABLE 8.2: PROPOSED MITIGATION MEASURES FOR POTENTIAL NEGATIVE IMPACTS ON CULTURAL HERITAGE RESOURCES.	132
TABLE 8.3: ASSESSMENT OF SIGNIFICANCE	133
TABLE 8.4: ARCHAEOLOGY AND CULTURAL HERITAGE MONITORING PLAN	133

LIST OF FIGURES

Figure 3.1: The homogeneous climatological rainfall zones of Uganda, after Basalirwa (1995)	
25	
Figure 3.2a: Makerere mean mon. R/F 1991-2010	26
Figure 3.2b: Makerere mean mon. Max Temps 1991-2010	27
Figure 3.2c: Makerere mean mon. min 1991-2010	27
Figure 3.3b: Buginyanya mean mon. Min. and Max. Temperature 1980 -2010	29
Figure 3.4a: Mbarara Mean Mon. R/F 1981 -2014	29
Figure 3.4b: Mbarara Mean mon Max. Temps 1981 - 2013	30
Figure 3.4c: Makerere mean mon.Min. Temps 1981 -2013	31
Figure 3.5a: Gulu Mean monthly rainfall 1990-1912	31
Figure 3.5b: Gulu mean monthly Max. Temps 1990 - 2012	32
Figure 3.5c: Gulu mean monthly Min. Temp 1990 - 2012	33
Figure 3.6a: Geological outline of Uganda. WNB = West Nile Block, NUT = North Uganda Terrane, WTT = West Tanzania Terrane and LVT = Lake Victoria Terrane. RW = Rwenzori Terrane	34
Figure 3.6b: Distribution of Iganga Suite granitoid members	35
Figure 3.6c: Geological map of the West Tanzania Terrane with TTG gneisses, Tororo Suite and Kampala Suite.	36
Figure 3.6d: Geology of Tororo district showing the Tororo Suite	37
Figure 3.7: Species distribution in their respective life form in the Eastern-Northern routes Vegetation cover	42
Figure 3.8: Species distribution in their respective life form	43
Figure 3.9: Proportionality and species status from all the sampled towns	44
Figure 3.10: Proportionality and species status from all the Districts	45
Figure 3.11: SWOT Analysis	53

LIST OF PLATES

Plate 3.1: Systematic archaeological survey	49
Plate 3.2: String knotted roulette potsherds.	50
Plate 3.3: Mammilated wavy line roulette decoration.	50
Plate 3.4: Potsherds of knotted, curved wood roulette and bones	51
Plate 3.5: A bone in situ and curved wood Roulette decorated pottery	51
Plate 3.6: The new Uganda Human Rights Commission Block	52
Plate 7.1: Fruit Stalls in Kaberamaido and Water Bought by the ESIA Field Team in the Car76 Optimisation	76
Plate 7.2: BodaBodas, Chapatti Makers and a Shoe Trader Disrupted by OFC like Trenching Works at the UH Makerere University Gate	77
Plate 7. 3: Contractor Blocks Access to a Hardware Shop with Debris in Matugga	78
Plate7. 4: Mobility Disrupted by OFC Trenching Works at the UH Makerere University Gate	80
Plate 7.5: Achilo Corner Primary School at Lwala-Kaberamaido15 Km Stretch to be trenched	83
Plate7. 6: A Grave Marked in one of the Karamoja Roads for illustration of Chance Finds	86
Plate7. 7: Footprint of OFC Trenching Work at Mega FM (Gulu) and the Makerere University UH Gate Respectively	88
Plate7. 8: Soroti Regional Referral Hospital and a broken Water Pipe Being Fixed at the Makerere UH Gate during OFC Trenching	89
Plate 7.9: Typical poor PPE culture in Uganda during excavations, Last Mile to avoid such cultures during project implementation	90
Plate 7.10: A Functional OFC Sub-Station at Mega FM in Gulu	91
Plate 7. 9: NWSC Pipes in Kalerwe Cut in the on Going Road Works	95
Plate 7. 10: NWSC System Safely Burrowed Under the Panaora Hotel Road in Nakapiripirit	96
Plate7.11: Potential E-Waste outside an existing Sub-Station in Gulu and a General Waste Bin of Kaberamaido District Local Government	97
Plate 7.12: Makerere University UH Gate Now After Restoration of the OFC Cable	98

LIST OF ABBREVIATIONS

CAE	Child Abuse and Exploitation
DA	District Administration
dB	Decibels
DCDO	District Community Development Officer
DEO	District Environment Officer
DISO	District Internal Security Officer
DLGHQ	District Local Government Head Quarters
DWD	Directorate of Water Development
DWRM	Directorate of Water Resources Management
DPP	Directorate of Public Prosecution
EC	Electoral Commission
EHS	Environment, Health and Safety
ESSH	Environment, Social, Safety and Health
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESIS	Environmental and Social Impact Statement
ESMP	Environmental and Social Management Plan
ESMMP	Environment and Social Management and Monitoring Plan
FGD	Focused Group Discussions
GRM	Grievance Redress Mechanism
HC	Health Centre
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HSE	Health Safety and Environment
ICT	Information Communication Technology
IDA	International Development Association
KCCA	Kampala Capital City Authority
KPI	Key Performance Indicator
LC	Local Council
LDC	Law Development Centre
LG	Local Governments

LGHQ	Local Governments Head Quarters
MDAs	Ministries Departments and Agencies
MoICT	Ministry of Information and Communication Technology
MSDS	Material Safety Data Sheets
NARO	National Agricultural Research Organization
NBI	National Backbone Infrastructure
NEMA	National Environment Management Authority
NIRA	National Information Regulatory Authority
NGOs	Non-Governmental Organizations
NFA	National Forestry Authority
NITA-U	National Information Technology Authority-Uganda
NMS	National Medical Stores
NWSC	National Water and Sewerage Corporation
OFC	Optical Fibre Cable
OHS	Occupational Health and Safety
PAPs	Project Affected Persons
PACs	Project Affected Communities
PHA	Persons with HIV/AIDS
PPE	Personal Protective Equipment
PTW	Permit to Work
PWD	Persons With Disability
RDC	Resident District Commissioner
RCIP	Regional Communications Infrastructure Project
SGBV	Sexual and Gender Based Violence
SIMOPS	Simultaneous Operations
STDs	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
TC	Town Council
TSSA	Task Specific Safety Analysis
TORs	Term of Reference
TUGS	Target User Groups

UHRC	Uganda Human Rights Commission
UNBS	Uganda National Bureau of Standards
URA	Uganda Revenue Authority
USCS	Unified Soil Classifications System
URSB	Uganda Registration Services Bureau
UTC	Uganda Technical College
VMG	Vulnerable and Marginalized Group
VSDF	Vocation Skills Development Facility
WB	World Bank
WRULD	Work Related Upper Limber Disorders

EXECUTIVE SUMMARY

Under the Regional Communications Infrastructure Project (RCIP 5), Government of Uganda borrowed USD 75 million from International Development Association (IDA) and spend it over a five year period to: (i) improve coverage for IT infrastructure in the country; (ii) improve the delivery of public services by improving efficiency through government cloud infrastructure; (iii) building capacity in management of IT programs and projects; and (iv) improve policy and regulatory environment for ICT in country. The project will also entail a technical assistance component to finance advisory, technical and project management support in order to achieve project objectives.

According to the proposed project components, implementation of some sub-projects activities especially the laying of optical cable infrastructure may pose some environmental and social impacts and thus trigger some of World Bank's safeguards policies and country requirements for environmental assessment. Hence, implementation of such project activities calls for development of this Environmental and Social Impact Assessment [ESIA] to address specific environmental and social impacts. Given the project footprint, environmental impact assessments were carried out for clustered districts ensuring the approved Environmental Social Management Plan [ESMP] attributes are embedded therein.

The proposed Last Mile project is expected to provide broadband connection to 1000 project sites (Government Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs) across 40 districts in the country, namely; Kampala, Mukono, Jinja, Iganga, Gulu, Busia, Mbale, Hoima, Soroti, Tororo, Lira, Kabarole, Kasese, Masindi, Nakasongola, Wakiso, Luwero, Kiryandongo, Dokolo, Bushenyi, Bugiri, Lwengo, Lyantonde, Kalungu, Kibaale, Kumi, Rakai, Mpigi, Bukedia, Masaka, Mbarara, Ntungamo, Kabale, Sheema, Rubirizi, Mityana, Mubende, Kyegegwa, Kyenjojo and Kaberamaido, involving the installation of approximately 1000 km of fibre optic cable and 15 Point-to-Point (P2P) wireless links in all districts.

This ESIA has been prepared to guide the contractors to sustainably implement the project maximizing the positive impacts while minimizing negative environment and social impacts. This ESIA presents relevant information on the proposed project phases and subsections below:

Site preparation and construction: There might be selective clearance of sections mainly along road reserves and excavation of 0.5-meter-wide and 1.2-meter-deep trenches by competent contractors. This shall be followed by laying of optical fibre cables, backfilling and restoration of the excavated portions. Vegetation like trees shall be avoided by offsetting lines so as to limit tree and shrub loss during project implementation. Utilization of existing or third party infrastructure such as electricity poles and towers will be taken into consideration so as to limit the project footprint to only areas without laid optical fibre cable as deemed practical by the project technical team.

Operational phase: This will involve the utilization of services provided by the fibre cable connections, support and maintenance of the facilities. It shall also entail utilization of existing third party infrastructure as a way of reducing the project's environmental footprint.

Environment and Social Economic: This has been clustered into regions for ease of description given the wide area coverage. Climate and weather data of the regions has been provided using data from the main cities and towns in the regions of interest while vegetation cover has been provided with an overview of the state of overall districts of interest.

The study has been carried out to examine and analyze potential environmental impacts of the project and suggest appropriate mitigation measures. This is in line with the Schedule 3 of the National Environment Act Cap. 153, Part 1 (General) section a, b, and c and the Environmental Impact Assessment (EIA) Guidelines. It details the relevant baseline conditions, possible

alternatives, anticipated impacts and mitigation measures. Given the coverage of the project and cumulative land clearance to provide services to target groups, a number of positive and negative impacts were identified during the ESIA. The positive impacts of the project include the following:

- Provision of employment opportunities
- Building capacity in management of IT programs and projects
- Improved delivery of public services through increased online service delivery
- Fast-tracking and back-stopping the post conflict recovery programs by providing affordable connectivity to the region along with other benefits of the project.
- Source to revenue to government from payment services provided
- Improved E-waste management as other RCIP project components are looking at engaging other government stakeholders on E-waste aspects
- Provision of a favourable competition environment in the provision of internet connectivity across the country.

The anticipated negative impacts include:

Table1: Anticipated Project Impacts

Impacts	Status	Mitigation Measure
<ul style="list-style-type: none"> • Increase in susceptibility to soil erosion during rainy days as construction activities will be undertaken 	-ve	<ul style="list-style-type: none"> • Restrict vegetation clearance and ensure only on-spot vegetation clearance
<ul style="list-style-type: none"> • Loss of vegetation cover at and around excavation points and access routes 	-ve	<ul style="list-style-type: none"> • Have in-house restoration plans for contractors to plant especially indigenous grasses after backfilling excavations
<ul style="list-style-type: none"> • Dust pollution in case of project implementation during dry season 	-ve	<ul style="list-style-type: none"> • Use water sprinklers where dust levels are likely to cause community discomfort,
<ul style="list-style-type: none"> • Temporary business disruptions due to trenches in urban centers, Construction noise and vibrations, 	-ve	<ul style="list-style-type: none"> • Works should be planned over the weekend to avoid market days and trenches will be backfilled within a day
<ul style="list-style-type: none"> • Water pollution and siltation 	-ve	<ul style="list-style-type: none"> • Embrace sound run-off management techniques especially during the construction phase • Proper waste management and good housekeeping, No garbage/refuse, oily wastes, fuels/waste oils should be discharged into drains or onto site grounds,

<ul style="list-style-type: none"> ● Improper construction waste management (construction phase) and E-waste management especially during the care and maintenance stages of the project (mainly operational phase) <p style="text-align: right;">-ve</p>	<ul style="list-style-type: none"> ● Develop and adhere to a proper waste management plan emplacing hierarchical waste management practices like prevention, reduction and recovery at source, reuse, recycling, and responsible disposal among others. ● Utilize NEMA licensed E-waste handlers in waste management
<ul style="list-style-type: none"> ● Potential Gender Based Violence and violence against children 	<ul style="list-style-type: none"> ● Provide for appropriate code of conduct that is championed by top management, installing signposts on zero tolerance of child abuse/GBV, enforce labor laws and incorporate compliance in the contracts
<ul style="list-style-type: none"> ● Spread of infectious diseases (HIV/AIDS and STDS). <p style="text-align: right;">-ve</p>	<ul style="list-style-type: none"> ● Community awareness campaigns on the dangers of promiscuity, distribution of condoms to workers
<ul style="list-style-type: none"> ● Impact on cultural heritage /archaeological interest. <p style="text-align: right;">-ve</p>	<ul style="list-style-type: none"> ● Awareness session on archaeological find to field teams and temporarily halting work when material of archaeological importance is found until further studies and retrievals are carried out. ● In case of any archaeological/historical chance finds, the Department of Monuments and Museums (Ministry of Tourism and Antiquities) will be immediately notified
<ul style="list-style-type: none"> ● Occupational health and safety risks and Construction traffic related accidents. <p style="text-align: right;">-ve</p>	<ul style="list-style-type: none"> ● Provision of personal protective equipment to the workers, Training of workers and community members on safety precautions ● Cordoning off the sections of the sites under excavation to ensure community safety and to reduce their risks of occupational hazards/accidents during construction
<ul style="list-style-type: none"> ● Traffic interference. <p style="text-align: right;">-ve</p>	<ul style="list-style-type: none"> ● Have flag personnel on site to deal with traffic and also liaise with Uganda Traffic Police Teams to ensure smooth traffic flows. ● Minimize activity during rush hours.

<ul style="list-style-type: none"> ● Potential disruption of other public utilities e.g. underground water pipes among others 	-ve	<ul style="list-style-type: none"> ● Closely liaise with relevant Government MDAs (including NWSC among others) to provide the necessary technical guidance prior to project implementation.
<ul style="list-style-type: none"> ● Electrocution during excavation and pole erections 	-ve	

Developers' Commitments

The contractor commits to adhere to the following practices to avert adverse effects associated with the project:

- As reasonably practicable as possible provide awareness sessions and a good safety culture that promotes safe working systems (toolbox talks, pre-job planning, Project Specific Risk Assessments, manual handling and working at heights).
- Ensure that sound waste management systems are in place for the all categories of waste. The competent contractor shall have safety supervisors and support from project managers on aspects of ESSH.
- Ensure that Grievance Redress Mechanism forms are provided at central points in project areas.
- Hold appropriate entry and exit meetings with the contractor present to ensure that any grievances are closed prior to moving to the next region or cluster.
- Carry out backfilling, restoration and post restoration monitoring of excavated points to check on settlement in backfilled trenches.
- Ensure routine monitoring (by NITA-U and relevant government agencies especially Local Government teams) of contractor(s) to ensure smooth operations and continuous improvement.
- Provide appropriate PPE for workers at various project phases and ensure a safe working environment
- As reasonably practicable as possible procure all construction materials from local suppliers.
- Ensure that certified equipment is utilized for the project and only use compatible spare parts for equipment.
- Ensure that traffic is controlled in liaison with the Uganda Traffic Police and also employ flagmen at various blind spots. These shall follow a properly structured in-house traffic management plan.
- Hire competent personnel for the project as operators and supervisors
- Control access and egress to the project site and provide security systems in place for both workers and property.
- Provide appropriate safety signs, emergency contact numbers, demarcated assembly points are in place.
- Ensure that workman's compensation is catered for throughout the project lifecycle.
- Develop a proper maintenance schedule for the facility to ensure that HSE requirements are catered for at the various project phases.
- Adhere to set speed limits and ensure continuous monitoring of the same
- Provide for approaches to be utilized in the rare occasion that compensation is required in areas where the lines are to pass.
- Carryout due diligence on third party services to be utilized to ensure that they are in compliance with WB safe guard policies and national legislation.

CHAPTER ONE

BACKGROUND TO THE LAST MILE PROJECT

1.0. Introduction

Under the Regional Communications Infrastructure Project (RCIP 5), Government of Uganda borrowed USD 75 million from International Development Association (IDA) and spend it over a five year period to: (i) improve coverage for IT infrastructure in the country; (ii) improve the delivery of public services by improving efficiency through government cloud infrastructure; (iii) building capacity in management of IT programs and projects; and (iv) improve policy and regulatory environment for ICT in country. The project will also entail a technical assistance component to finance advisory, technical and project management support in order to achieve project objectives.

According to the proposed project components, implementation of some sub-projects activities especially the laying of optical cable infrastructure may pose some environmental and social impacts and thus trigger some of World Bank's safeguards policies and country requirements for environmental assessment. Hence, implementation of such project activities calls for development of this Environmental and Social Impact Assessment (ESIA) to address specific environmental and social impacts. Given the project footprint, environmental impact assessments shall be carried out for clustered districts ensuring the approved Environment and Social Management Plan ESMP attributes are embedded therein.

One of the subprojects under Component 2 of the RCIP5 is the Last Mile Project. The proposed Last Mile project is expected to provide broadband connection to 1000 project sites (Government Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs) across 40 districts in the country, namely; Kampala, Mukono, Jinja, Iganga, Gulu, Busia, Mbale, Hoima, Soroti, Tororo, Lira, Kabarole, Kasese, Masindi, Nakasongola, Wakiso, Luwero, Kiryandongo, Dokolo, Bushenyi, Bugiri, Lwengo, Lyantonde, Kalungu, Kibaale, Kumi, Rakai, Mpigi, Bukedia, Masaka, Mbarara, Ntungamo, Kabale, Sheema, Rubirizi, Mityana, Mubende, Kyegegwa, Kyenjojo and Kaberamaido, involving the installation of approximately 1000 km of fibre optic cable and 15 Point-to-Point (P2P) wireless links in all districts.

The applicant and contact persons

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Total Project Cost = USD 10 million

1.1 Objectives for the Environmental and Social Impact Study

The ESIA provided an opportunity for information on the baseline conditions of the receiving environments focusing on potential positive and negative impacts of the project, recommended mitigation measures and provided an Environment and Social Management and Monitoring Plan. The main objective of the study was to carry out an Environmental and Social Impact Assessment (ESIA) for the proposed project and have it presented as an Environmental and Social Impact Statement (ESIS).

The ESIA utilized expert studies on all relevant project aspects like vegetation clearance, cable installation, stakeholders' engagements through stakeholder consultations (government and local communities) on the project among others.

Properly structured Impact Assessments were carried out and relevant action parties clearly stated therein.

With the project by nature not being in sync with the surrounding environment, an ESIA is required as per the National Environment Act Cap.153 (3rd Schedule of the Act, section 1 (b). The project areas were therefore subjected to studies and planning to embrace the positive impacts and cater for potential negative environmental impacts (through mitigation measures provision). NITA-U believes that sufficient relevant information has been provided to allow NEMA and other lead agencies decide whether the project has significant environmental impacts and issue the relevant approval.

The objectives of the Environmental and Social Impact Assessment were to:

1. Examine the characteristics of the existing environment at the proposed project sites
2. Review of legislation, environmental standards and World Bank Environmental and Social safeguard policies related to proposed development.
3. Provide information on the need for the project and descriptions to enable design teams during project planning and implementation.
4. Identify and evaluate significant negative environmental and social impacts, and recommend appropriate mitigation measures for the attention of the developer, for incorporation into the construction and operational phases;
5. Identify and quantify different potentially project affected people (PAPs) in potentially project affected communities (PACs) who may require a level of dialogue or engagements
6. Provide an opportunity and guidelines for stakeholder participation in project impacted areas
7. Assess the different project site, technological and material alternatives and make recommendations on those that optimize utility
8. Compile an Environmental and Social Impact Statement incorporating an Environmental and Social Management and Monitoring Plan for all aspects of the proposed development for submission to NEMA for consideration for approval
9. Develop an Environment and Social Management and Monitoring Plan for implementation by NITA-U during the Pre-construction, Construction phase, Operation phase and decommissioning phase.

1.2. Purpose and scope of environmental impact assessment

This Environmental and Social Impact Statement describes the proposed extension of the government network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs), the proposed activities, project areas, discussion of alternatives and a description of the potentially affected environment including specific baseline information necessary for identifying and assessing the environmental effects of the project. This is in compliance to section 19 (3) of the National Environment Act, Cap. 153 requires that all projects or policies that

may, are likely to or will have significant impacts on the environment be subjected to EIA to enable identification, elimination of mitigation of potential adverse impacts.

The study looks into the technology and processes that shall be employed and recommends best practices or alternative technologies. It provides for an evaluation of the predicted or potential impacts on the physical, biological and socio-cultural environment resulting from establishment of this project and finally proposes measures for eliminating, minimizing, or mitigating adverse impacts to the developer.

1.3. ESIA study team and responsibilities

Team Leader

The most experienced person on the team with relevant experience to project specific aspects. The team leader is responsible for:

- Briefing EIA team on the project area and expectations
- Coordination and supervision of all field activities
- Data interpretation and report writing
- Sample management and chain of custody for the various samples and voucher specimens
- Information provision on Health and Safety aspects of the proposed project (working at heights, Person Protection Equipment, manual handling, confined space entry among others)
- Overall project deliverables and presentations to clients
- Submission and follow-up with various lead agencies
- Closeout of outstanding actions for clients

Environmental Specialist and EHSS Specialist

- Ensured that environmental aspects of the project are considered and potential environmental impacts looked into with appropriate mitigation measures provided.
- Designed and advised on Health and Safety considerations of the project at the planning and implementation phase
- Reviewed and provided advice on applicability of emergency readiness and response provisions in place
- Ensured that project specific general Occupational Health and safety considerations are catered for as reasonably practicable as possible
- EHSS data collection, risk analysis, risk management planning and report writing
- Ensured the EIA Terms of Reference (ToRs) are comprehensive and inclusive of all operations policies triggered by the project

Sociologist

- Led stakeholder identification and consultations
- Developed the guide for social impact assessment (SIA) and oversaw SIA quality assurance
- Ensured the SIA Terms of Reference (ToRs) are comprehensive and inclusive of all operations policies triggered by the project
- SIA data collection, risk analysis, risk management planning and report writing

Archaeologist and cultural specialist

- Considered the cultural and archaeological significance of project areas
- Provided guidance on excavations, identification and reporting of aspects of archaeological importance

Botanist

- Looked at plant identification and general overview of vegetation importance in the project area with specific emphasis on threatened species.

1.3.1 Limitations

The investigation has been influenced by the following factors

- The unpredictability of buried archaeological remains
- Burial sites lacking site marking as they are not cemented.
- The ESIA was constrained by resources for example time to ensure that all relevant stakeholders were covered especially community members
- Absence of some representatives in departments and also the short notice for some of them meant that their views could not be got.

1.4. Methodology

All the districts to be connected were subjected to this ESIA considering the necessary project aspects (public resources, resident vegetation cover, climatic and weather conditions, accessibility, land use practices and settlements among others). Other aspects of interest included waste management, potable water sources, socio-economic activities, noise, traffic management during project implementation, soil erosion and occupation health and safety related challenges (decommissioning issues, working at heights, confined space entry, dust and Work Related Upper Limb Disorders). Other methods included Literature review, subject site visits, consultations with institutional and community stakeholders and experts, field activities including direct observations, Noise measurements, GIS and photography were used during the ESIA study, as detailed below:

Review of literature and secondary baseline data included review of area infrastructure, planned key outputs of the project and development trends in the neighbourhood, area land use, socio-economic aspects, etc. Review of legislation and environmental standards related to proposed development was also undertaken. Literature provided background and secondary baseline information on the proposed project area, the regulatory and institutional context relevant to the project, the environment and the built up environment in Uganda. NITA-U provided copies of the layouts for the routes visited per district (Appendix 1) and a UNRA clearance (Appendix 2) to utilize road reserves for project activities. There is need for continuous involvement of UNRA since more roads are being widened or upgraded which could lead to loss of equipment when units are damaged.

Field studies included: land use identification, utilities and voucher specimen collection, receptor systems baseline data including an inventory of activities in the neighbourhood likely to be affected. Field studies were also used to identify the state of biodiversity in the area. Given the nature of the project (shallow trench and burry), geotechnical surveys were not conducted as the load bearing capacity aspects for these lines is minimal.

Consultations with stakeholders involved particularly MDAs, relevant government agencies including but not limited to Local Governments (LGs), Prisons and Police etc... The aim of these consultations was to seek the views of those likely to be affected by the proposed activity, publicize the intended project, its anticipated effects and benefits. Consultations were also intended to identify and take note of environmental concerns and views of the stakeholders at an early stage so that appropriate mitigations are incorporated into the final implementation of the project.

Other quantitative and qualitative methods applied- including direct observation, voucher specimen collections and photography were used to obtain information on sites of interest and the neighbourhood. Matrices were used during the analysis of the potential impacts and mitigation

measures proposed based on best practices prescribed in the National Environmental Act, Cap.153, World Bank Environmental and Social safeguard policies related to proposed development and International Environmental Standards (ISO, 14001).

Socio-Economic studies involved looking at the nature of the project and a number of economic activities taking place in the area covering:

- The various activities carried out and general characteristics of the area;
- The views of various stakeholders in the area;
- Consultations with lead agencies and organisations;
- Summaries of the impacts associated with the proposed project;
- Mitigation measures for social economic issues in the area and input this in the Environmental Management and Monitoring Plan (EMMP); and
- The criteria for social impact evaluation.

Environment Social Safety and Health Risk Assessment

This was carried out to:

- Assesses risk associated the project;
- Provide for project specific emergency response; and
- Provide for controls or systems to follow during project implementation to reduce risk.

Assessment Methods

Sensitivity assessment of archaeology and cultural heritage receptors was done. The criteria used to assess the value of cultural heritage sites and material finds followed the current international standard for cultural heritage impact assessment, issued by the International Council on Monuments and Sites (ICOMOS)¹. It is acknowledged that this approach refers primarily to World Heritage Sites, but the assessment tools contained in its appendices are applicable to all cultural heritage assets. The sensitivity of an archaeological or cultural heritage receptor also reflects how vulnerable or robust a site, monument, artefact, assemblage or complex it is to damage or destruction by a number of factors, including:

- Natural conditions, such as erosion, flooding, wave movement and chemical deterioration;
- Environmental conditions, such as faunal and floral impacts;
- Human conditions, such as vandalism or interference, recreational use, vehicular damage; and
- Project-related conditions, such as operational impacts.

For purposes of this report the project related impacts are assessed in the following section also based on the SWOT analysis (Figure 3.11).

1.5. Structure of the Report

The Environmental and Social Impact Statement [ESIS] covers the following key aspects:

Chapter 1: Background information on the proposed project including location, its operators, planned extent and operations, planned infrastructure/installations and timing as well as, safety provisions.

¹ ICOMOS (2011). Guidance on Heritage Impact Assessments for Cultural World Heritage Properties. Appendix 3A, UNESCO, PARIS. Pp. 14-16.

- Chapter 2:** A review of project relevant policies, laws, regulations and standards
- Chapter 3:** Site baseline bio-physical and sociological information, area infrastructure and activities.
- Chapter 4:** Description of the proposed project components including preparation, construction operations and decommissioning phases.
- Chapter 5:** An Analysis of alternatives, including a comparison of feasible alternatives to the proposed project sites and operation in terms of their potential environmental impacts.
- Chapter 6:** Public consultations and disclosure, mentioning stakeholder concerns and developing measures to address them.
- Chapter 7:** Evaluation of the identified Environmental and Social impacts and recommendation of appropriate mitigation measures for all significant negative environmental impacts predicted.
- Chapter 8:** An ESMMP for addressing negative impacts and assessing mitigation measures effectiveness.
- Chapter 9:** Decommissioning of the project.

CHAPTER TWO

INSTITUTIONAL AND POLICY FRAMEWORK

2.0 Institutional, Policy, Legislation and Regulatory Considerations

This section provides the policy, institution, and regulatory framework to which the proposed Regional Communication Infrastructure Program for Uganda (RCIP UG) should comply. National regulations are discussed along with World Bank Safeguards Policies and international conventions to which Uganda is a party. In Uganda key legislations governing the conduct of EIA are the National Environmental Act (Cap 153) and the Environmental Impact Assessment Regulations (1998). The National Environmental Act established the National Environment Management Authority (NEMA), and entrusts it with responsibility to ensure compliance with the EIA process in planning and execution of infrastructural projects. The Institutions charged with regulation of activities of this project from the Preparation, Construction, Operation and Decommission phases as well as regulations and policies that were considered relevant to this exercise are subsequently provided to guide the developer.

2.1 Institutional Framework

2.1.1. The National Environment Management Authority (NEMA)

The National Environment Act provides for establishment of NEMA as the principal agency responsible for coordination, monitoring and supervision of environmental conservation activities. NEMA is under the Ministry of Water and Environment (MoWE) but has a cross-sectoral mandate to oversee the conduct of EIA through issuance of EIA guidelines, regulations and registration of practitioners. It reviews and approves environmental impact statements (EIS) in consultation with any relevant lead agencies. NEMA's enforcement branch is the department of Monitoring and Compliance with a responsibility of ensuring that enterprises comply with the various environmental regulations and standards.

Interpretation: NEMA will review and approve this ESIA, environment management plans and ESIA reports subsequently prepared for the Project.

2.1.2. Ministry of Information, Communication and Technology [MoICT] and National Guidance

The Ministry is responsible for the ICT sector, dealing especially with policy formulation, implementation and coordination, and monitoring. Following the field survey and the Strategy, the National Information Technology Authority-Uganda (NITA-U) was established to regulate the ICT sector. Thus, while the MoICT and National Guidance formulate policy, NITA-U is charged with the mandate of regulating the ICT sector, independent of the Ministry. MoICT and National Guidance currently has no adequate capacity to oversee socio-environmental safeguards requirements for this project.

Interpretation: Project implementation will be coordinated, promoted and monitored by MoICT through its agency (NITA-U).

2.1.3 The National Information Technology Authority-Uganda (NITA-U)

The National Information Technology Authority-Uganda (NITA-U) is an autonomous statutory body established in accordance with the NITA-U Act 2009 as an agency of the MoICT and National Guidance. The mandate of the NITA-U is “To coordinate, promote and monitor Information Technology (IT) developments in Uganda within the context of National Social and Economic development”.

Interpretation: NITA-U will implement the project. NITA-U will ensure that all subsequent compliance aspects are addressed. NITA-U shall obtain required permits, supervise contractors, manage grievances and monitor socio-environmental impacts of the project from construction through operation and eventual decommissioning.

2.1.4 The Uganda National Bureau of Standards (UNBS)

The Uganda National Bureau of Standards (UNBS) was established as a semi-autonomous body by an Act of Parliament in 1983. It has a National Standards Council (NSC) as its policy making body. The Executive Director together with the management team is charged with the administrative and operational responsibilities. The UNBS is tasked with overseeing activities and products utilized for quality control and assurance purposes.

Interpretation: The project shall only utilize high quality products and shall ensure that due diligence is carried out prior to project implementation. All materials utilized shall conform to UNBS expectations.

2.1.5. Ministry of Gender, Labour and Social Development (MoGLSD)

Occupational Safety and Health and social development are among the issues that fall under the mandate of the Ministry. In collaboration with other stakeholders, MGLSD is responsible for inspecting state of occupational safety, labor relations, community empowerment, protection and promotion of rights and obligations of vulnerable groups for social protection and gender-responsive development. MGLSD has in-house socio-environmental staff and therefore capacity to oversee safeguards requirements associated with this project.

Interpretation: MGLSD is a stakeholder in the Project and will be responsible for inspecting the project for compliance with occupational health and safety regulations, national labour laws and gender equity. Routine in-house inspections shall also be undertaken by resident project specialists or consultants to ensure compliance and continuous improvement

2.1.6. Ministry of Tourism, Wildlife and Antiquities

The Department of Monuments and Museums under this ministry is mandated to protect, promote and present the cultural and natural heritage of Uganda through collection, conservation, study and

Interpretation: NITA-U incorporated archaeological field visits during the ESIA and shall provide inductions and awareness sessions for the implementing teams prior to project execution. Any chance finds during project implementation shall be communicated to the Ministry for further action and guidance.

information dissemination for enjoyment and education. The ministry has semi-autonomous agencies like UWA responsible for management of wildlife protected areas. It is also responsible for preservation of any chance finds.

2.1.7. Ministry of Trade, Tourism and Industry (MTTI)

The mandate of the ministry is: "To formulate and support strategies, plans and programs that promote and ensure expansion and diversification of tourism, trade, cooperatives, environmentally sustainable industrialization, appropriate technology, conservation and preservation of other tradable national products, to generate wealth for poverty eradication and benefit the country socially and economically".

The Ministry's Department of Trade is tasked with promoting activities like the proposed project as it shall provide affordable communication systems to smoothen government business.

Interpretation: NITA-U has incorporated affordable and practical approaches to utilizing the services further enhance the strategies of MTTI

2.1.8. Kampala Capital City Authority (KCCA)

In accordance with article 5 of the KCCA Act, this mandates KCCA to provide for the administration of Kampala by the Central Government, to provide for the territorial boundary of Kampala, to provide for the development of Kampala Capital City and to establish the Kampala Capital City Authority as the governing body of the city among others.

During the course of this Environmental Impact Study, different relevant stakeholders from KCCA were consulted about the proposed project and their comments and concerns documented and addressed (see list of people consulted in Appendix 8).

Interpretation: The Developer shall collaborate with Kampala Capital City Authority on matters pertaining ground penetration within the city, Labour, Occupational Health and Safety.

2.1.9. Local Government Administration Structures

The Local Governments Act, Cap 243 provides for decentralized governance and devolution of central government functions, powers and services to local governments that have their own political and administrative structures. Districts have powers to oversee implementation of development activities under supervision of their relevant departments such as environment, lands and roads. District and Local Council administration of project districts would be vital in implementation of the project by mobilizing political goodwill and sensitising local communities. Local administration leaders e.g. District Environmental Officers (DEO) will also play role in environmental monitoring associated with project construction and operation

Every district administration in Uganda provided for an Environment Officer (DEO) who functions as a NEMA staff for purposes of overseeing regulatory compliance to Uganda's environmental laws.

Interpretation: District and Local Council administrations are stakeholders in the Project and will have input in to the ESIA process as well as subsequent monitoring. For example DEOs will review the project ESIA and provide guidance about local conditions to the National Environment Management Authority (NEMA) prior to approval decision.

2.1.10 National Forestry Authority, NFA

The National Forestry and Tree Planting Act of 2003 created NFA as a semi-autonomous body responsible for management of central forest reserves. NFA divided the country into sectors and manages forest reserves through its sector managers. This institution is responsible for protection of forests reserves in Uganda, with the stated goals of maintaining an integrated forest sector that achieves sustainable increases in the economic, social, and environmental benefits from forests and trees by all the people of Uganda especially the poor and vulnerable. The NFA provides direction and guidance on all aspects of a Project that potentially impact on Uganda's forest resources.

Interpretation: NFA is a stakeholder in the Project and will have input in to the EIA process, especially in regard to management of natural forests through which project infrastructure will be constructed. NFA will issue approval for any infrastructure that may be installed or erected in a central forest reserves.

2.1.11 Uganda Wildlife Authority (UWA)

The Uganda Wildlife Authority (UWA) was established under the Uganda Wildlife Act, Cap. 200. The main function of the UWA is to ensure sustainable management of wildlife in conservation areas by coordinating, monitoring and supervising wildlife management issues. UWA can manage wildlife (wild plant and wild animals native to Uganda) in both protected and unprotected areas. The UWA provides direction and guidance on all aspects of a project that potentially impact Uganda's wildlife. NFA has in-house socio-environmental staff and capacity to oversee safeguards requirements associated with the RCIP.

Interpretation: UWA is an important stakeholder in the Project especially for protection of wildlife in conservation areas through which project infrastructure was built and shall be maintained under RCIP.

2.1.12 Ministry of Water and Environment

The Ministry of Water and Environment (MWE) has the responsibility for setting national policies and standards, managing and regulating water resources and determining priorities for water development and management. The Directorate of Water Resource Management (DWRM) is

Interpretation: The Ministry is responsible for environmental and water resources management in Uganda. Directorate of Water Resources Management controls water quality and is responsible for permitting construction activities across watercourses. The ministry shall be notified for approval and guidance in sections where lines cross water resources.

responsible for water resources planning and regulation; monitoring and assessment and water quality management.

2.2. Policy Framework

2.2.1. The National Environment Management Policy, 1994

The overall goal of this policy is promotion of sustainable economic and social development mindful of the needs of future generations and EIA is one of the vital tools it considers necessary to ensure environmental quality and resource productivity on long-term basis. The policy calls for integration of environmental concerns into development policies, plans and projects at national, district and local levels. Hence, the policy requires that projects likely to have significant adverse ecological or social impacts undertake an EIA before their implementation. This is also reaffirmed in the National Environment Act (Cap 153) that makes EIA a legal requirement for “Third Schedule” projects; according to Uganda’s National Environment Act Cap 153.

Interpretation: This policy is relevant to the Project as it requires that an EIA is conducted prior to project implementation.

2.2.2 Information Management Services Policy Draft V.8 2011

The overall goal of the policy is to guide effective use of Information Management Services (IMS) in all Ministries, Departments and Agencies. Its specific objectives include the need to develop an enabling legal framework for IMS to harness the value of information and knowledge held by Government; to build information management and knowledge-sharing culture with Government; to provide for use of common information management standards and secure access, storage and archival within Government; to develop a security framework for IMS; to put in place requisite infrastructure for IMS; to transform Uganda’s public service to attain world-class standards in IMS; to provide leadership with modern IMS tools for improved and quicker decision making; to increase budgetary allocations to ICT Initiatives in all MDAs under which IMS will be catered for; to improve the country’s global competitiveness; to attract Business Process Outsourcing (BPO) investment into the country; to engage leadership to manage transformation of attitudes and behavior of personnel; and to put in place an effective communication strategy among others.

Interpretation: This policy is relevant to the Project since it is in support of all its objectives.

2.2.3 Electronic Waste (E-Waste) Management Policy, 2012

The overall goal of the policy is to guide, promote and ensure the safe management of e-waste in Uganda and contribute to reduction of environmental degradation by mitigating pollution arising from use of electric and electronic equipment.

Interpretation: This policy is relevant to the Project in as far as its proposed ICT equipment will generate e-wastes at end of their useful life. NITA-U is working together with other Lead Agencies like NEMA to look at E-waste management initiatives in Uganda. The new waste management regulations (Draft) also include aspects of e-waste management with clear emphasis on roles and responsibilities.

2.2.4 National ICT Policy, 2012

The policy's broad goals are to build knowledge-based human capital; promote innovation in economic and social systems; expand ICT infrastructure and its integration throughout the country; deepen utilization of ICT services by government, private sector, not for profit organization and citizenry; enhance research and innovation in ICT products, applications and services; and improve ICT governance and environment in Uganda. The policy recognizes the need to minimal negative environmental and social impacts associated with construction, operation and disposal/de-commissioning activities of ICT infrastructure.

Interpretation: The Project fulfills the broad goals of the policy including expansion of ICT infrastructure throughout the country and increasing utilization of ICT services by government, private sector and citizenry. NITA-U has also undertaken an ESIA to ensure that negative environmental and social impacts are minimized.

2.2.5 Telecommunications Policy, 1996

Uganda's Telecommunications Policy was enacted in 1996 with the main objective of increasing penetration of telecommunication services in the country through private sector investment rather than government intervention.

Interpretation: The project plans shall consider some of the existing infrastructure in some areas including the use of the private sector. The project therefore enhances private sector investment in ICT services.

2.2.6 The National Culture Policy, 2006

The Uganda National Culture Policy aims to promote aspects of Uganda's cultural heritage that are cherished by its people. It complements, promotes and strengthens overall development goals of the country. Its specific objectives include the need to promote and strengthen Uganda's diverse cultural identities and to conserve, protect and promote Uganda's tangible and intangible cultural heritage. The policy recognizes that Uganda has several cultural sites and monuments. Some of them are man-made while others are natural. These sites, monuments and antiquities are important for socio-cultural and educational purposes. Cultural beliefs, traditions and values are core to a community's mechanism for survival. The policy sets guidelines to enhance the appreciation of these cultural values and to mitigate social practices that are oppressive to people.

Interpretation: The project shall be implemented in several regions in the country and across a broad range of cultural diversity. NITA-U shall liaise with various stakeholders including local governments and Community Based Organisations to ensure promotion and preservation of cultural heritage.

2.2.7 The National Land Use Policy, 2007

The overall policy goal is to achieve sustainable and equitable socio-economic development through optimal land management and utilization in Uganda. The policy recognizes among others, the need for protection of minority groups and, ethnic groups on matters of land which are beneficiaries in the RCIP UG.

Interpretation: This policy is relevant to the Project since land use changes may occur in some areas.

NITA-U shall provide platforms to cater for such cases in the unlikely event that land use and access issues occur since works are expected to mainly occur in road reserves

2.2.8 Wetlands Policy, 1995

The national policy on conservation and management of wetlands aims at curtailing loss of these resources and ensuring that their benefits are equitably distributed to all people of Uganda. In order to operationalize the policy and to provide a legal framework for its implementation, wetland related issues have been adequately incorporated into the National Environmental Act, Cap 153.

Interpretation: This policy is relevant to the Project and is applicable in areas with wetlands like the Silver wetland in Kiryandingo among others. NITA-U shall work closely with MWE while dealing with these points.

2.2.9 National Water Policy, 1999

The goal of this policy is to provide guidance on development and management of the water resources of Uganda in an integrated and sustainable manner, so as to secure and provide water of adequate quantity and quality for all social and economic needs, with full participation of all stakeholders and mindful of the needs of future generations.

Interpretation: This policy will be relevant to the Project for cases where ICT infrastructure will cross watercourses (swamps and rivers) or be constructed in road reserves adjacent to wetlands and due care required to avoid contamination. Water conservation shall also be emphasized in sections where water it to be used during construction and maintenance.

2.2.10 Wildlife Policy, 1999

This policy aims to conserve in perpetuity the rich biological diversity and natural habitats of Uganda in a manner that accommodates national development needs, well-being of its people and the global community. It also recognizes poaching as a major challenge to conserving wildlife in Uganda.

Interpretation: This policy is relevant if construction workers carry out illegal activities such as poaching of stray game in settings close to protected areas.

2.2.11 National Gender Policy, 1997

The overall goal of this policy is to mainstream gender issues in the national development process in order to improve the social, legal/civic, political, economic and cultural conditions of the people of Uganda, particularly women. Thus, in the context of infrastructure development, this policy aims to redress imbalances which arise from existing gender inequalities and promotes participation of both women and men in all stages of the project cycle, equal access to, and control over significant economic resources and benefits.

Interpretation: This policy would especially apply to recruitment of construction labour for RCIP UG activities where women should ideally have equal opportunity as men for available jobs. It is also noted that women predominate or are significantly involved in roadside markets selling fruits, vegetables, art and craft along most roads in Uganda. Disruption of their businesses when laying optical fibre cables would notably affect incomes of female traders. The project takes note of this and the implementation team shall ensure that care is taken to minimize this disruption in addition to providing equally opportunity to women.

2.2.12 HIV/AIDS Policy, 1992

In Uganda, current effort to combat HIV/AIDS is characterized by a policy of openness by Government and this has, to a large extent, been emulated by civil society, political and social institutions, and workplaces. HIV/AIDS is recognized by the Ministry of Health as a considerable risk in construction of infrastructure projects and it (together with the ministry responsible for labour) encourages employers to develop in-house HIV/AIDS policies, provide awareness and prevention measures to workers and avoid discriminating against workers or living with or affected by HIV/AIDS. To ensure HIV/AIDS is addressed in the workplace, the policy encourages employee awareness and education on HIV/AIDS. It is anticipated that during the construction phase, interactions among workforce and between local communities may result into sexual fraternization and a risk of HIV/AIDS spread. The policy also guides about HIV/AIDS management including awareness and provision of condoms in workplaces.

2.2.13 National Development Plan (NDP), 2010

Interpretation: The requirements of this policy are expected to be fulfilled by the RCIP UG construction contractors, especially in regard to having an in-house HIV Policy, worker sensitization and provision of free condoms and controlling prostitution and irresponsible sexual fraternization during construction. In coordination with resident health departments, on HIV/AIDS awareness and sensitization shall be carried out during inductions with support from relevant district officials where applicable.

The NDP's main theme is "Growth, Employment and Socio-Economic Transformation for Prosperity," marking a broadening of the country's development strategy from poverty reduction to structural transformation with the aim to raise growth and living standards. The NDP 2010/11-2014/15 is the first in a series of six plans intended to transform Uganda over 30 years into a modern and prosperous nation. The NDP recognizes ICT as one of the Primary Growth Sectors, therefore included ICT among the investment priorities and national core projects (see NDP Sec, 152 p 50); suggested improving the ICT infrastructure through extension of the national optical fibre cable to

Interpretation: Implementation of the RCIP UG is in line with the ICT sector development strategies of the NDP 2010/11- 2014/15.

cover most of the districts with emphasis placed on promotion and operationalization of Business Process Outsourcing (BPO), e-government and e-procurement services.

2.2.14 Uganda's Vision, 2040

In 'Vision 2040' Uganda sets goals to achieve by the year 2040 ranging from political, economic, social, energy, and environment. With respect to environmental goals, Ugandans aspired to have a green economy and clean environment where the ecosystem is sustainably managed and the livability of the urban systems greatly improved (16 f), world class infrastructure and services, and modern technology to improve productivity and production. Ugandans also aspire to have access to clean, affordable and reliable energy sources to facilitate industrialization (16 e.) and to be resourceful and prosperous nationals contributing to national development through gainful employment, savings and investments.

Vision 2040 recognizes strengthening of ICT and ICT Enabled Services (ITES) industry as one of the opportunities that will harness faster socio-economic transformation from a peasantry to an innovative and competitive society through job creation, accelerated economic growth and significantly increased productivity.

Interpretation: The Vision 2040 recognizes the importance of ICT in national economic development and will significantly contribute to improved infrastructure and services. The proposed RCIP UG is in line with aspirations of Vision 2040.

2.2.15 National Policy on Disability in Uganda, 2006

Government through the Ministry of Gender, Labour and Social Development has a mandate to promote and protect the rights of persons with disabilities (PWDs). The Government is mandated to promote and protect the rights of persons with disabilities and the Constitution of the Republic of Uganda stipulates the need to empower and provide equal opportunities to PWDs. Government has focused on provision of health services, community based rehabilitation, vocational training,

Interpretation: The proposed RCIP UG should provide for needs of persons with disabilities in terms of access and use of ICT facilities. PWDs shall also be given an opportunity to be hired in sections where they can ably perform as these opportunities arise during project implementation.

Universal Primary Education as key measures to empower PWDs.

2.2.16 World Bank Safeguards Policies

To ensure that WB financed projects are environmentally sound and improve on decision making, Environmental Assessment (EA) are a requirement. The most project applicable safeguard policies among the 10 environmental and social Safeguard Policies that WBG uses to examine potential environmental risks and benefits associated with Bank lending operations and their trigger status are presented as follows:

Safeguard Policies	Status	Reason
OP 4.01 Environmental Assessment	Triggered	Project shall entail civil works with ground penetration, vegetation clearance to run optical fibre cable and erect poles. Project also entails waste generation during the construction phase and equipment maintenance at the operation phase. This ESIA clearly identifies all the potential impacts of the project and defines the mitigation measures to address them.
OP 4.04 Natural Habitats	Triggered	While no forest was encountered during the ESIA with the study focusing on a few sections of wetlands, impact identification in line with this was done and mitigation measures suggested. The project implementation teams shall ensure that due care is taken while going through such areas.
OP 4.11 Physical Cultural Resources	Triggered	The project has a potential to impact on areas of cultural significance since excavations shall be made. Services of an archaeologist were utilized in this ESIA and an awareness session shall be provided to project execution teams on cultural and archeological aspects to look out for and how to handle these during project implementation. A chance finds management procedure is also provided in Appendix 3.
OP 4.36 Forests	Not Triggered	Project will not go through forest reserves
OP 4.10 Indigenous Peoples	Not Triggered	Project shall not impact on indigenous people
OP 4.12 Involuntary Resettlement	Not Triggered	Project is planned to utilize road reserves and existing infrastructure thus this policy will not be triggered.

2.2.17 Museums and Monuments Policy (2015)

The main aim of the policy is to “create a framework for preservation and sustainable development of Uganda’s Museums and Monuments for the benefit of the people of Uganda and posterity” The policy further provides guidance on collection, research and museum services.

2.2.18 Uganda National Culture Policy 2006

The Uganda National Culture Policy aims to promote aspects of Uganda’s cultural heritage that are cherished by its people. The policy recognizes that Uganda has several cultural sites and monuments. Some of them are man-made while others are natural. These sites, monuments and antiquities are important for socio-cultural and educational purposes. Cultural beliefs, traditions and values are core to a community’s mechanism for survival. The policy sets guidelines to enhance the appreciation of

these cultural values and to mitigate social practices that are oppressive to people.

2.3 Legal Framework

2.3.1 Constitution of the Republic of Uganda, 1995

Article 39 of the 1995 Constitution of the Republic of Uganda provides for the right to a clean and healthy environment.

Interpretation: the client shall ensure that activities carried out with consideration of the baseline conditions of the project area and the provisions of the Constitution of the Republic of Uganda.

2.3.2 The Electronic Signatures Act, 2011

The Electronic Signatures Act makes provision for regulating the use of electronic signatures. Section 18 stipulates that use of electronic signature requires a certificate issued by a licensed certification service provider as an acknowledgement of a digital signature verified by reference to the public key listed in the certificate, regardless of whether words of an express acknowledgement appear with the digital signature and regardless of whether the signer physically appeared before the licensed certification service provider when the digital signature was created.

The Act gives NITA-U the mandate to issue license to certification service providers and monitor and oversee their activities. Section 21 confers the powers of Controller to (NITA-U). (1) The Controller shall, in particular be responsible for monitoring and overseeing the activities of certified service providers and shall perform the functions conferred on the Controller under this Act. (2) The Controller shall exercise its functions under this Act subject to such directions as to the general policy guidelines as may be given by the Minister. (3) The Controller shall maintain a publicly accessible database containing a certification service provider disclosure record for each certification service provider, which shall contain all the particulars required under regulations made under this Act. (4) The Controller shall publish the contents of the database in at least one recognized repository.

Interpretation: The client shall utilize this in the development of Shared Public Service Delivery Platform infrastructure.

2.3.3 Computer Misuse Act, 2010

The Computer Misuse Act makes provision for the safety and security of electronic transactions and information systems. The Act prevents unlawful access, abuse or misuse of information systems by including computers (and electronic devices like mobile phones) and makes provision for securing the conduct of electronic transactions in a trustworthy electronic environment and to provide for other related matters.

Interpretation: This Act will prevent unlawful access, abuse or misuse of information systems and ensure a trustworth e-environment as a result increased usage of e-Government services.

2.3.4 The Electronic Transaction Act 2011

The Electronic Transactions Act provides for the use, security, facilitation and regulation of electronic communications and transactions and encourages the use of e-Government services. It facilitates the development of e-commerce in Uganda by broadly removing existing legal impediments that may prevent a person from transacting electronically because of omission in the traditional laws and encouraging investment and innovation in information communications and technology.

2.3.5 Copyright and Neighboring Rights Act, 2006

The Act provides that no person of any kind shall produce, reproduce, distribute, broadcast, make available to the public, sale or offer for sale, lease or rent out or make public performances or import for distribution of audio visual recordings in Uganda except under a license issued by the owner of the neighboring rights or a collecting society.

Interpretation: This Act will be especially relevant for development of Shared Public Service Delivery Platform and E-Government Applications infrastructure.

2.3.6 National Environment (Wetlands, River Banks and Lakeshores management) Regulations, 2000

These regulations provide principles for sustainable use and conservation of wetlands, riverbanks and lakeshores. Measures should be put in place for protection of riverbanks and lakeshores such as prevention of soil erosion, siltation and water pollution.

Interpretation: These regulations will be relevant to the project since optical fibre cables may be laid across wetlands mainly in Gulu, Mbarara and Kiryandongo hence the need for proper task analysis prior to execution.

2.3.7 National Environment (Hilly and Mountainous Areas management) Regulations, 2000

Regulation 16(5) requires protection of soil against erosion. Erosion can occur as result of trenching to enable burial installation of optical fibre cables and construction of site stations.

Interpretation: These regulations are relevant to the Project as implementation requires excavations that if left over time could heavily impact on soil stability to hold and check on erosion. The project teams shall carry out prompt covering and re-vegetation of impacted areas.

2.3.8 National Environment (Minimum Standards for Management of Soil Quality) Regulations, 2001

Section 12 of this Act requires compliance with prescribed measures and guidelines for soil conservation for the particular topography, drainage and farming systems, contravention of which constitutes an offence.

Interpretation: The regulations shall apply to waste management in all project phases especially around housekeeping issues including excavations (where oils/lubricants may be spilled).

2.3.9 Environment (Noise Standards and Control) Regulations, 2003

Section 7 of these regulations requires that no person shall emit noise in excess of permissible noise levels, unless permitted by a license issued under these Regulations. Section 8 imparts responsibility onto noise generators to use the best practicable means to ensure that noise does not exceed permissible noise levels. At construction sites corresponding limits are 75 dBA and 65 dBA for day and night time levels respectively.

Interpretation: These regulations shall provide guidance to teams carrying out activities in residential and office areas. They shall also provide guidance in sections where mechanized units shall be utilized to borrow below existing roads.

2.3.10 National Environment (Waste Management) Regulations, 1999

These regulations require waste disposal in a way that would not contaminate water, soil, and air or impact public health. According to the regulations, waste haulage and disposal should be done by licensed entities. These Regulations apply to all categories of hazardous and non-hazardous waste and storage and disposal of construction waste.

Interpretation: These shall provide guidance to overall waste management at all project phases.

2.3.11 National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, 1999

Section 6 (2) details maximum permissible limits for 54 regulated contaminants, which must not be exceeded before effluent is discharged into water or on land.

Interpretation: The regulations shall guide the project in management of mainly human waste from project activities and washout from equipment servicing to enable sound waste management and proper operation and maintenance procedures.

2.3.12 Draft National Air Quality Standards, 2013

The draft National Air Quality Standards provide ambient air quality regulatory limits for various pollutants.

Interpretation: The draft standards shall guide on project dust suppressions, related emissions and planning on equipment utilized and maintenance regimes.

2.3.13 Occupational Health and Safety Act, 2006

The Occupational Health and Safety (OHS) Act (2006) Stipulates key aspects on the roles and duties of both employers and employees. It provides for safety at work including aspects of inspection, incident investigation, PPE provision among others with emphasis on reasonable practicability. It also provides for protection of third parties during operations at a workplace.

Interpretation: This Act will be relevant for OHS of RCIP UG construction crews and subsequently, maintenance personnel. The policy will also have relevance in mitigation measures that protect the public from health and safety impacts as a result of project construction, subsequent operation and maintenance activities. It will provide one of the main platforms for inspections and monitoring while looking at KPIs.

2.3.14 Uganda Wildlife Act, 2000

This Act defines wildlife as any wild plant or animal of a species native to Uganda. The Act entrusts ownership of wild animals and plants with the government for the benefit of Ugandan people, a responsibility executed by Uganda Wildlife Authority (UWA).

Interpretation: while the project shall not be in protected areas, stray game could be encountered during project implementation and maintenance of associated lines. These shall be promptly reported to UWA.

2.3.15 The Physical Planning Act, 2011

This Act replaced the Town and Country Planning Act, Cap 246 which was enacted in 1951 and revised in 1964 but is now inconsistent with contemporary governance system in Uganda. The 1951 Act was enacted to regulate and operate in a centralized system of governance where physical planning was carried out at national level through the Town and Country Planning Board. Implementation of the Act was supervised by local governments, especially the urban local governments.

Uganda has since gone through many social, political and economic changes. For example, promulgation of the 1995 Constitution established a decentralized system of governance which divulged powers and functions including physical planning, finance and execution of projects from the central government to local governments. This therefore created a need to enact a physical planning legislation which is consistent with this Constitutional requirement. The Physical Planning Act, 2011 establishes district and urban physical planning committees, provides for making and approval of physical development plans and applications for development. Section 37 of The Physical Planning Act, 2011 requires an EIA permit for developments before they are implemented.

Interpretation: This Act shall guide project implementation teams and design teams in considering requirements of this Act as prescribed by respective local governments. This EIS will guide the local councils in approval of the development plans of RCIP UG.

2.3.16 Public Health Act, 1935

This Act, Cap 281 provides local authorities with administrative powers to take all lawful, necessary and reasonable measures to prevent the occurrence or deal with any outbreak or prevalence of any infectious communicable or preventable disease and to safeguard and promote the public health. The Act mandates local authorities (Section 103) to prevent pollution of watercourses in interest of public good.

Interpretation: This Act is applicable to onsite management of waste, sewage and awareness on / preparedness for potential outbreaks of water-borne and poor sanitation related illnesses during project implementation in various areas.

2.3.16 Employment Act, 2006

Employment Act, 2006 (which repeals Employment Act Cap 219 enacted in 2000) is the relevant legislation that harmonizes relationships between employees and employers protect workers interests and welfare and safeguard their occupational health and safety through, prohibiting forced labor, discrimination and sexual harassment at workplaces (Part II; Part IV), providing for labor inspection by the relevant ministry (Part III), stipulating rights and duties in employment including weekly rest, working hours, annual leave, maternity and paternity leaves, sick pay, etc. (Part VI), continuity of employment i.e. continuous service, seasonal employment, etc (Part VIII).

Interpretation: The Act shall provide direction on employer- employee relationships relationships and employee rights throughout the project cycle.

2.3.17 Workers' Compensation Act, 2000

Section 28 of The Workers' Compensation Act (2000) states that:

- Where a medical practitioner grants a certificate that a worker is suffering from a scheduled disease causing disablement or that the death of a workman was caused by any scheduled disease; and,
- The disease was due to the nature of the worker's employment and was contracted within 24 months immediately previous to the date of such disablement or death, the worker or, if he or she is deceased, his or her dependents shall be entitled to claim and to receive compensation under this Act as if such disablement or death had been caused by an accident arising out of and in the course of his or her employment.

Interpretation: with most of the work entailing manual labour, this Act provides guidance on managing incident and accident scenarios in addition to those associated with mechanized tools.

2.3.18 Local Governments Act, 2015

This Act provides for decentralized governance and devolution of central government functions, powers and services to local governments that have own political and administrative structures. Districts have powers to oversee implementation of development activities under supervision of their relevant departments such as environment, lands and water resources. According to Section 9 of the Act, a local government is the highest political and administrative authority in its area of jurisdiction and shall exercise both legislative and executive powers in accordance with the Constitution.

Interpretation: This Act is relevant to the Project as all District Local Governments covered by the project infrastructure will be beneficiaries and therefore stakeholders with jurisdiction over implementation of the Project. Accordingly, respective District Local Governments will have key responsibilities for environmental monitoring during project implementation.

2.3.19 Petroleum Supply Act, 2003

The Petroleum Supply Act of 2003 provides for supervision and monitoring transportation, supply, storage and distribution of petroleum products. Among other provisions, the Act provides for safety and protection of public health and the environment in petroleum supply operations.

Interpretation: Throughout the project life span, petroleum products shall be utilized in various ways. This Act shall therefore guide the project teams in consideration of safety and health

2.3.20 Road Act, Cap 358

The Road Act (Cap 358 of the Laws of Uganda) provides for maintenance of roads by empowering the Minister of Works and Transport and respective local governments. Town councils have authority over town roads while district roads are governed by district local governments.

Interpretation: Laying of optical fibre cables along and/ or across roads necessitates conformity to requirements of this Act.

2.3.21 Historical Monuments Act Cap 46, 1967 amended in a Decree in 1977

The Historical Monuments Act of 1967 provides for the preservation and protection of historical monuments and objects of archaeological, paleontological, ethnographical and traditional interest and for other matters connected therewith. This Act is enforced through the Ministry of Tourism, Wildlife and Antiquities mandated to maintain, conserve and sustain tourism, wildlife and cultural heritage of Uganda. It formulates and implements policies through the Department of Museums and Monuments where it undertakes the following key functions: conservation and maintenance of important physical cultural resources; provision of professional knowledge and information regarding the archaeology and paleontology of Uganda; monitoring the implementation of policies and strategies of historical and cultural heritage conservation and development; promote public awareness about cultural and natural heritage through formal and informal education. This Act is also supported by the Ministry of

Interpretation: This Act shall guide in management of chance finds and provide basis for awareness sessions on chance finds, site preservation and reporting among others during project implementation.

Gender, Labor and Social Development which is the coordinating agency of the government social development sector in Uganda. In collaboration with other stakeholders, the Ministry is responsible for enforcing the National Culture Policy and coordinating Cultural Institutions, thereby ensuring the protection of the Uganda's cultural resources.

2.3.22 The National Environment Act, Cap 153

This is the main law relating to the protection of the environment in Uganda and it provides for the duty to protect and preserve the environment. It also provides for the establishment of measures to manage the environment for sustainable development and promotion of environmental awareness. The establishment of NEMA – the regulatory Authority mandated with the responsibility to oversee, coordinate and supervise environmental management in Uganda is also provided for under this Act. Currently, several environmental standards have been prescribed, including standards for discharge of effluent into water; management of waste, noise, and management of wetlands, river banks and lake shores.

Interpretation: This Act provides guidance on environmental management shall through out the project cycle to ensure sustainable development.

2.3.23 The National Environment (Audit) Regulations, 2006

Made under section 107 of the National Environment Act, these regulations also require that an environmental audit be carried out so as to establish adequate environmental standards to monitor changes in environmental quality. The audit is further used to determine the compliance status with environmental regulatory requirements, the environmental management system and the overall environmental risk of the facility. Regulation 19(1) allows for a voluntary environmental audit to be as to determine its compliance with the National Environment Act and other relevant laws.

Interpretation: These regulations are applicable in assessing the project environment management system documents and compliance aspects throughout the project life cycle.

2.3.24 The National Environment (Environment Impact Assessment) Regulations, 1998

These regulations hold for all projects/activities listed under the Third Schedule of the National Environment Act, Cap 153. The Regulations under Part III, Regulation 10 state that environmental impact studies shall be conducted in accordance with Terms of Reference developed by the developer in consultation with the Authority and the lead agency, and that the study shall be conducted in accordance with the guidelines adopted by the Authority in consultation with the lead agency under Subsection (8) of Section 19 of the National Environment Act. Regulation 12 of these Regulations also requires that the public participate in the Environmental Impact Assessment process.

Interpretation: In the course of this study, the approved Terms of Reference were developed and adhered to, and a number of stakeholders informed of the project concept, and their submissions recorded and mitigation measures suggested where possible.

2.3.25 World Bank Group General EHS Guidelines

The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them.

The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project on the basis of the results of an environmental assessment in which site-specific variables, such as host country context, assimilative capacity of the environment, and other project factors, are taken into account.

2.3.26 International Agreements/ Conventions

While many international conventions may not directly come into play during the implementation of this Project, they are worth noting since research still provides room for expansion of areas of study on endangered species, wetland of importance among others.

Table 2.1: International Agreements

Agreement	Area of focus
The Convention on Biological Diversity (CBD) 1993	A major objective of which is in-situ and ex-situ conservation of biological diversity. Parties to this convention are required to undertake ESIA for projects likely to have significant adverse effects on biodiversity. Projects teams shall undertake mitigation measures are based upon restoration of native vegetation in areas where project activities shall be carried out.
The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 1975	Checks on international trade in species of wild fauna and flora so as not to threaten their survival in wilderness. In the rare event that an endangered species is found, the provisions in this Convention shall be observed.
Convention on Wetlands (Ramsar, Iran, 1971)	Provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. NITA-U shall cooperate with the MoWE to ensure that activities in wetlands are sustainably carried out.

International Human Rights Instruments	Uganda is signatory to the Universal Declaration of Human Rights (UDHR) and therefore has a moral obligation to advance the Rights spelt therein. Under Article 17 of the UDHR, everyone has the right to own property alone as well as in association with others and no one shall be arbitrarily deprived of his property. The project shall respects rights of all stakeholders and in case of the project affecting property, all project affected persons shall receive adequate compensation.
The UNESCO Convention on the Protection of the World Cultural and Natural Heritage (1972)	Uganda as a signatory to the Convention is obliged among other things to ensure the identification, protection, conservation, preservation and transmission to future generations of the cultural and natural heritage. Uganda also has to ensure that effective and active measures are taken for the protection, conservation and preservation of the cultural and natural heritage situated on its territory. The project is committed to protection on cultural and natural heritage.

CHAPTER THREE

PROJECT BASELINE CONDITIONS

3.0. Environmental baseline conditions

This chapter provides information on project locations and the biophysical environment for the areas that shall be impacted by the project. Study areas were clustered to ease identification and analysis of data for the different regions to benefit from the Last Mile project.

3.1. Location

Uganda (located in East Africa) has an area of 241,500 km² and is bordered by Sudan to the North, the Democratic Republic of the Congo to the west, Tanzania and Rwanda to the South and Kenya to the East. 15.3% of its land area is covered by water. Uganda contains and shares some of the world's most important ecosystems with its neighbours and beyond and notably Lakes Victoria, Albert, Edward, the Nile Basin, its mountain systems such as the Rwenzori, Elgon and Virunga series as well as several parks. It has a crucial role to play in the conservation of biodiversity in the sub-region and the world at large administratively; Uganda is divided into 132 districts located in four regions of Northern, Central, Eastern and Western.

3.1.1 Ownership

The project shall mainly impact on road reserves that are under the custody of UNRA. Approval or clearance for works along these road reserves was acquired (see Appendix 2). Two subsequent maps showcasing how connections shall be carried out are provided in Appendix 5.

3.2. Biophysical Environment

3.2.1. Morphology, Relief and Drainage

Most of Uganda forms part of the interior plateau of the African continent and its landforms are characterized by flat-topped hills in the central, western and eastern parts of the country. The rise of the plateau in the eastern and western part of the country is represented by spectacular mountain topography located along the borders as, for example, the Rwenzori Mountains and Mufumbira volcanoes in the west and Mt. Elgon, Mt. Moroto, Mt. Murungole and Mt. Timu and Mt. Kadam in the East.

3.2.2. Climate

In Uganda and many of the low latitude regions precipitation in the form of rainfall is the climate element with the highest spatial and temporal variations and controls the climate and hydrological characteristics in most countries. Over most of Uganda there are four (4) major seasons based on total mean monthly rainfall amounts which are:

- Season 1 beginning in December of the previous year to February of the current year, the main dry season of the year;
- Season 2 beginning in March to May referred to as the “long rains” season currently called “MAM” to reflect the rainy of the months of March, April and May;
- Season 3 beginning in June to August, a usually dry period over most of the country, and
- Season 4 beginning in September to November, referred to as the “SON” to reflect the rains of the months of September, October and November. Both the wet periods derive their moisture from winds converging in the Inter Tropical Convergence Zone (ITCZ) as it moves over the region. The MAM rains are heavier than those of SON because the main convergent winds into the ITCZ during the MAM rains derive their moisture from the South Indian Ocean while SON rains arise from the convergent winds in the ITCZ from the drier north easterlies which have a partially land track.

However, flood causing heavy rains can occur especially during SON due to changes in the atmospheric wind circulation patterns, for example, the El Niño events. El Niño refers to the irregular and extensive warming of the sea surface temperatures over the Tropical Eastern South Pacific Ocean that changes wind flow patterns over many areas of the globe (WMO 1998; Barry and Chorley, 1987).

Seasons 1 and 3 are generally dry except for Lake Victoria basin areas which benefit from the land/lake breeze effects from Lake Victoria; and parts of central and northern Uganda that benefit from the Congo air mass arising out of the intensification of the St. Helena anticyclone over the southern western Atlantic Ocean during southern hemisphere winter which pumps the moist Congo air in those areas during July and August a normally dry season. Climatological rainfall studies by Basalirwa (1995) showed that Uganda can be delineated into 14 homogeneous rainfall regions depicted in Figure 1.

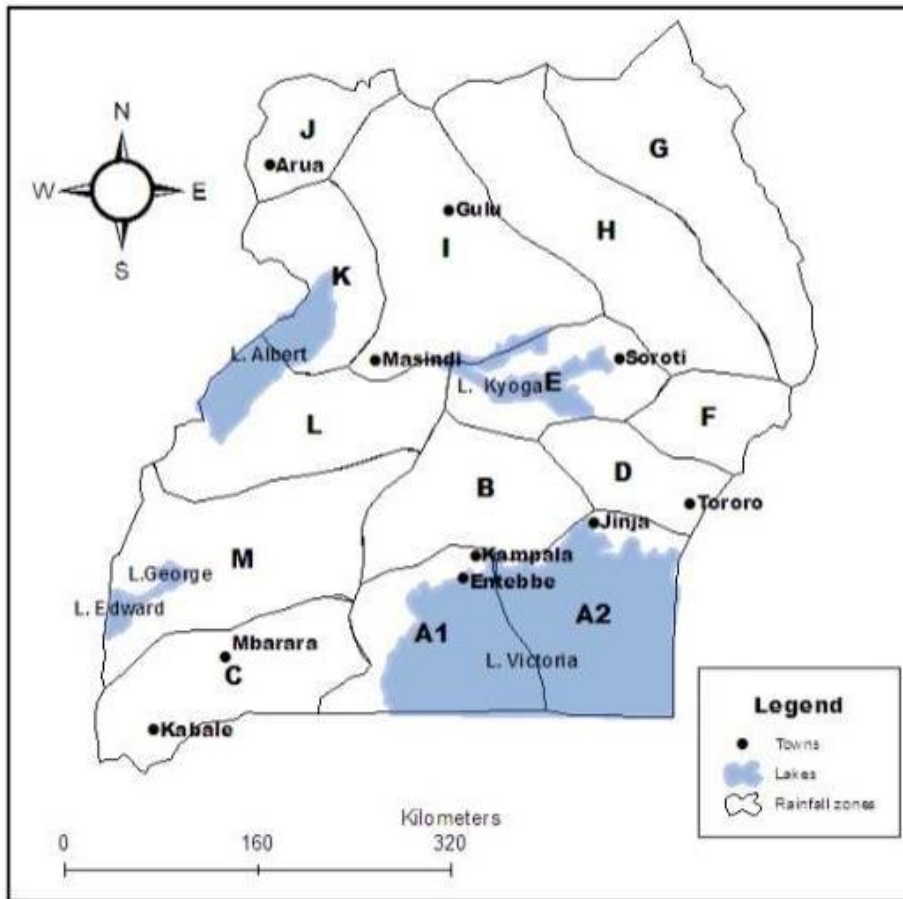


Figure 3.1: The homogeneous climatological rainfall zones of Uganda, after Basalirwa (1995)

Here, these regions will be combined into: Central to include (zones A1, A2, and B); Eastern to include (zones D, E and F); Western to include (zone C, M and L) and Northern to include (zones G, H, I, J, and K). The division has considered also the hydrological characteristics that influence flooding.

Table 3 summarizes the meteorological stations and the climate elements considered.

Table 3.1: The Regions and Stations used

Region	Stations	Climate elements used	
		rainfall	Temperature
Central	Kampala	✓	
Eastern	Buginyanya (Mbale)		
Western	Mbarara		
Northern	Gulu		

3.2.2.1 Rainfall Characteristics in Central Region

Climatic characteristics were derived from weather data collected at Kampala (Makerere University) weather stations. There are 4 seasons in a year: Season 1 (December of the previous year to February of the subsequent year – dry season (DJF)); Season 2 (March to May (MAM)); Season 3 (June to August (JJA)) and Season 4 (September to November (SON)), Figure 2a.

The rainfall events during the dry seasons of DJF and JJA may experience unusual heavy rainfall episodes that often cause deluges especially in the valley areas. This is mainly due to poor land use management practices including farming and development of settlement in wetlands and watercourse ways.

It must also be noted that these regions are not very dry with mean monthly rainfall amounts above 50 mm a month.

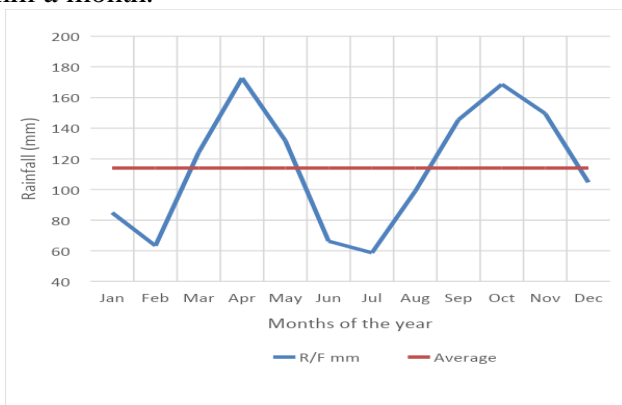


Figure 3.2a: Makerere mean mon. R/F 1991-2010

Temperature Characteristics in Central region

The climate data for the Makerere University weather station shows that the mean monthly maximum temperatures in Kampala city lie below 30⁰ C, Figure 2b, while the mean monthly minimum temperatures (Figure 2c) lie below 18.5⁰ C.

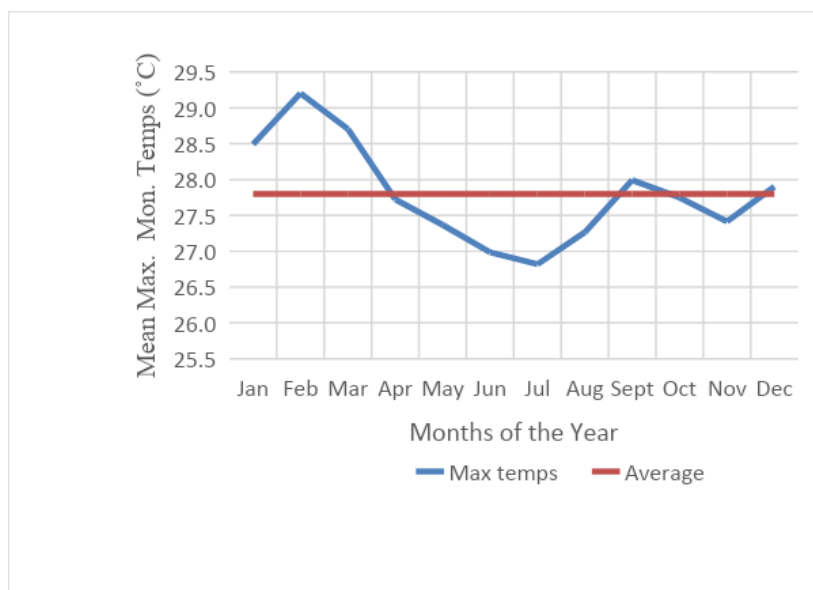


Figure 3.2b: Makerere mean mon. Max Temps 1991-2010

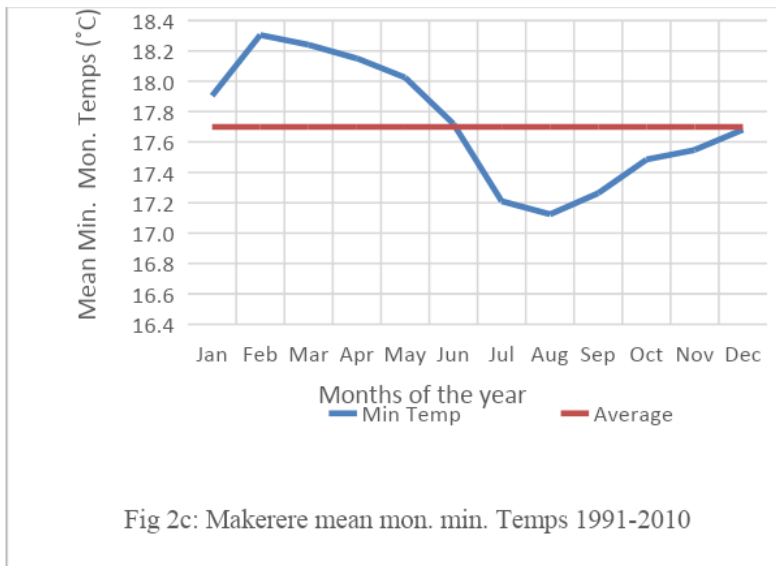


Fig 2c: Makerere mean mon. min. Temps 1991-2010

Figure 3.2c: Makerere mean mon. min 1991-2010

These temperature statistics imply that there are moderate evapotranspiration rates throughout the year. However, these do not mean dry wetlands.

Relation to the project: the central region climate and weather characteristics imply there is an occasional risk of flooding, which must be taken into account in the selection of project materials. The flooding risks highest in MAM and SON seasons

3.2.2.2 Rainfall Characteristics in the Eastern Region

The study used the mean monthly rainfall total patterns for Buginyanya (located near Mbale) Meteorological station for the years 1980-2010 inclusive to describe the rainfall climate of the study of the Eastern Region. The patterns of the mean monthly rainfall of Buginyanya for the years 1980-2010 inclusive are depicted in figure 3a-3b.

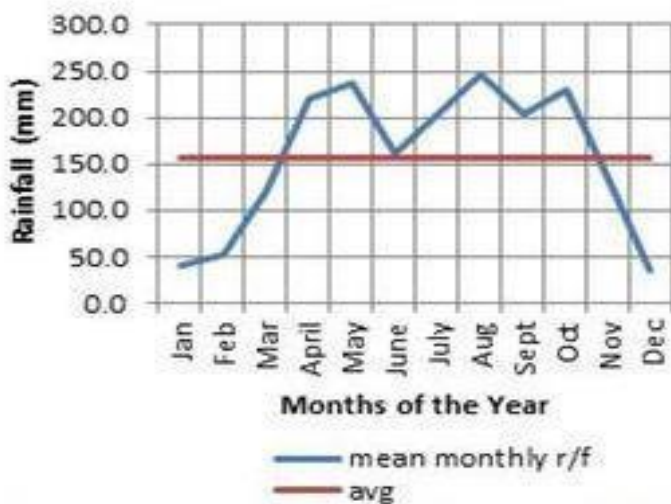


Figure 3.3a: Buginyanya mean monthly R/F 1980 -2010

Figure 3a indicates that the study area has three rainfall peaks: the first peak rains occur in April/May in the long rainy season which occurs from March to May and is also known as the MAM rains season. The second and third rainfall peaks occur in August and October during the second rainy season known as SON which lasts from August to November in this region. The August peak, that occurs before the September to November (SON rains) is attributed to the mid tropospheric westerly flow of the moist Congo air mass. During the Southern Hemisphere winter the St. Helena anticyclone in the South Atlantic Ocean intensifies and injects a lot of humid Congo forest mid troposphere air westwards into many parts of Uganda causing the observed rainfall August rainfall peak.

Figure 3a also depicts a drier season lasting from December to January of the following year in the study region, if a mean monthly rainfall total of less than 50mm defines a dry month as suggested by Griffiths (1972). The MAM rains therefore, beginning in March under dry ground conditions that allow the infiltration into the soil of most of the early rains of the season with limited danger of flooding. However, the heavier rains that begin in July peaking in August, enhanced by the SON characteristics can cause flooding especially when other regional factors like the region's terrain and clayey soils are considered, Segura, (2007).

Mean monthly Temperature characteristics in the Eastern Region

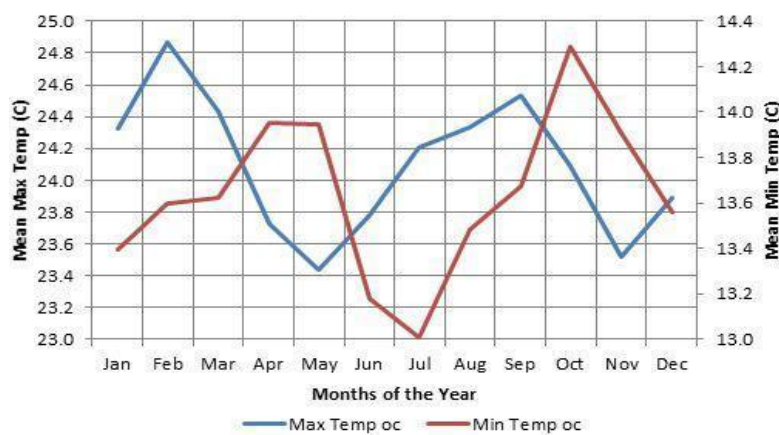


Figure 3.3b: Buginyanya mean mon. Min. and Max. Temperature 1980 -2010

Figure 3.3b depicts the mean monthly maximum and mean monthly minimum temperatures for Buginyanya Meteorological station for the years 1980-2010 inclusive. It can be observed from figure 3b that the mean monthly maximum temperatures in the study region are low (< 25⁰C) throughout the year while at the same time the mean minimum monthly temperatures are also low (< 14.5 ⁰C) throughout the year. These low temperatures imply low evapotranspiration rates in the area encouraging water retention on the ground leading to flooding of the wetlands.

However, the precipitation and temperature of the study area may not be the only cause of the floods in the study area. The physical characteristics of the study region and soil characteristics among other factors contribute to these floods.

Relation to the project: While high temperatures are not a threat in the Eastern region, caution must be taken against heavy rainfall events (with mean monthly totals ≥ 250 mm in August) given the topographic factors that favour flood occurrence. Water erosion and water corrosion cannot be avoided and water resistant materials should be the choice of materials to use in projects.

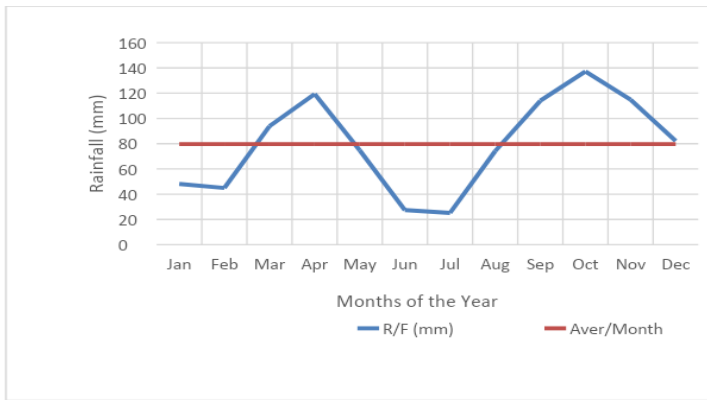


Figure 3.4a: Mbarara Mean Mon. R/F 1981 -2014

3.2.2.3 Rainfall Characteristics of the Western Region

Figure 4a shows the precipitation from the Uganda National Meteorological Authority for Mbarara Meteorological Station, during 1981-2014. It depicts that just as elsewhere in Uganda, rainfall occurs in two seasons, the first from March to May (MAM) with April the wettest month (mean monthly rainfall > 100 mm). The second rainy season occurs from September to November (SON) with October being the wettest month with mean averaged rainfall total of 137.2 mm. The two dry periods occur during June to August and from December to February of the following the year. During the dry seasons of December to February and from June to August depicted in Figure 4a, there is limited rainwater which limits chances of floods in spite of the occasional storms that occur during these dry seasons, flood risk is small.

Temperature Characteristics

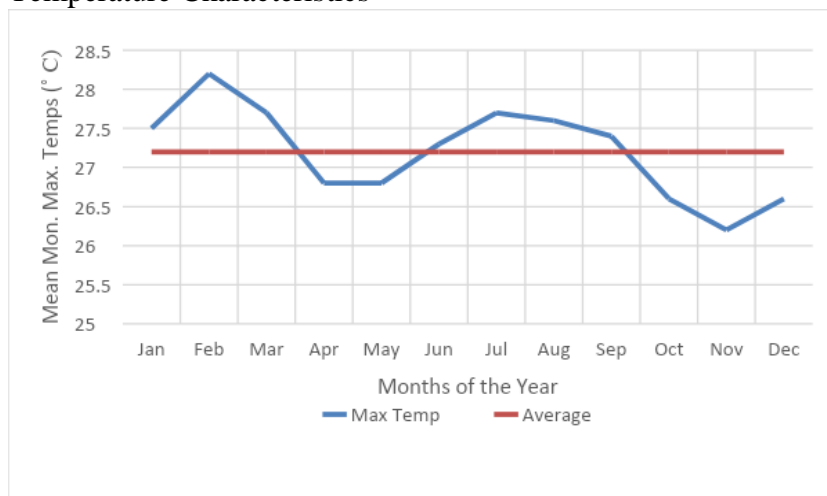


Figure 3.4b: Mbarara Mean mon Max. Temps 1981 - 2013

Figure 4b depicts the mean monthly maximum temperatures for the years 1981-2014. It is observed from figure 4a that February is the hottest month with a mean maximum temperature of 28.2°C and November has the lowest mean maximum temperatures at 26.2°C. It can also be observed that months of January and February, June and July are the hottest and driest with the least amount of rainfall occurrence. Thus hot and dry seasons influences high evaporation rates that diminishes the available water of open water sources of streams, rivers, wells among others limiting flood occurrence.

Figure 4c depicts the mean monthly minimum temperatures or Mbarara Meteorological Station. It can be observed from figure 4c that the coldest months are June and July with temperatures of 14.7°C

C and 14.4°C in December and January at 14.9°C respectively. These months also are the driest with occurrence of the least amount of rainfall in the year. Figure 4a.

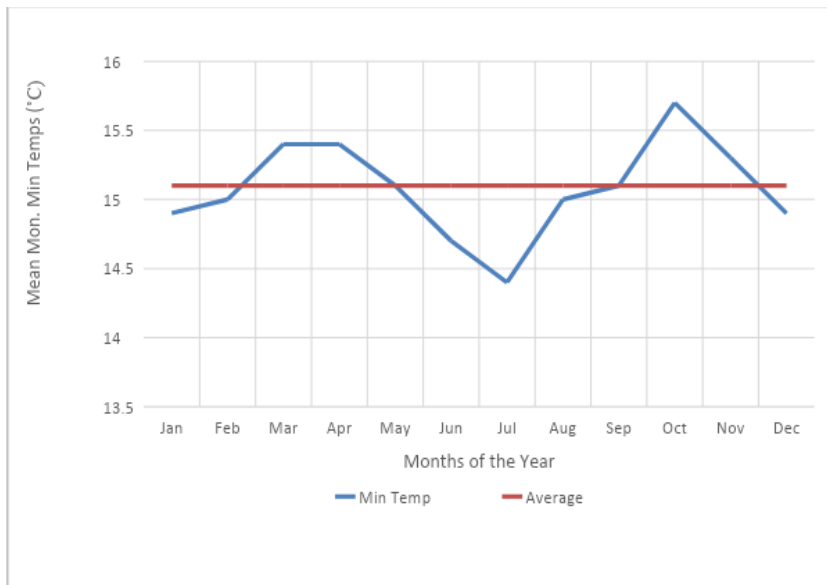


Figure 3.4c: Makerere mean mon.Min. Temps 1981 -2013

Relation to the project: Thus, in the western region climate and hydrological characteristics reduces the risks of flood occurrence although caution in project planning must be exercised.

3.2.2.3 Rainfall Characteristics of the Northern Region

The study used the mean monthly rainfall total patterns for Gulu Meteorological station for the years 1990-2012 inclusive to describe the rainfall climate of the study of the Northern Region. The patterns of the mean monthly rainfall and temperatures of Gulu for the years 1980-2010 inclusive are depicted in figure 5a-5c

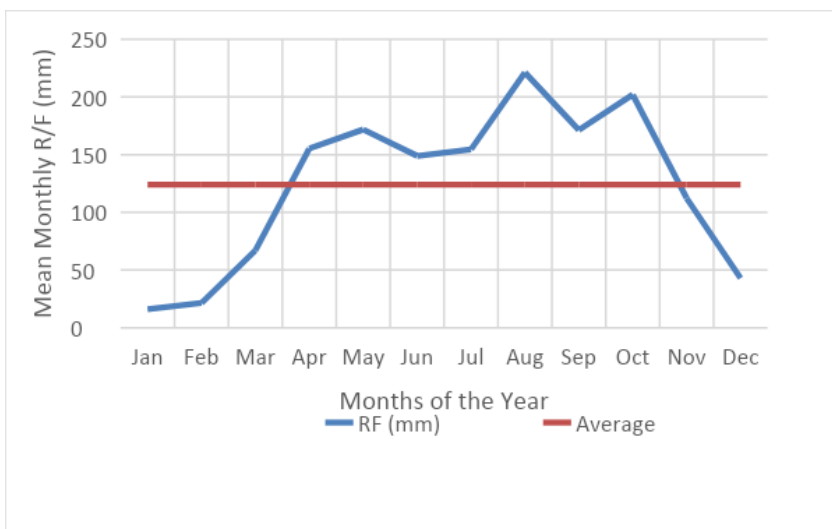


Figure 3.5a: Gulu Mean monthly rainfall 1990-2012

Figure 3.5a further shows that northern Uganda has unique rainfall distribution characteristics with

rains from March to November in three distinctive peaks in May during the MAM season; the second and third rainfall peaks occur in August and in October during the second rainy season from September to November (SON) which lasts from September to November over most of Uganda. The August peak, like in many mountainous and high ground areas in Uganda including the Eastern region already discussed occurs in a dry season elsewhere in Uganda. It is attributed to the mid tropospheric westerly flow of the moist Congo air mass which occurs during the Southern Hemisphere winter when the St. Helena anticyclone in the South Atlantic Ocean intensifies and injects a lot of humid Congo forest mid troposphere air westwards into many parts of Uganda causing the observed rainfall August rainfall peak. Notice that unlike in Eastern Region the Northern Region has a serious dry season lasting from December to February of the succeeding year.

Hydrological aspects like floods, other than terrain and soils are linked to the rainfall distribution patterns. One should, therefore expect flooding of wetlands and in many swamps from April to November. Only occasional floods may be expected from December to February of the succeeding year because these months are very dry.

Temperature Characteristics

As may be observed from figures Figure 3.5b the Gulu mean monthly Maximum temperatures and mean monthly Minimum temperatures for the years 1990-2012 inclusive also depict that mean monthly maximum temperatures are below the average during the rainy period from April to November and the mean monthly minimum temperatures, Figure 5c, are lowest from June to January. Thus during the rainy months from March to November, Figure 5a, temperatures encourage lower evapotranspiration rates.

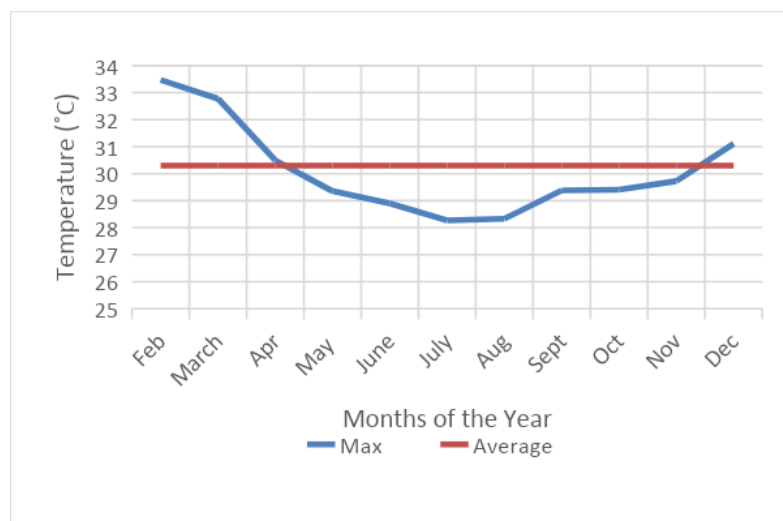


Figure 3.5b: Gulu mean monthly Max. Temps 1990 - 2012

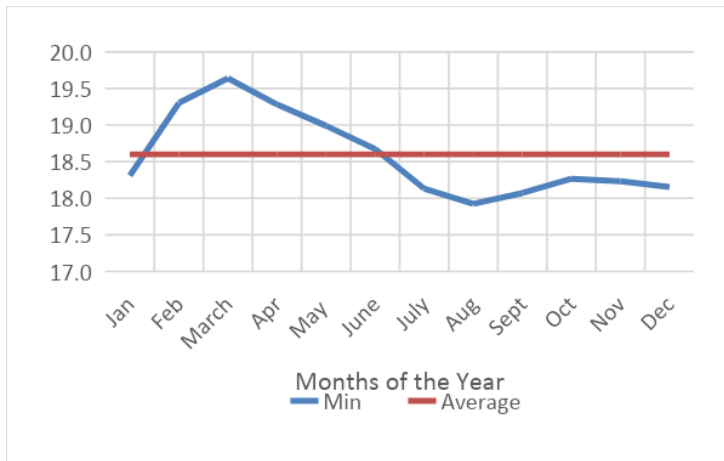


Figure 3.5c: Gulu mean monthly Min. Temp 1990 - 2012

Relation to the project: In summary, therefore, one may expect flooding especially in the months of April, August and October in Northern Uganda due to the climatological rainfall characteristics of the region. This coupled with the hills and numerous wetlands mean project planners must obviate these characteristics in their choice of materials and design.

3.2.3. Geology and Soils

Uganda is composed predominantly of Archaean basement rocks formed mainly between >3.08 Ga and 2.55 Ga. The Archaean basement is divided into five domains viz (Figure 3.6a).

- Lake Victoria Terrane (LVT) which covers project areas: Busia, Mbale, Bugiri Iganga districts.
- West Tanzania Terrane (WTT) covering Kampala, Mukono, Mpigi, Nakasongola, Wakiso, Luwero, Mityana, Mubende, Kyegegwa, Kyenjojo, Kibale, Jinja and Tororo, districts.
- West Nile Block (WNB) which has no project area.
- North Uganda Terrane (NUT) which underlie Gulu, Lira, Dokolo, Kumi, Soroti, Bukedea and Kaberamaido, Hoima, Kiryandongo, Masindi Districts and,
- Rwenzori Fold Belt (RWT) underlying Bushenyi, Mbarara, Ntungamo, Kabale, Sheema, Rubirizi, Kabarole, Kasese, Masaka, Lwengo, Lyantonde, Kalungu, and Rakai Districts.

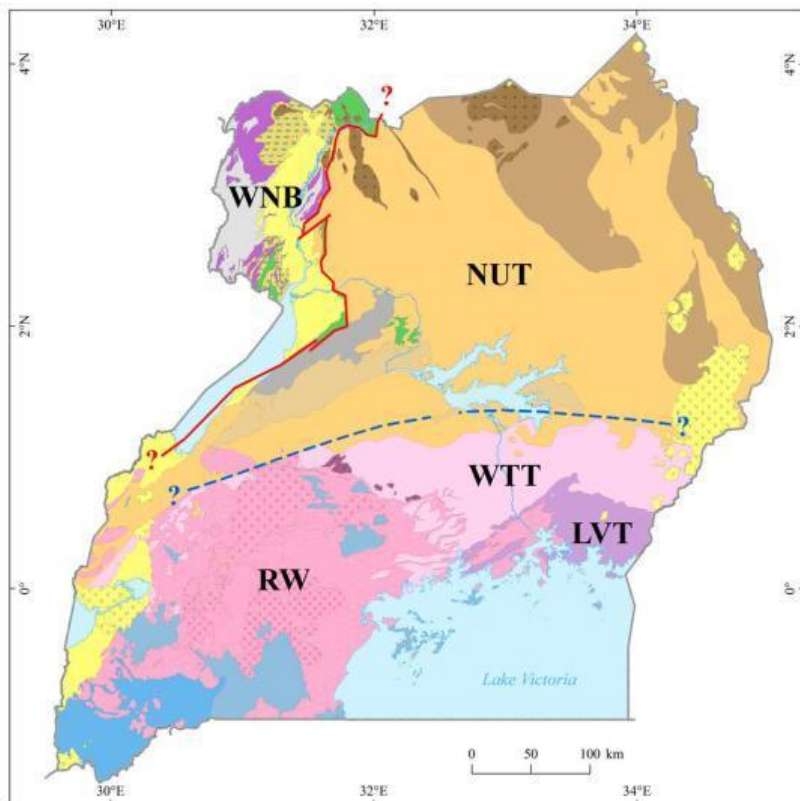


Figure 3.6a: Geological outline of Uganda. WNB = West Nile Block, NUT = North Uganda Terrane, WTT = West Tanzania Terrane and LVT = Lake Victoria Terrane. RW = Rwenzori Terrane

The detailed geology description is given in the sub-sections below.

3.2.3.1 Lake Victoria Terrane

The LVT is a classical Neo Archaean granite-greenstone terrane. The greenstones include the volcanic-dominated Nyanzian Supergroup and the sediment-dominated Kavirondian Supergroup. Nyanzian rocks in Busia, Iganga and part of Bugiri Districts are composed of predominantly mafic metavolcanics with subordinate intermediate and felsic metavolcanic rocks and metasediments. Within Iganga and Bugiri District, younger granites intrude into the Nyanzian including the Masaba granite composed of: biotite granite, granite porphyry and muscovite granite; the medium- to coarse-grained porphyritic Lunyo granite. Iganga District is predominantly underlain by the Iganga Suite rocks covering an area of about 2,000 km² from north of Iganga town to Lake Victoria (Figure 3.6b). The Iganga Suite has been divided into seven related calc-alkaline granitic to granodioritic members including the locally porphyritic Mayuge granite which is the most extensive and five less extensive members viz: Gogero porphyritic granite, Kibuye porphyritic granite, Butte granite, porphyritic granodiorite and Medium-grained granite. Around Iganga town, felsic metavolcanic rocks are exposed.

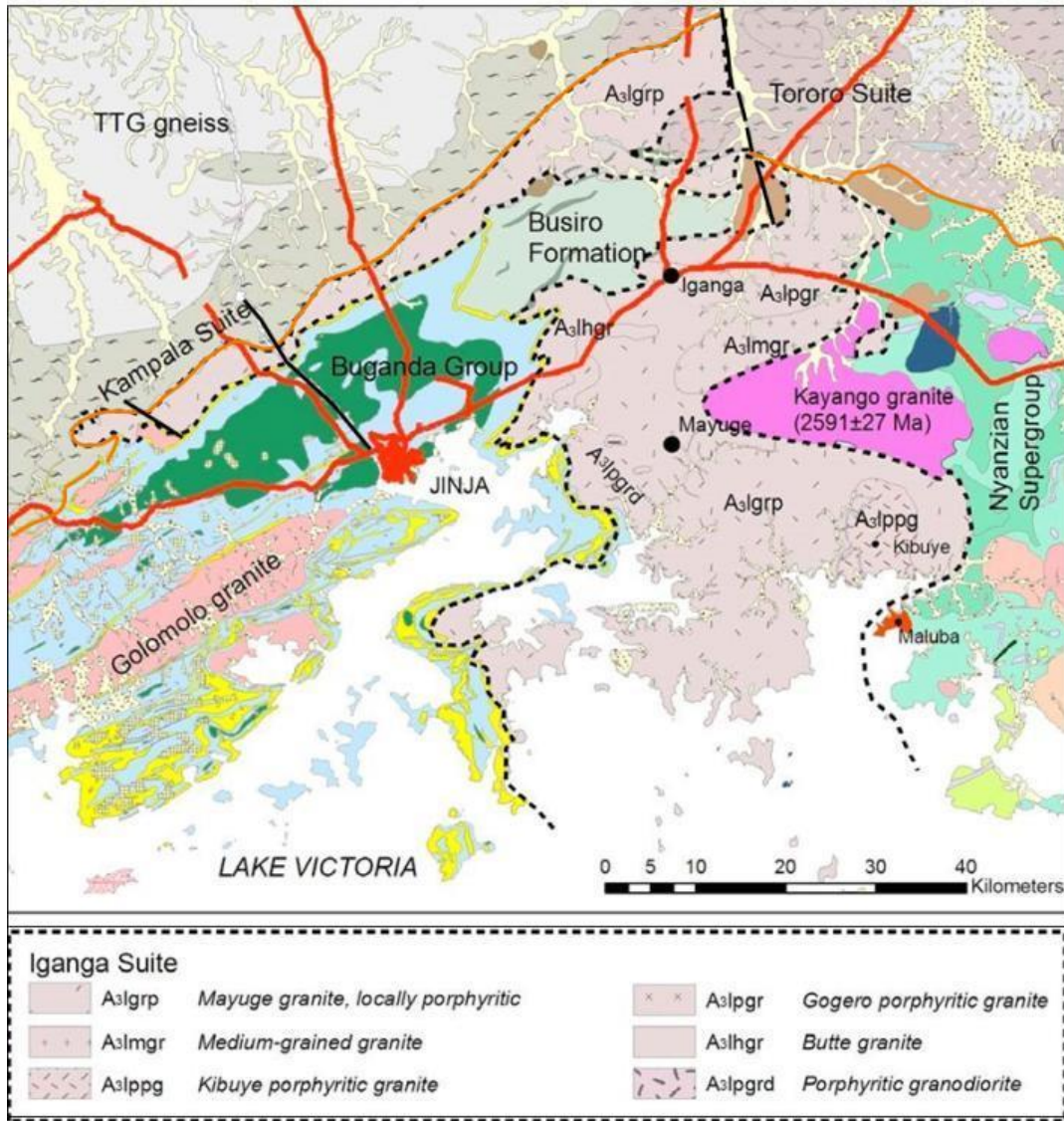


Figure 3.6b: Distribution of Iganga Suite granitoid members

In Busia, parts of Tororo and Bugiri districts, there is widespread artisanal gold mining characterized by long trenches and deep pits that in most cases are left uncovered. There are also heaps of tailings haphazardly left after washing out the gold. These could prove to be disruptive during excavations works for laying the cables.

Mbale district is typically characterized by the Elgon Complex, comprising a sequence of basal sediments, covered by a huge pile of predominantly pyroclastic and lahar-type alkaline/ sodic volcanic rocks and associated carbonatite plugs and fenites. The soils formed in these rocks are rich in expansive clays which could make excavation work difficult especially during the rainy season. Also within the district, the Mbale porphyritic granites are found are grey or white coloured, coarse-grained and mostly homogeneous rocks with abundant large densely packed K-feldspar grains. North-trending yellowish brown, foliated quartzites also occur in the district.

3.2.3.2 West Tanzania Terrane

This is a vast granite-gneissic-migmatitic terrane in central southern Uganda. The WTT (Figure 3.6c) is divided into three major map units: (1) Tonalite-trondhjemitic-granodiorite (TTG) gneisses, (2) Tororo Suite (with no project activities) and (3) Kampala Suite.



Figure 3.6c: Geological map of the West Tanzania Terrane with TTG gneisses, Tororo Suite and Kampala Suite.

3.2.3.3 Tororo Suite

This is the unit that underlie most of Tororo district. Tororo Suite granitoids (Figure 3.6d) are typically biotite-bearing and composed of several sub-facies including: (1) gneissic granite and granodiorite, (2) hornblende-bearing granodiorite, granite and diorite, (3) porphyritic granite, (4) biotite granite, (5) medium-grained granite with pegmatite and (6) Kisoko granite. The Suite also comprises of a special facies formed by Na-K metasomatic halos surrounding the Neogene carbonatite plugs of the alkaline Elgon Complex.

Around Tororo town is the characteristic Tororo rock made up of a mass of carbonatite whose contact with the surrounding rocks is not exposed. It has an aureole comprising of syenitic fenites and apatite-pyroxenite rock. A southern appendage from Tororo rock forms Cave and Reservoir hills. Another elongated mass of carbonatite forms Limekiln hill which is used by TCL for quarrying the material for cement manufacture. The carbonatite invades granitic basement rocks, syenite fenites and partly brecciated ijolite nepheline-syenite.

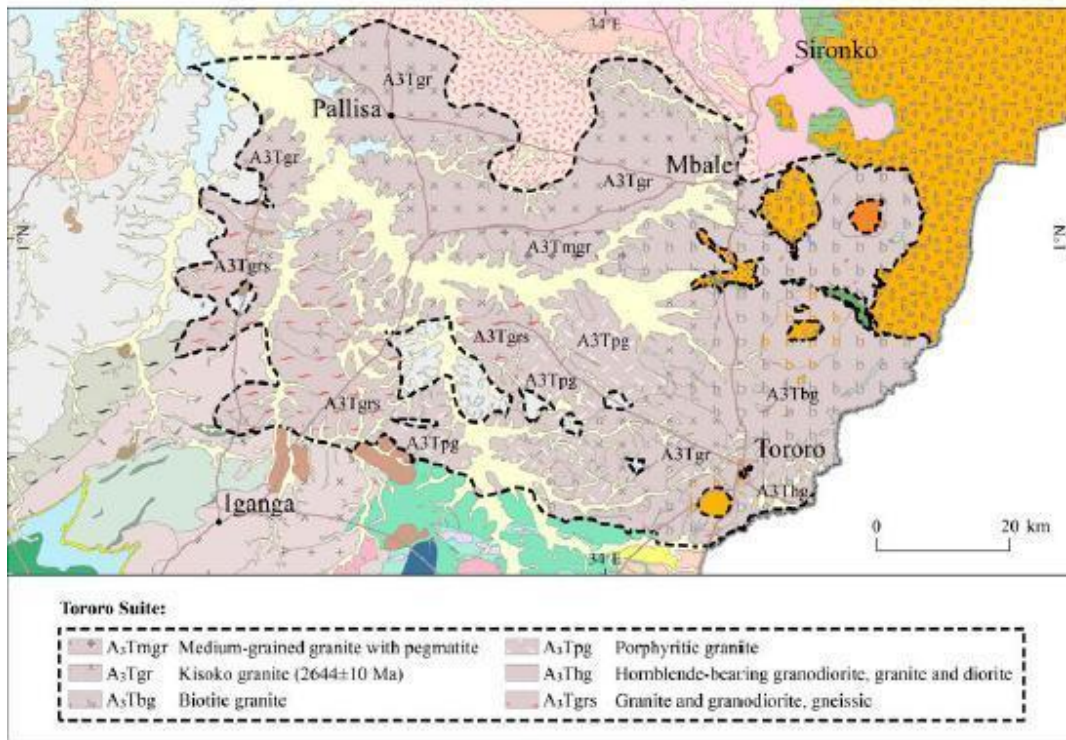


Figure 3.6d: Geology of Tororo district showing the Tororo Suite

3.2.3.4 Kampala Suite

This is composed of variably deformed granitoids and ortho gneisses, covers an extensive area between the Palaeoproterozoic Buganda metasediments in the south and various TTG gneisses in the north.

Kampala, Mukono, Wakiso and Luwero districts are underlain by Kampala granitoids, orthogneiss mainly composed of heterogeneous, generally equigranular, more or less deformed granitoids and banded gneisses, showing distinctive variations in grain size and mineral composition. Granitic and pegmatitic veins and stripes and elongated darker granitic patches occur commonly. These are overlain by cut by pegmatite and amphibolite dykes and overlain by schists and quartzites of the Buganda Group.

Within Nakasongola district occurs the Nakasongola granite which is a roughly ENE-trending bod. The country rocks are composed of homogeneous to banded, occasionally migmatitic gneisses, with amphibolites and dolerites. The main proportion the Nakasongola granite consists of homogeneous fine-grained white to orange-red to light grey coloured granite, with sparse to densely packed K-feldspar phenocrysts of more than a centimetre in size.

Mityana, Mubende, Kibale and part of Kyegegwa are underlain by the Mubende-Singo Suite which includes two extensive granite batholiths; Mubende (3,000 km²) and the smaller, Singo (700 km²). These consist of coarse to megacrystic granite, pinkish to light brownish in colour, rather homogeneous and mostly porphyritic and sericitised granite. These are overlain by metapelites of the Buganda Group.

Rocks of Jinja district belong to the Nile Formation which is part of the Buganda Group. These consist of basalts which display a variably thick sequence of metavolcanic rocks intruded or in places emplaced into the low grade metapelites. They show variable textures including pillow lavas.

The primary minerals of the pillow lavas have been altered to an assemblage of actinolite, chlorite, epidote, albite, K – feldspars, calcite and quartz. There also metapelites which are strongly sheared in a NE – SW direction. Shearing also occurs at the contact between the metavolcanics and metapelites.

3.2.3.5 Rwenzori Fold Belt

These are composed of gneissose/granite basement covered with covered by metasediments and mafic, partly pillow-textured volcanics of the Buganda Group.

The districts of Mbarara, Ntungamo, Masaka, Rakai, Lwengo, Lyantonde, Kalungu, Bushenyi, Sheema and Kabale are underlain by generally similar geology. Mbarara district is overlain by several formations including the comprising of the Mabona Formation, exposed south of Mbarara town made up of turbiditic mudstone and slate which are intercalated with quartzites of varying thickness. These are intruded by the Mbarara and Masha granites. Rocks between Mbarara and Ntungamo districts belong to the Mikamba Formation consisting of mudstones, slates and phyllites. Granitic bodies in Ntungamo district are the Ntungamo granite on Mbarara- Bushenyi road and Rwentobo granite on Mbarara – Kabale road. Kabale district is underlain by metapelites intercalated with quartzites and rare sandstones. There are several occurrences of hematite-rich ironstone of the Rutooma Formation, are currently exploited by artisanal miners in the Muko area in Butare, Kyanyamuzinda, Kamena and Kashenyi and around Kabale town. Volcanic rocks also occur in the Bunyonyi area in Kabale district. Calc-silicate rocks of the Kabira Formation have been encountered in a few dozen locations in the southwestern part of Bushenyi District. There is a small granite outcrop of slightly foliated granite at Kyangenyi. Masaka, Kalungu, Rakai, Lyantonde and Lwengo districts are underlain by mudstones, shales and phyllites of the Buganda Group. In the area surrounding Rakai town, weakly deformed, creamy to light pinkish grey or reddish brown slates and siltstones are widely quarried for decorative slabs occur. Around Lake Kijanebalola and in other areas of Rakai and Lyantonde, quartzites are exposed.

Kasese and the Kilembe Schist Groups. The former consist of schistose and highly metamorphosed amphibolites that are embedded in a sequence of quartzites, schists and basal conglomerates forming a major synclinal fold within the gneisses which they unconformably overlie. The Kilembe Schist Group has similar rocks but the amphibolite unit contains copper mineralisation.

The geology of Rubirizi and Kabarole districts predominantly comprises of western volcanic, the former being underlain by the Katwe- Kikorongo- Bunyaruguru volcanics and the latter by the Ndale - Fort Portal volcanics (Figure 3.6e). The Katwe-Kikorongo and Bunyaruguru field comprise the crater fields of located on both sides of the Kazinga Channel between Lake Edward and Lake George. The rocks comprise of various types of pyroclastic deposits and minor lava flows, extruded from a large number of volcanic vents on the valley floor and from higher ground in the east.



Figure 3.6e: Map showing the location of Katwe - Kikorongo - Bunyaruguru and (3) Ndale-Fort Portal volcanic fields.

The Ndale - Fort Portal field consists of cones are surrounded by friable lapilli or flaggy welded tuffs. Other rock types include garnet and hypersthene in granulite and eclogite rocks lapilli tuffs and tuffets, melilites and carbonatites e.g. at Nyakasura. The secondary carbonate rock is the source of raw material for Hoima Cement.

3.2.3.6 North Uganda Terrane

Gulu, Lira, Dokolo, Kumi, Soroti, Bukedea and Kaberamaido, Hoima, Kiryandongo, Masindi districts fall within this unit. It is comprised of granites, gneisses, migmatites, granulites and charnockites.

Kumi, Soroti, Bukedea and Kaberamaido districts are mostly underlain by granitic/gneissose rocks of varying degree of foliation. A significant feature is the Aswa shear zone extending from the Nimule at the Uganda – South Sudan border, through Lira and Soroti up to western Kenya. In Soroti, the Apuch granite migmatite has been intruded pegmatite veins and dykes. Being within the Aswa Shear Zone mylonitic rocks are common. In Kumi, the rocks are less mylonitised and lithologies include granitic/gneissic rocks at various stages of foliation. In Ngora district near Kumi, the granites have rock paintings which are an archaeological feature. Granite in Kachumbala, Bukedea district is medium - coarse grained intruded by multiple veins and dykes.

The soils of Uganda are defined by a number of parameters including parent rock, age of soil and climate (NEMA 2008). The most dominant soil type is ferralitic soil which accounts for about two-thirds of the soils found in the country. Based on studies carried out in the past (NEMA 1996), Uganda's soils are divided into six categories according to productivity: (a) very high to high productivity, (b) moderate productivity, (c) fair productivity, (e) low productivity (e) negligible productivity and (f) zero productivity. The high productivity soils cover only 8% of the area of Uganda. Considering the country's size, this is indeed a small area and it may therefore be most likely to encounter short-term arrangements, especially in urban areas, where almost every inch of land is

developed either for residence and commercial purpose. Conversion of such land for project facilities would call for some sort of compensation.

At locations where RCIP facilities will be constructed, landform is an important aspect to consider since it influences access, site drainage and erosion (or foundation damage/ undercutting). For example, soils influence safety and speed of trenching when laying fibre optic cables.

3.2.4 Vegetation

The vegetation of a place is described from the species available and is influenced by the prevailing environmental conditions. Vegetation can be influenced by land form, soils, climate and anthropogenic factors such as fire, logging, mining, settlement etc. Vegetation cover in districts to be impacted by the project was carried out to understand the vegetation composition of the areas, rule out presence of endangered species and plan for management of endangered species when identified and finally ease planning initiatives in terms of re-vegetation exercises. Vegetation was classified in accordance with the routes taken starting with the Eastern to Northern route.

To study the vegetation structure and composition from the proposed site, a combined methodology of field observations, A Global Positioning System (GPS Garmin 60CSx) unit was used to locate quadrats within the sampled area. A diameter tape was used to record tree diameters at 1.3 meters or breast height, a pair of tape measures and stick poles were used to demarcate the quadrats. Measuring tree heights was made by using yardstick and estimates. A number of regional flora keys were used in the field for better species identification.

A comprehensive list of species identified during the study is presented in appendix 6. The subsequent sections provide information on project area flora composition extracts. The full reports on vegetation composition in the area shall be utilized by the project implementation team and shall form part of the client's documentation in monitoring initiatives.

3.2.4.1 Vegetation Cover for the Eastern-Northern Routes

The proposed project site lies within areas which have undergone several vegetation transformations, from their natural settings into commercial housing estate and these are often maintained places with short common herbaceous plants for all the selected sites; Bugiri, Bukedea, Busia, Dokolo, Gulu, Iganga, Jinja, Kaberamaido, Kumi, Lira, and Mbale. The vegetation of the proposed sites can be classified as secondary; the findings are as follows; -

- (i) All the proposed project areas have similarities in vegetation structure and species composition. They can be described as degraded areas characterized by fallows, perennial grasses and forbs constituting to ninety-eight (98%), and forbs with some remnant trees of both indigenous and exotics. Others were degraded areas due to presence of infrastructures like pathways, houses, and small gardens with only common garden weeds which are of least concern in their conservation status.

The proposed project areas are primarily located in the urban centers and therefore no primary habitats were recorded from any of the districts.

Bugiri: the study was conducted along the district library, Local Government Headquarters to the works office. Bugiri town is characterized by commercial buildings, and other structures like the administration blocks, with patches of bare ground and some green zones with short grasses dominated by *Alternanthera pungens* and *Bidens pilosa* among herbaceous plants and *Cassia siamea* and *Cedrela odorata* among trees.

Bukedea: Medium to short grasses and forbs dominated by *Bothriochloa insculpta*, *Alternanthera pungens* among the herbaceous plants and *Milicia excelsa* among trees.

Busia: Short garden weeds dominated *Eleusine indica*, *Aeschynomene abyssinica*, and *Bidens pilosa* among the herbaceous plants and *Artocarpus heterophyllus*, *Kigelia africana*, and *Psidium guajava* trees

Dokolo: the study was conducted along Electoral Commission, Uganda Police and National Teachers College (NTC). Areas with maintained vegetation dominated by *Brachiaria decumbens*, *Desmodium tortuosum* and *Eragrostis tenuifolia* all herbs, and *Mangifera indica* and *Grevillea robusta* (Mango tree).

Gulu: the study was conducted along the road to the office of Inspector General of Government (IGG), Police Headquarters, Gulu Human Rights Commission, RDC's office, Gulu Municipal Council and National Forestry Authority (NFA) among others. The vegetation was characterized by medium height herbs dominated by *Hyparrhenia filipendula*, *Ageratum conyzoides*, *Desmodium triflorum*, *Borassus aethiopum* and *Mangifera indica* dominated among tree species.

Iganga: the study was conducted along Iganga hospital, Municipal council stretch, and police station. Vegetation of short herbaceous plants are dominated by *Brachiaria decumbens*, *Bidens pilosa*, and *Canna indica*. *Broussonetia papyrifera*, *Cascabela thevetia*, *Cassia siamea*, *Tectone grandis*, *Gmelina arborea* and *Ficus pseudo-mangifera* all trees.

Jinja: The study conducted along Jinja district headquarters, Muwumba road to the civil service college. Vegetation was characterized by short herbs dominated by *Cynodon dactylon*, *Panicum maximum* and *Solanum incanum*. Herbs and trees included *Albizia grandibracteata* and *Mangifera indica* (mango tree).

Kaberamaido: Vegetation dominated by *Sida acuta*, *Sporobolus pyramidalis* and *Desmodium tortuosum* and *Mangifera indica* dominated among trees.

Kumi: Vegetation with common garden weeds dominated by *Sporobolus pyramidalis*, *Acanthospermum hispidum* and *Asystasia gangetica* all herbs. *Senna siamea*, *Senna spectabilis*, *Milicia excelsa*, *Ficus natalensis*, *Markhamia lutea* and *Albizia coriaria* all trees.

Lira: Vegetation dominated *Acanthospermum hispidum*, *Achyranthes aspera*, *Alysicarpus rugosus*, and *Boerhavia coccinea* all herbs and *Markhamia lutea*, *Mangifera indica*, *Terminalia mollis* and *Syzygium cumini* all trees.

Mbale: Vegetation characterized by short herbs *Acalypha brachycalyx*, *Adiantum incisum*, *Brachiaria brizantha* and *Centella asiatica* all herbs, and *Albizia coriaria*, *Ficus sycomorus*, *Jacaranda mimosifolia*, and *Syzygium cumini* all trees.

Tororo: The vegetation where the study was conducted, was characterized by trimmed short grasses, with tall remnant trees. *Jacaranda mimosifolia* was among the most dominant tree at Tororo district headquarters, and on the streets.

Species distribution in their respective life form in the Eastern-Northern Routes Vegetation cover

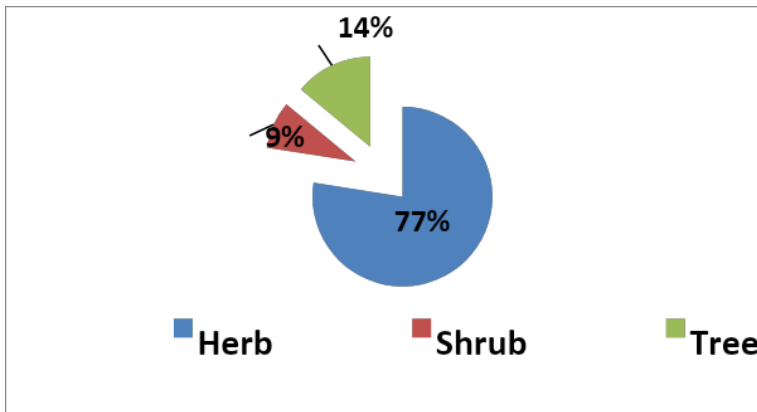


Figure 3.7: Species distribution in their respective life form in the Eastern-Northern Routes Vegetation cover

Figure 3.7: Species life form excluded the climbers because they were recorded as herbs because those encountered had not attained 1 cm of diameter. *Brachiaria decumbens* dominated among the herbaceous plant from all the sampled areas, followed by *Cynodon dactylon*, *Panicum maximum*, *Sporobolus pyramidalis* and *Tridax procumbens*. *Mangifera indica*, *Markhamia lutea*, and *Grevillea robusta* were the most dominant among the tree species from all the sampled areas.

Conservation status

A total of two hundred and ninety-three (293) plant species were recorded from eleven (11) districts of eastern Uganda including Gulu and Lira from the northern. (Jinja, Iganga, Bugiri, Busia, Mbale, Bukedea, Kumi, Dokolo, Kaberamaido, Lira and Gulu) and out those only four districts registered only two (2) species of conservation concern, these included *Milicia Excelsa* (Moraceae), and *Vitellaria Paradoxa* (Sapotaceae).

About 99% of the species encountered were of no conservation concern and have been listed under the IUCN red data list of the region (E.A) and on the national red list for Uganda therefore of least concern. The two threatened species recorded were *Milicia Excelsa* (Moraceae) (Globally): Lower Risk/near threatened ver 2.3, and nationally assessed as EN A2acd. *Milicia* also known as Mvule tree, only one (1) recorded in Bukedea district, (1) Iganga, (1) Jinja HDQ, and (2) Kumi district HDQ and *Vitellaria Paradoxa* (Sapotaceae) globally assessed as VU, A,1cd and Nationally as VU, A,2, ad. *Vitellaria Paradoxa* was recorded in only one location, Kumi district headquarters (1), and National Water and Sewerage also one (1).

Relation to the project: All the IUCN threatened tree species within the project areas, will be not affected by the project development because they are trees of high canopy, and excavations of the connection lines will be narrow to minimize great impacts to the vegetation, although any vegetation destruction can cause tremendous negative impacts to sensitive ecosystems, causing habitat alteration by killing of the native species, changing the genetic makeup of native species, and increase of soil erosion.

Invasive plants

The term invasive has been defined differently. Mosango *et al* (1999) refer to weeds as invasive and any plant growing where it is not wanted and interfering with human activity to be a weed. Aliens (exotics) are none endemic plants spreading naturally without the direct assistance of man in natural or semi natural habitat, to produce a significant change in terms of composition, structure or ecosystem processes. Invasive plants reproduce rapidly and can form stands that exclude nearly all other plant species hence altering the ecosystem. Some of the invasive plants hybridize with the native plants and change the genetic makeup. Among the species recorded from the study areas, fourteen (14) species were recorded as invasive or aliens accumulating to 5% (fig. 2). A total of thirty-four

(34) invasives or alien plants were recorded, and out of those; Iganga district sites registered the highest number of invasive plants with twenty-four (24), followed by Mbale with sixteen (16), Kumi with fifteen (15), Tororo and Jinja shared, each with eleven (11), Bugiri with nine (9) Bukedea seven (7), Lira six (6), Busia, Dokolo, and Gulu shared each with four (4), and lastly Kaberamaido with only two (2) (Appendix 6).

3.2.4.2 Vegetation Cover for the Western- Southern Routes

The study was conducted in selected urban centers of Western and Southern Uganda, and these include; Bushenyi, Fort portal, Hoima, Kabale, Kagadi, Kasese, Katunguru, Kiryandongo, Kyenjojo, Masindi, Mbarara, Ntungamu, Rakai, Rubirizi, Lwengo, and Sheema. The study was conducted to provide an insight into the plant communities, species composition, determine species status per each selected town for the internet cable connections and also to provide recommendations or mitigation measures.

Several plants recorded were identified, and their abundance and distribution was affected by the time since the change of land use and also other environmental factors, mainly topography, rainfall, climate, soil depth, soil parent materials, and more so the anthropogenic factors like vegetation clearance, cultivation, and infrastructure development like pass ways and buildings. Vegetation types differed at each site depending on the on-going activities and time factor. All the proposed areas were dominated by herbaceous plants followed by species of shrubs/trees, and lianas. All the proposed areas for the project are located within the urban centers, therefore the primary vegetation were cleared and replaced by exotic species which continue to serve as ornamentals with maintained short grasses, and some areas formed successional stages with their distribution determined by the soil water content and other ecological factors. All the proposed project areas have similarities in vegetation structure and species composition. They can be described degraded areas characterized by fallows, perennial grasses and forbs constituting to seventy three percent (73%), remnant trees /shrubs with twenty four (24%), and liana or climbers with three (3%). Most trees/shrubs were both indigenous or exotics, and some others areas were degraded due to presence of infrastructure like pathways, houses, and small gardening activities with only common garden weeds which are least concern according to the conservation status.

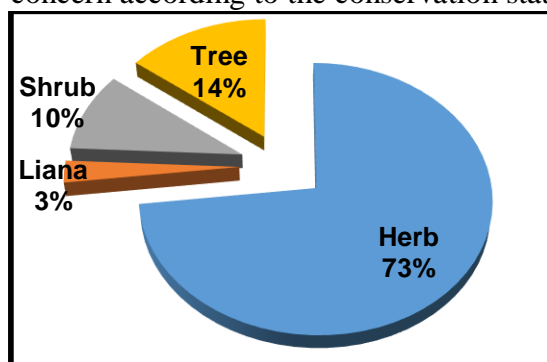


Figure 3.8: Species distribution in their respective life form

Figure 3.8: Shows Life forms and species dominance. *Panicum maximu*, *Cynodon dactyl*, *Ageratum conyzoides*, *Bidens pilosa*, *Cetella asiatica*, *Conyza floribunda*, and *Commelina benghalensis* dominated among the herbaceous plant communities, in all the sampled urban centers. *Markhamia lutea*, *Mangifera indica* (mango tree), and *Senna siamea* were the most dominant among trees. *Markhamia* is reserved in the communities to provide poles, and shades, *Mangifera indica* is planted as a fruit tree, and *Senna siamea* is basically planted in urban centers to provide the shade at sub counties, schools, and along roads. *Senna* is drought resistant, very invasive and it has been planted

in hot places like Kasese. Of all the species encountered in the study site, none is listed in the IUCN red data list. The species are therefore of no special conservation concern.

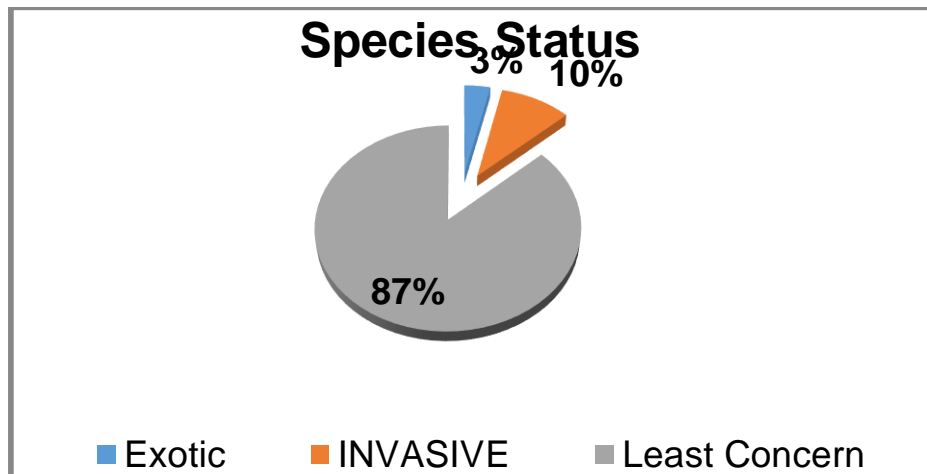


Figure 3.9: Proportionality and species status from all the sampled towns

Figure 3.9: Shows species status in all the sampled towns, most plants were with a percentage of eighty-seven (87%), assessed as least concern, invasive or aliens were twenty-two species accumulated to eleven percent (10%) and eight of other exotic but not invasive. Rakai recorded the highest number of invasive with ten (10), followed by Lwengo, and Masindi sharing each with eight (8), Kasese with seven (7), Kampala-Hoima road with six (6), Kiryandongo, Kyenjojo, and Mbarara shared each with five (5), Kabale with four (4), the rest recorded two or one species. The most common invasive species was *Lantana camara* (shrub), *Biden pilosa* (herb), *Cynodon dactylon* (grass), *Ageratum conyzoides*, (herb), and *Senna siamea* (tree).

Relation to the project: In all site areas therefore; for ecosystem and habitat change, vegetation coverage along the excavated lines will need to be monitored over time. Population trends, abundance and distribution of all species will also be monitored from the surrounding existing natural habitats. Specifically, changes in species composition should be monitored when the need arises.

3.2.4.3 Vegetation Cover for the Central Routes

The study was conducted in fifteen major towns of central Uganda, Mpigi, Lugazi, Lukaya, Mukono, Luwero, Kampala, Mityana, Mubende, Wakiso, Masaka, Kalisizo, Lyantonde, Nakasongola, and Buwama, to provide an insight into the plant communities, species composition, determine species status per each selected site and to provide recommendations or mitigation measures.

Several plants recorded were identified, and their abundance and distribution was affected by the time since the change of land use and also other environmental factors, mainly topography, rainfall, climate, soil depth, soil parent materials, and more so the anthropogenic factors like vegetation clearance, cultivation, and infrastructure development like pass ways and buildings. Vegetation types differed at each site depending on the ongoing activities and time factor. All the proposed areas were dominated by herbaceous plants followed by species of shrubs/trees, and lianas. All the proposed areas for the project are located within the urban centers, therefore the primary vegetation were cleared and replaced by exotic species which continues to serve as ornamentals with maintained short grasses, and some areas formed successional stages with their distribution determined by the soil water content and other ecological factors.

All the proposed project areas have similarities in vegetation structure and species composition. They

can be described degraded areas characterized by fallows, perennial grasses and forbs constituting to seventy-one percent (71%), remnant trees /shrubs with twenty-two (22%), and liana or climbers by seven (7%). Most trees/shrubs were both indigenous or exotics, and some others areas were degraded due to presence of infrastructures like pathways, houses, and small gardening activities with only common garden weeds which are least concern according to the conservation status. Among the plant species encountered, only eleven (11%) percent have been listed under the plant species by IUCN, one (1%) as threatened and eighty-eight (88%) as least Concern (LC).

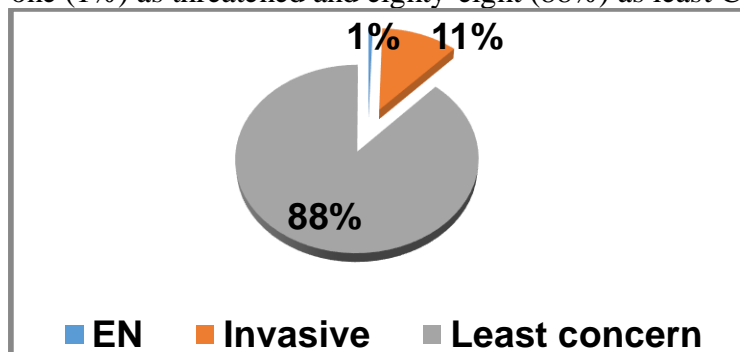


Figure 3.10: Proportionality and species status from all the Districts

Figure 3.10: Shows species status in all the sampled towns, most plants were indigenous with a percentage of eighty-eight (88%), assessed as Least concern, invasive or aliens were only two species accumulated to eleven percent (11%). Wakiso registered the highest number of invasive with twelve species (20%), followed by Mityana and Masaka shared each with nine (15%), Mubende and Kalisizo shared, each with with seven (11%), Lyantonde with four (7%), Lugazi with three (5%), Nasongola, Buwama, Luwero, and Kampala, with two each (3%), Mukono and Lukaya recorded the lowest number each with one each and Mpigi recorded no invasive species.

Relation to the project: The project entails minimal vegetation remove – tree branch trimming and with avoidance strategies for trees and shrubs given the flexibility of fibre cables to check on disturbances of plant species listed under the plant species by IUCN.

3.2.5. Fauna

With the project sites moving through mainly disturbed sites and having mostly secondary vegetation, the main organisms that may be impacted by the project will include ants, millipedes among others. Rodents were also observed in some of the grasses along project lines but these are highly mobile and with manual labour being the most preferred method of project execution, these should be able to move. While snakes were not observed, care will have to be taken to look at them while addressing aspects of biological hazards during project implementation.

3.2.5. Noise generation

To provide baseline knowledge on project area specific noise levels, measurements were carried out using a sound level meter for various areas in each district visited and are presented in Measurement of noise levels at selected areas was conducted to characterize noise levels within the premises. These shall form a basis for project activities' noise monitoring during the construction, operation and decommissioning phases of the project.

3.3. Socio-Economic Environment

3.3.1. Population

Between 2002 and 2014, the population increased from 24.2 million to 34.9 million. This gives an average annual growth rate of 3.03 percent. At this rate of growth, the population of Uganda is projected to increase to 35.0 million in 2015 and further to 47.4 million in the year 2025. The Uganda constitution 1995 recognizes 46 tribes (GoU 1995) with varying production and consumption patterns. Modes of production and the rural livelihood coping strategies range from mainly cultivators (e.g. Baganda, Bakiga, Bagisu and Basoga) to pastoralists (e.g. the Karamojong and the Bahima) the rest of the people derive their livelihoods from a mix of livestock keeping and cultivation or agro - pastoralism. In addition, Uganda has been and still is, home to several thousand refugees from neighbouring countries. There are also other non -citizens residing in Uganda as a preferred place for home or where they are engaged in various economic activities. Considering the size of Uganda and comparing this with cities such as Mexico and Lagos whose populations are in excess of 20 and 13 million people respectively, it can easily be concluded that Uganda does not have a problem with its population size. While absolute numbers may suggest Uganda is relatively under-populated, the concern is the inability to provide for these relatively few people. In the absence of adequate social services, even a small population becomes a constraint. In addition, a poor population however small, needs attending to otherwise its people may engage in activities detrimental to the environment especially where alternative livelihood options are limited.

The urban population in Uganda has increased rapidly from less than 0.8 million persons in 1980 to 6.64 million persons in 2014, an 8-fold increase in 34 years. This increase is mainly attributed to the creation of new urban administrative units, natural growth, demographic factors (excess of fertility over mortality) and Rural-Urban Migration (UBOS, 2012). Kampala City has by far the highest population density. The population growth rate of Kampala City is above the national average even though the population growth rate of Central region, in which Kampala City is located, is the lowest among the four regions (North, Eastern, Western and Central) in the country. The lowest population density by region is 65 people per square kilometres for the Northern region.

Relation to the project: Increased investment in ICT will aid sustainable development with better knowledge sharing opportunities and improved service delivery.

3.3.2. Urbanization

Although Uganda is one of the least urbanized countries in the world in absolute terms, the urban population is growing. Urban population in Uganda increased from less than one million persons in 1980 to about three million in 2002, representing a nearly fourfold increase. However, between 2002 and 2014, the urban population rapidly increased to 6.64 million.

Relation to the project: Due to land scarcity in urban areas it's increasingly becoming costly to compensate landowners to acquire land for project facilities. The project shall mainly utilize road reserves. In the very unlikely event that the potential to impact on private property emerges, subsequent steps shall be taken by the project teams through the known grievance management mechanism.

3.3.3. Safe water and sanitation

Access to safe water and sanitation in both urban and rural areas has increased compared to the situation 10 years ago. For example, in 1991, only 11 towns had the services of the National Water and Sewage Cooperation (NWSC) but now the corporation covers 19 towns. By 2004, rural access to safe drinking water had increased to 57% while the urban one was at 67%. If current trends continue,

and incremental investment funds are procured, Uganda should meet its Millennium Development Goal on water supply. While safe water access per se has improved, functionality of water points is another key issue.

Relation to the project: while availability of safe water and sanitation will be important for construction, the need to ensure that operations do not impact on water quality shall be emphasized in meetings, risk assessments and toolbox talks.

3.3.4. Project Environmental and Social Setting

3.3.4.1 Archaeology and Cultural heritage

An archaeological and cultural heritage impact assessment was carried in order to ascertain the likely impact of the project on cultural heritage resources. This was done to ensure that cultural heritage is protected in the course of project activities. The following features of cultural heritage significance have been identified in the study area or adjacent to it:

- Archaeological remains:
 - (i) These included ceramics especially pottery of the Late Iron Age (roulette) and Early Iron Age (Urewe) sherds
 - (ii) Faunal remains (a bone) were recorded in some project areas, a direct evidence of human settlement in the area during the Early Iron Age and Late Iron Age (LIA). Therefore, recommendations to this effect have been laid down in this report.
 - (iii) Lithic artefacts or Stone Age remains typical of the Later Stone Age (LSA).
- Historical sites
- Cultural heritage sites: these included places of traditional worship, medicinal plants among others
- Grave yards/cemetery: Since the survey was mainly undertaken on the surface many graveyards may have not been identified but these are likely to be encountered in the process of construction.

Details on the mitigation measures for these sites are spelled out in the ESSMP. From a heritage point of view, we recommend that the proposed development can continue on condition of acceptance of the recommended mitigation measures forwarded in this report. The ESIA team further recommends that if archaeological sites or graves are exposed during construction work, the project team should immediately report this to the heritage specialists so that an investigation and evaluation of the finds can be made.

The archeological survey was guided by the need to:

- Identify possible archaeological, cultural and historical sites within the proposed development area
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources; and
- Recommend, mitigation measures to alleviate any negative impacts on areas of archaeological, cultural or historical importance.

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determine the potential of the project area. In this regard various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted. As a result, general information was obtained a summary of which appears as Appendix 5.

The aim of the desk-based assessment was to determine, as far as is reasonably possible from existing records, the nature, extent and significance of the archaeological, historic and cultural heritage within the Study Area. Data available at the Uganda Museums and Monuments Department and literature from the Uganda Society Library revealed presence of cultural heritage in the project area and northern region at large. Key secondary data sources consulted included papers on archaeology, anthropology and history. These included the *UNESCO General History of Africa* (Moktar (ed.)

1981); the *Encyclopaedia of African History* (Shillington (ed.) 1995), and the *Encyclopaedia of Precolonial Africa* (Vogel (ed.) 1997). Papers on archaeology, anthropology and history especially journals were consulted, such as the *Journal of African Archaeology*, *African Archaeological Review*, *and History in Africa*, *Journal of African History*, *Uganda Journal*, *Journal of World Prehistory*, *Nyame Akuma*, *Antiquity*, *American Antiquity*, *Azania*, *Journal of Anthropological Archaeology*, *Journal of Archaeological Science*, *East African Geographical Review* and *Quaternary Science Review*.

In addition, some European travel reports and geographical papers dating to the mid- to late-19th century provide insights into the populations and cultural practices. These included Speke and Grant's journey to the source of the Nile in 1862 (Speke 1863); the journey of Sir Samuel and Lady Florence Baker between Masindi, Karuma Falls and Gulu in 1863-4 (Baker 1866), and the diaries of Emin Pasha of the 1870s and 1880s (Dunbar 1960; Gray 1961-1962).

Project areas like Uganda generally have only undergone limited systematic archaeological and cultural heritage survey and it is likely that a number of sites are yet to be discovered. Some of the districts were subjected to field survey. Field survey was in two forms and these are ethnographic interviews with key stakeholders and archaeological survey.

Ethnographic inquiries (interviews)

Community oral interviews were conducted to identify sites of cultural heritage importance. These were in the form of focus group discussions and individual interviews with community members of the affected areas. These were conducted to obtain information about the cultural heritage resources and their significance. In general interviews were conducted all through the project area whenever the team members had a chance to meet the knowledgeable people who included both the youths and the elders without discrimination. Stakeholders led the researchers to some of heritage sites and gave recommendations on what should be done in case the heritage was to be affected by the proposed project as it is explained below in the management plan.

Archaeological survey

Archaeological survey was both systematic and unsystematic. This entailed foot walk surveys in the project area. In areas that had clear vegetation as in Plate 3.1 survey was systematic. While areas with thick vegetation survey was done following footpaths, erosion gullies, and new cut pits and none built up or vegetated areas. Unsystematic foot surveys were used due to the presence of overgrown vegetation as the project is located in road reserve areas. Identified archaeological sites were recorded using a Geographical Positioning System (GPS) using the coordinates. The archaeological materials identified such as pottery were analyzed on site.



Plate 3.1: Systematic archaeological survey

Therefore, some cultural heritage resources may not have been identified due the disturbance of road constructions that had already taken place. It is important to follow the Chance Finds Procedure laid down in this report during the implementation phase to identify those in the subsurface. Some part of the project area is located in already disturbed area because of human activities such as farming, water pipe trenches and some of the artefacts are no longer in their primary archaeological context.

Archaeological materials were identified, catalogued and analyzed in the field. Pottery was examined to understand the nature of past human behaviours. Sites with pottery scatters were identified through observation. This helped in examining their significance which guided in suggesting the mitigation measures.

Basing on the districts sampled, some of the project areas possess cultural heritage potential. Common archaeological materials observed were pottery and bones. No lithic and iron working material artefacts were observed from the project areas. Some of the areas where cultural heritage materials were identified included the following.

Kiryandongo Archaeological site 1

This site is located within the project area in Kiryandongo sub county; Kiryandongo district at a GPS coordinates 01°52.697 N, 032°03.762 E. A piece of bone was observed and recorded; it was heavily worn out and weathered. Potsherds with reduced firing, grog inclusions, and twisted roulette decoration were some of the archaeological material observed in this site which is within the right of way of the proposed fibre line. This is close to the current offices of Justice Law and Order Sector and Kiryandongo Police Station. At another location of 01°52.698 N, 032° 03.813 E more potsherds were recorded with Urewe and knotted roulette decoration and some were plain these were still in situ. This site and materials are in the way of the proposed cable line on the way to Nakasongola district headquarters. The presence of string knotted roulette suggests the site can be dated the Late Iron Age period while Urewe implies the Early Iron Age period.

Analysis of the findings indicated existence of Urewe pottery and string knotted roulette pottery (Plate 3.2). Urewe pottery collections are direct evidence that this site accommodates history from about 500 BC- 800 AD of Early Iron Age (Hendrickson and McDonald 1983) and roulette decorated potsherd indicate human settlement during the Late Iron Age. This site is important in the history of Uganda, showing the use of pottery and a transition from hunter gathering period to domestication of plants.



Plate 3.2: String knotted roulette potsherds.

Kiryandongo Archaeological site 2.

This site is located at 01°53.121'N, 032°03.747'E within the project area in Kiryandongo Sub County; Kiryandongo district. The site is situated in a disturbed area because of human activities such as farming and construction of the new town council headquarters which are located within the premises of the site. The site is comprised of potsherds in form of necks, rims and other parts with roulette decoration as indicated in Plate 3.3 below.



Plate 3.3: Mammilated wavy line roulette decoration.

From the analysis of the pottery, this site also belongs to the Late Iron Age. The impact magnitude of the project on this site is high since it is within the project area.

Gulu Archaeological site 1

The site is located within the project area along Vikmmati Primary School also termed as the Police Barracks Primary School in Gulu district. The site had surface scatters of pottery with various decorations. The site stretches from GPS coordinates 02°46.252'N, 032°18.469'E to 02°46.233'N, 032°18.239'E. The site is also covered with bones that differ in size and shape. The conservation conditions are not good for the bones because some are split in pieces while others are heavily worn out and weathered. This site is within the project area and in the right of the way of the cable line on the way to the offices of the National Forestry Authority of Gulu. Some of the findings are as shown in Plate 3.4

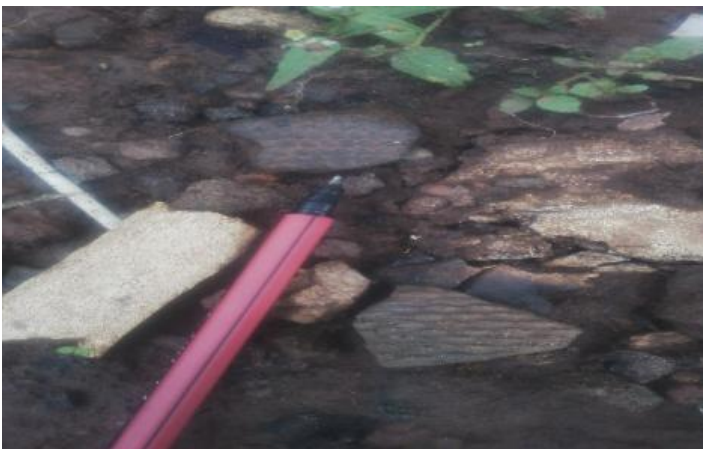


Plate 3.4: Potsherds of knotted, curved wood roulette and bones

Data from Gulu site 1 shows the presence of potsherds with oblique incisions together with knotted roulette and curved wooden roulette that all suggest a date of the Late Iron Age. The makers of pottery used coarse gravel as temper. Pottery is a direct evidence of early human settlement which helps to determine the lifestyle of prehistoric societies such as social ranking and gender. These potsherds could also be used to decipher how various areas within the societies were used. The impact magnitude on this site as a result of the project is therefore very high due the presence of pottery.

Nakasongola Archaeological site 1

The site is located behind the military barracks within the project area in Nakasongola district at coordinates 01°18.791'N, 032°27.598'E in the premises of the current District Headquarters of Nakasongola. The site comprises of pottery of different types of decoration. In terms of surface finishing, they were red burnished. Some are plain with no decoration but with a combination of well fired (oxidized) and reduced fired potsherds. Archaeological materials were observed in the edges of erosion gullies. The erosion has exposed them to weathering processes whereby materials like bones, teeth are in a fragile state. At the site, samples of decorated and undecorated pottery were recorded and analyzed as shown in Plate 3.5 below.



Plate 3.5: A bone in situ and curved wood Roulette decorated pottery

Results from the analysis of materials from the Nakasongola site revealed both undecorated and decorated pottery. The decoration motifs identified in the area included: string knotted, mammillated roulette and curved wood roulette all typical of the Late Iron Age. In terms of temper, coarse gravel of quartz and grog were used. All these showed the nature and kind of pottery making that characterized the Late Iron Age. The association of pottery, teeth and bones in this site, probably indicates that the people who lived in this area not only depended on cultivation but also survived on other food sources such as meat from hunted and domestic animals. Pottery is also important in understanding the lifestyle of prehistoric societies, where ceramics provides a vital source of technological, economic and social insight. They are often the principal source of archaeological data used for everything from identifying a site to understanding socio-economic activity and dating (Reid, 1994/5; Thompson and Young, 1999).

3.3.4.2 Living Culture

Apart from the archaeological material remains within the project area some other signs of cultural heritage were identified. These were in Gulu district where aspects of living cultural sites exist as revealed from residents. Only one living cultural site was identified within the way of the proposed

project area which needs to be taken care of during the implementation phase. This is the Gulu mass grave or cemetery.

Gulu mass grave/ cemetery

The mass grave is located within the project area in Gulu district at GPS coordinate of 02°46.581'N, 032°17.932'E. This is the same area where the new Human Right Commission Gulu Headquarters has been constructed. Historically, this area was a cemetery harbouring hundreds of the remains of people who had no relatives to claim their bodies and therefore this was a burial place for Gulu hospital. According to Mr. Ogwanga N, a Human Rights Commission Gulu official, there were some bones that were exposed during the laying of the foundation of their offices (Plate 3.6). However, no archaeological material was observed on surface. But this could be because no professional cultural heritage or archaeologist was contracted to offer guidance and advice.



Plate 3.6: The new Uganda Human Rights Commission Block

The dead in the African culture are to be respected and human remains are supposed to be kept sacred. Therefore, this site (cemetery/mass grave) should have been respected.

3.3.4.3 Assessment of Impact

Environment and social parameters to be assessed included; Archaeological and Historic Sites. The output of this was: archaeological baseline; cultural and historic baseline; identification of traditional use and culturally significant areas potentially affected by the development. The assessment of the impact was done using the SWOT analysis (Figure 3.11).



Figure 3.11: SWOT Analysis

3.3.4.4 Strengths and Opportunities of the project

- a) The laying of fibre cables will help to train the workforce involved in the project with better skills.
- b) The proposed development will open up accessibility of markets of locally produced goods such as agricultural products.
- c) The Proposed development will create jobs for the local people during the construction. Therefore, increasing on the local people's income hence creating better standards of living.
- d) Cultural tourism potential

3.3.4.5 Weaknesses and Threats

The survey anticipates the project area to yield more archaeological materials especially pottery and iron slag at the ground breaking stage. There is therefore a direct impact on the underground archeological material and general on the cultural heritage resources.

- Change to the land surface Land will be cleared (e.g. of medicinal plants), levelled, excavated and compacted (as a result of vehicle movements).
- Surface material (artefacts) will be re-deposited, damaged or destroyed as a result of any ground works.
- Sites of cultural significance (e.g. sacred trees, sacred forest) will be destroyed.
- Subsurface remains (e.g. graves) will be compacted and damaged by vehicles.
- Physical pollution can arise from construction-related materials or other non-natural materials.
- Damage to archaeological deposits and/or sites of natural/cultural significance (e.g. sacred water courses) could also occur as a result of construction vehicle fuel spillage or leakage.
- Change in environmental setting
- Construction activity can result in increased noise levels, dust and visual disturbance. The physical setting of a cultural or religious site (e.g. sacred area) could be disturbed as a result.
- Intangible cultural heritage practice may also be affected consequently.
- Demographic changes Construction activity in the area may instigate demographic change (e.g., increased income, education, healthcare and in-migration) and can affect change.
- Damage to religious sites
- Accessibility to heritage sites may be limited

- Community cohesion being broken

3.3.4.6 Project Area Photographic and Noise Presentations

This section provides a summary of the main beneficiary areas visited in each district as guidance for the project as it expands to other beneficiaries accessible to the NBI. Tabulated summaries for in each cluster showcasing average baseline noise levels for and photographic registers for selected sites within the districts are presented in Appendix 11. Of importance to note are the following common observations:

- Landlords shall need to be consulted and kept informed about project developments along district roads.
- Many districts have roadside gardens which have to be addressed.
- Aspects of traffic management especially on route near schools and busy town centers need to be considered.
- A number of government facilities are on rented properties with plans to move in the near future which shall guide decisions on approaches to be implemented during project execution.
- A number of major routes or streets have been renovated or plans are underway to have them repaired which could impact on service delivery. Liaison with relevant stakeholders is therefore vital.
- The universities already utilize another system, an aspect that the client shall need to put into consideration to harmonize different service providers especially in all government education institutions.
- There is also need to ensure that head offices of the various MDAs are aware of the connections before commencement of the exercise.

3.3.4.8 ICT access

The total number of internet subscribers increased by 33.6 percent in 2013 and this was due to a 5.1 percent increase in the fixed internet subscribers and a 34.6 percent increase in the mobile internet subscribers. The internet penetration rose from 8.2 percent in 2012 to 20.7 percent in 2013 and this was as a result of an increase in accessibility to the internet which has been brought about by the ease of mobile phones to access the internet.

Other key statistics include:

- Telephone subscribers increased by 10 percent from 16.7 million in 2012 to 18.3 million in 2013.
- The average on-net domestic call rate increased by 38.9 percent from 216 shillings in 2012 to 300 shillings in 2013.
- The total number of mobile money registered customers increased by 151.5 percent from 5.7 million customers in 2012 to 14.2 million customers in 2013.

Relation to the project: The proposed project will enable faster increase in access to ICT services in the country.

CHAPTER FOUR

PROJECT DESCRIPTION

4.0. Project Description

This Chapter identifies the locations and scope of the proposed project, and provides a description of the various components and arrangements for the provision of broadband services from the existing NBI network to the various project sites including the routes along the road network.

The Regional Communications Infrastructure Project (RCIP) project implementation start date was 1st July 2015. It gained project effectiveness on 23rd September, 2015. Under the Regional Communications Infrastructure Project (RCIP 5), Government of Uganda borrowed USD 75 million from International Development Association (IDA) and spend it over a five year period to: (i) improve coverage for IT infrastructure in the country; (ii) improve the delivery of public services by improving efficiency through government cloud infrastructure; (iii) building capacity in management of IT programs and projects; and (iv) improve policy and regulatory environment for ICT in country. The project will also entail a technical assistance component to finance advisory, technical and project management support in order to achieve project objectives.

Project Components and sub components

Component 1 – Enabling Environment

This component aims to support the capacity of MICT and the National Information Technology Authority, Uganda (NITA-U) to review, develop and implement relevant ICT policies, strategies, laws and technical regulatory frameworks to support a modern and vibrant ICT sector. Specifically, this component will finance strengthening of the policy, legal and regulatory environment necessary to support a modern and vibrant ICT sector.

Component 2 - Connectivity

In addition to improving the enabling environment, complementary infrastructure investments were also needed to ensure greater access to affordable, high quality ICT services, both within Uganda and in neighboring countries. To address these challenges, the Government of Uganda intends to connect additional underserved regions of the country to the NBI and create new links to neighboring countries. The sub components under Component 2 include the following projects;

- a) Pre-purchase of bulk internet bandwidth for priority targeted user groups
- b) Implementation of Missing Links Project to NBI in order to improve regional connectivity and the reach, availability and resiliency of NBI and provision of green energy solutions for new and existing NBI transmission sites to improve power reliability, and reduce costs and pollution. This project is currently under implementation and a separate ESIA was approved by both World Bank and NEMA.
- c) Last mile broadband solutions for connecting Government MDAs, schools, hospitals, NGOs, and businesses. The Last Last Project is the subject of this ESIA.

Component 3 - e-Government

Increased access to affordable, high quality connectivity and a conducive enabling environment offer the opportunity to transform public service delivery through use of ICTs to improve the lives of ordinary Ugandans. To achieve this goal, the Government intends to deploy a range of enabling e-Government foundations, i.e., shared infrastructure and services, in order to simplify implementation

of sector specific e-Services by MDAs, collectively referred to as a *Shared Public Service Delivery Platform*.

Component 4 – Project Management

This component will finance project management and coordination including procurement, financial management, monitoring & evaluation and environmental and social safeguards management.

4.1 The Last Mile Construction Project: Component 2; 2.3

The Last Mile project will provide broadband connection to 1000 project sites (Government Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs) across over 40 districts in the country, namely; Kampala, Mukono, Jinja, Iganga, Gulu, Busia, Mbale, Hoima, Soroti, Tororo, Lira, Kabarole, Kasese, Masindi, Nakasongola, Wakiso, Luwero, Kiryandongo, Dokolo, Bushenyi, Bugiri, Lwengo, Lyantonde, Kalungu, Kibaale, Kumi, Rakai, Mpigi, Bukedia, Masaka, Mbarara, Ntungamo, Kabale, Sheema, Rubirizi, Mityana, Mubende, Kyegegwa, Kyenjojo and Kaberamaido, involving the installation of approximately 1000 km of fibre optic cable and 15 Point-to-Point (P2P) wireless links in all districts.

The project involves several activities including; conducting field surveys, development of designs for all last mile connectivity sub-system components, ground truthing for selected routes after design completion (final project routing and design shall be accomplished after selection of competent contractor), delivery and installation of hardware sub-systems in accordance with the approved design plan, integration of all network elements in the Network Management System for central monitoring and management at the Network Operations Center, conducting standard security verification for all network sub-systems, including configuration, testing and commissioning of all network elements as per design. The ESMP shall be reviewed to capture new aspects identified after design completion.

The proposed project shall start with route scouting and planning for specific sections for the designs to be developed by the contractor. The designs will be approved by NITA-U. This intends to use existing infrastructure with minimal disruption of the eco-system. It is worth noting that full decommissioning and restoration plans shall be provided towards the end of the project life span. Operation aspects like waste accumulation and management are already catered for under the NITA-U RCIP waste management plan, the draft waste management regulations and draft e-waste management strategy.

It is expected that 1000 sites will be connected under this project. This is critical to utilize the pre-purchased international capacity and backbone infrastructure under Sub-component 2.1 and 2.3, to enable delivery of E-government services across the Country and to improve the efficiency and productivity of Government Operations. This ESIA has taken into account all potential connection scenarios to enable project teams look at potential impacts during project execution.

4.1.1. Objectives and justification for the project

The ESIA provided an opportunity for information on the baseline conditions of the receiving environments focusing on potential positive and negative impacts of the project, recommended mitigation measures and provided an Environment and Social Management and Monitoring Plan. The main objective of the study was to carry out an Environmental and Social Impact Assessment (ESIA) for the proposed project and have it presented as an Environmental and Social Impact Statement. The ESIA utilized expert studies on all relevant project aspects like vegetation clearance, cable installation, stakeholders' engagements through stakeholder consultations (government and local communities) on the project among others. Properly structured Impact Assessments were carried out

and relevant action parties clearly stated therein.

The project shall improve on government business efficiency through provision of first and affordable network connectivity. The project shall be carried out in only designated areas with appropriate approvals from NEMA and resident Local Governments. It shall also have a robust grievance management system.

4.2. General Description

The proposed design of sites development will in principle be within 5 kms from the existing NBI point-of-presence in each district save for some remote sites where pole erection to these points shall be a last resort with utilization of existing infrastructure looked at first. A description of the areas that shall be potentially impacted is provided with GPS coordinates for either the routes to be taken or the exact location of the beneficiaries to provide room for relocation of some offices in the various districts.

4.3.Site Preparation

Site preparation works will involve surveys to finalize project specific designs in line with existing land uses/ activities and the respective urban regulatory frameworks and physical plans. The detailed final design/routing of the aerial cable alignments has not yet been determined. This will be undertaken by the contractor as part of its contract obligation, through an actual ground survey of each project district. The contractor shall also prepare its own site-specific CESMMP. The approved designs will ensure that the contractors shall:

- a) stay within the road reserve
- b) avoid or workaround houses, walls, other private structures and graves, even if they are inside the road reserve; and,
- c) avoid routes that would cause damage or disruption to utility pipes, wires and sewerage pipes.

4.3.1.Construction Works

In this section, aerial transmission of the fibre cable will be opted for thus involving installation of the cable using poles. The last pole from the NBI is often outside the client's perimeter therefore there will be cable drop from this pole to enable access into the building. The only construction work will be gaining entrance into the build to complete the installation. Installation teams shall ensure that trees and shrubs are avoided during this exercise and that works are carried out in liaison with relevant LG offices, like NWSC among others.

4.3.2. Expected Implementation Materials

The equipment required is only hoes, pangs and axes given that the project implementation will be utilizing Indefeasible Right of Use [IRU]. The equipment and workforce shall be outsourced from competent contractors so as to ensure project completion within the planned time frame. Contractors will be encouraged to use local labour as much as possible save for where activities will require use of specialized machinery. It is anticipated that most of the works in this phase will be labour (skilled and unskilled labour) intensive. All the construction works will be restricted to the project site. All

materials utilized shall be as per agreed Bill Of Quantities (BOQs) provided by competent project contractors. All implementation materials and works shall be procured and carried out to the best National and International standards and shall be appropriately stored to protect material integrity. Where materials are finished, the contractor shall ensure that only compatible materials are purchased for the project.

Competent security contractor(s) hired for the project to ensure protection of materials and personnel at the site. Where this is not feasible, the project teams shall work together with resident security teams to provide safety for people and equipment and traffic management during project implementation.

During Implementation all generated waste shall be handled by a NEMA licensed waste handler as per the NITA-U waste management plan.

4.4. Operation phase

4.4.1. Description of the Operational Works/ Phase

Regular maintenance activities will be undertaken throughout the operational life of the network to maintain infrastructure efficiency. Maintenance regimes shall have to be adhered to as connectivity is extended to additional sites to ensure efficiency. Cable repair and maintenance may be required in case of damage, failure, age /redundancy in which case proper Environment, Health and Safety job plans and Task Risk Assessments shall be carried out prior to execution of works. Project related electronic waste disposal shall be carried out in line with the NITA-U in house waste management plan and the Waste Management Regulations.

Maintenance, inspections and audits shall be carried out by fully dedicated teams and desired corrective actions closed out. A lessons learned folder shall be developed, utilized and regularly reviewed in ensuring continuous improvement in various project aspects. Where applicable, annual audit reports shall be sent to NEMA for consideration and further guidance. Waste management shall be carried out as per the NITA-U waste management plan.

4.5. Waste Management Facilities

During preparation, Construction and decommissioning phases, designated waste collection points shall be provided with waste stored on a daily or weekly basis by a NEMA licensed waste handler. Human waste management shall be through the use of portable units (portaloos) that shall be periodically emptied by a licensed waste handler. Where applicable, nearby toilet facilities shall be utilized by project teams with prior approvals from the owners. Waste management during the operation phase shall utilize toilet facilities at premises connected to the network. At the operation phase, E-waste shall be given extra attention around its storage, collection and final disposal. NITA-U is still working together with relevant lead agencies to formulate a strategic work plan for electronic-waste management.

4.6 Decommissioning phase

When cables, batteries and other project associated items reach end of life or become redundant due to technological advances, their removal or decommissioning may be considered. For the electronic waste NITA-U shall ensure that all aspects of sound electronic waste management are explored in compliance with the waste management regulations.

To ensure that due consideration is given to all the relevant issues, it is recommended that a detailed evaluation of facility decommissioning options be carried out. The evaluation should consider environmental and social issues in conjunction with technical, safety and cost implications to establish the best practicable environmental options for the decommissioning of the cable. Detailed decommissioning and restoration plans and guidelines shall be developed and followed during the decommissioning phase of the project.

Decommissioning shall provide for a detailed decommissioning and restoration plan showcasing the fate of various project units like batteries, conduits, fibre cable retrieval among others at the end of the project life cycle. Decommissioning often occurs due to change in technology and introduction of something better and safer or a project reaching its end life among others. Risk assessments, toolbox talks and safety analysis tools shall be utilized in preparation for this phase with protection of the environment and people at the top of the agenda. A cost benefit analysis may also be carried out prior to the start of the works with clear alternatives on what these absolute units could be utilized for. Just as was the case during the construction and operation phases, Best Available Technology shall be looked into during this phase of the project. A clear decommissioning and restoration plan shall be developed and sent to NEMA and other stakeholders for approval prior to commencing with the decommissioning works.

4.7. Roles and Responsibilities

In order to enhance the potential for integrating sustainability concerns in the proposed development, it is important to assign clear roles and responsibilities to relevant professionals including in partner agencies, contractors and/or subcontractors so as to ensure that environmental and social plans are implemented effectively and in a coordinated manner.

4.7.1. The Role of NEMA and Lead Agencies

NEMA will, in consultation with all the Districts where the project is located, monitor all environmental phenomena with a view of making an assessment of any possible changes in the environment and their possible impacts; the operation of any industry, project or activity with a view of determining its immediate and long-term effects on the environment. An environmental inspector appointed by the authority will enter any premises for the purpose of monitoring the effects on the environment of any activities carried out on that land or premises.

4.7.2. The Role of Ministry of Gender, Labour and Social Development

The Ministry will be responsible for ensuring compliance for occupational and health policies, children rights, gender and labour laws.

4.7.3. The Role of Local Government

The custody and implementation of development policies directly falls in the hands of Local Governments through decentralization frameworks. The continuous need to mitigate environmental impacts must be well conceptualized and understood by main actors within the Local Government setting. This includes the Town Clerks/Sub County Chiefs, the Town Council/Sub County Executives. They shall play a great role in community consultations, form part of the monitoring teams and Grievance Redress Committees among others.

Appropriate checklists for monitoring and compliance to the ESIA conditions of approval and ESMP

need to be developed and Trainers of Trainers for future capacity building be identified and trained on the modules in the manuals. This is important especially given that there are some categories of elected leaders in the decentralization system whose term of office easily expires with the onset of fresh elections. Sustainable capacity for enhancing knowledge and skills of these statutory bodies must be generated even beyond the project life cycle.

While local government officers such as Districts environmental officers (DEOs), Municipal environmental officers (MEOs) and Community Development Officers (CDOs) should be involved in roles such as monitoring and grievance management, they largely lack technical competency in requirements of World Bank safeguard policies. Training relevant local government staff in World Bank policies is therefore important before the project commences. These teams shall play a great role in ensuring compliance as the project goes through districts in their jurisdiction.

4.7.4. The Role of the Developer [NITA-U]

Although the contractor will have the primary role in delivering on the measures set out in the ESMMP, the developer (NITA-U) will have the ultimate responsibility for ensuring that the measures are delivered. In this respect, the developer will review and approve contractor designs and plans for delivery of the actions contained in the ESMMP and subsequently during project operation, review contractor performance through monitoring, audits and inspection to ensure that all proposed mitigation measures are implemented as well as ensuring regulatory compliance.

NITA -U is responsible for ensuring relevant stakeholder government agency coordination and collaboration for effective and timely implementation of the ESMMP. NITA-U is also responsible for ensure appropriate process are followed in implementing safeguards and preparation of any separate (environmental and) social action plan are where required as may have been identified through the impacts assessment and defined in the ESMMP and risk assessments. Other roles will be:

- Monitoring implementation of mitigation actions by contractors
- Coordinating training and capacity building where planned
- Periodically report to NITA-U, MICT and IDA about implementation of the ESMMP
- Select competent contractors and personnel to ensure that the project is successful
- Provide for inductions and awareness sessions on various relevant aspects
- Ensure that an HSE Policy is developed and adhered to during the operation phase of the project.
- Ensure coordination with various stakeholders and facilities on project needs.
- Ensure that all project relevant permits are acquired and complied to.

4.7.5. The Role of the contractor

Prior to the commencement of the installation works the contractors will be required to prepare their own site specific Environment Management and Monitoring Plan (ESMMP) based on the approved designs and ensure its implementation. NITA-U will review this ESMMP and ensure that the mitigation measures are complied with. The contractors' organizations must have sufficient, adequate and competently resourced to fulfill the environmental and social requirements established in this ESMMP and supporting documentation. Clearance of the Contractor should consider the adequacy of the environment and social competencies. During site preparation and construction, the contractor will be responsible for ensuring compliance with all relevant legislation as well as adherence to all environmental and socio-economic mitigation measures specified in the Environment Management and Monitoring Plan. The contractor is also responsible for managing the potential environmental, socio-economic, safety and health impacts of all contract activities whether these are undertaken by themselves or by their subcontractors.

Prior to start of construction, the contractor shall prepare and submit the Contractor's Environment and Social Management Plan (CESMP) site specific based on the approved designs to the supervising engineer. The client shall verify and ensure the consistency of the EMMP and CESMP and during construction ensure monitor overall compliance of the contractor. The contractor shall also prepare an occupational health and safety (OHS) plan; as well as workers' code of conduct (where necessary translated into the local language) and educate all workers on their contractual obligations to comply with the workers' code of conduct.

4.7.6. The Role of the Ministry of ICT and National Guidance

This Ministry is in the forefront in steering the management of the activities and projects of RCIP. It may be beyond this ESIA to suggest staffing needs of the key entities of this Ministry and its agencies with regard to RCIP. However, coupled with the need to cope with the requirements of this ESIA, the following actions need to be undertaken to build capacities of such bodies:

- Conduct an orientation training that will provide additional knowledge on integration of ESMP into their supervisory and monitoring roles; and
- With emerging technologies it would be advisable to run introductory courses on some computer packages to be used in the management of RCIP.

More importantly, NITA-U's safeguards technical capacity should be raised for it will be directly responsible for implementation of the project. Currently NITA-U has recruited an in house socio-environmental staff to spearhead implementation of environmental and social aspects of the project.

4.7.7. The Local Communities

Recipient local communities need to appreciate the ESIA as part of their RCIP management tools. One of the most immense tasks in the project is to mobilize community support for the project as well as provide communities with commensurate education on consuming and using water in an environmentally friendly manner.

The faster way of doing this is to ensure that community leaders understand the whole concept of RCIP and the ESIA in order to be able to translate the role of the community in implementing the ESIA. They shall also help in ensuring minimal damage to structures, crops and trees and disruption of daily resident activities.

4.7.8. The Monitoring Team

A core team of people preferably headed by the RCIP ESIA specialists and comprising of District Environment Officers, other specialists from health, archeology, building and planning department, NEMA should carry out the monitoring process. The monitoring team will start its work during the construction phase and continue throughout the operation phase and ensure that the proposed impact management measures are implemented as suggested in this report.

The monitoring team will most particularly check for the following issues among others;

1. Collaboration of the developer with officials in the project districts and 1000 MDAs to ensure that operations of this structure meet regulatory requirements.
2. Supervise implementation of all the proposed mitigation measures.
3. Compile a monitoring report indicating all non-conformances and mitigation measures.

4. Conduction of regular environmental audits for the structure at least once every year and reports submitted to the National Environment Management Authority (NEMA) for review to ascertain compliance with the environmental regulations and suggested mitigation measures as required by the National Environment Act Cap 153.

Reporting Arrangements

The ESMMP Monitoring team shall report to the steering committee of the Project.

4.7.9 Grievance Resettlement Mechanism

The RCIP ESIA Specialists will operationalize Grievance Redress Committees to ensure that project affected communities (PACs), workers and the public are able to present and have addressed their grievances to both the NITA-U and the World Bank. For the PACs and workers, contacts of the NITA-U office shall be shared during the stakeholder engagements and communication drives to ensure that the Authority can be contacted in case a breach takes place.

Grievances will be recorded to ensure that a grievance log is developed indicating complaints received, responses to the grievances and grievance reports will be shared with the project steering committee.

Complaints shall be logged in writing and maintained in a database by Contractor and NITA-U either using a simple Excel file or a publicly accessible web site. Each complaint received will be assigned a number that will help the complainant track progress via the online system or database. Complainants will also be handed a receipt and a flyer that describes the GRM procedures and timelines. The grievance log will capture complaints being made via informal or traditional systems, such as village councils or elders.

The database will track and report publicly on the following metrics:

1. complaints received
2. complaints resolved
3. complaints that have gone to mediation
4. Issues raised and location of complaint circles including for instance, age group and gender

Grievances will be categorized according to the type of issue raised and the effect on the environment/claimant if the impacts raised in the complaint were to occur. Based on this categorization, the complaint will be prioritized based on risk and assigned for appropriate follow up. Where an agreement has not been reached, the complainant will be offered an appeals process.

Where there is an agreement between the complainant and the contractor on how the issue will be resolved, a minute will be drafted and signed by both parties. After due implementation, a new minute will be signed stating that the complaint has been resolved. All supporting documents of meetings needed to achieve resolution will be part of the file related to the complaint. These will include meetings that have been escalated to an appeals level or are handled by a third party.

The contractor will provide monthly reports to NITA-U and other stakeholders that track the number of complaints received, resolved, not resolved, and referred to the third party.

NITA-U shall also define a clear mechanism for grievance appeal ensuring effective benefit of the lowest community and highest stakeholders. The mechanism shall include the steps to be taken for the aggrieved party to lodge a complaint; where to lodge and the process of handling the complaint until disposal; define staff to manage the mechanism; and tracking of the mechanism management

including evaluation of its effectiveness.

4.7.10. Contractors

Contractors often have the biggest number of personnel on board during the construction and decommissioning phases of the project with a limited number called back for repairs or snags during the operational phase. The developer may however also provide for contractors to run the operational phase of the project. The contractors shall:

- Provide appropriate PPE for workers and encourage safe working practices on the project.
- Provide and implement work instructions as desired by the client to their staff.
- Ensure safe access and egress for workers with proper identification.
- Fence off the area to check on third party access to the premises.
- Carryout proper toolbox talks and pre-job planning.
- Ensure proper housekeeping and waste management at the various project activities.
- Provide for staff welfare as reasonably practicable as possible.
- At their own expense repair any damages impacted on properties during the project phase including pavements and incents from vehicular movement.
- Provide all appropriate materials and equipment required to effectively carry out the works.

Selected contractors should adhere to the requirements of the ESMMP in all project phases. The contractors shall be responsible for the relevant training of their staff and to ensure they comply with Health and Safety standards. To achieve this, a project specific ESMMP shall be implemented outlining the impacts at hand, aspects to look at, necessary actions and acting personnel to aid in closing this out.

4.8. Emergency Response

Given the number of loose materials utilized in construction works, working at heights, confined entry spaces and dust produced in the operation, there is a possibility of injuries occurring that might necessitate medical attention. A first aid kit and trained first aiders shall be utilized at the project site.

Project implementation teams shall also utilize resident medical facilities in emergency response. The supervisors shall coordinate and have known phone contacts of medical personnel in case of medical emergencies during the construction phase.

For security management, know access and egress aspects of the project shall be known and routine coordination with security teams maintained. Known telephone numbers for personnel to contact in case of emergency shall also be provided.

To ease emergency response planning, activity schedules shall be developed, reports written with look ahead and adhered to by project teams. This eases emergency response as rescue teams are fully aware of the locations of the project teams and activities carried out in the area. The emergency response system to be followed throughout the project life cycle is presented in appendix 7.

CHAPTER FIVE

PROJECT ALTERNATIVES

5.0. Analysis of project alternatives

This section considers various practicable strategies that will promote the mitigation of any negative environmental impacts identified during the course of the project assessment. It is a requirement to have alternatives to the proposed project in an effort to have an ideal development with minimal environmental disturbance.

One of the objectives of an Environmental Impact Study is to also provide a description of any other alternatives to the implementation of proposed project. Alternatives are, “*different means of meeting the general purpose and requirements of the activity*” which includes alternatives to:

- i. The property on which or location where it is proposed to undertake the activity;
- ii. The type of activity to be undertaken;
- iii. The design or layout of the activity;
- iv. The technology to be used in the activity; and
- v. The operational aspects of the activity.

The alternatives are subsequently presented.

5.1 Technology Alternatives

Utilizing available communication forms like satellite, radios can be looked at but these have over the years proved ineffective in comparison to the use of optical fibre cables. In addition, there are alternative materials. It would therefore mean that the country will not enjoy the benefits that come with having this extension in place. The use of optical fibre cables networks has greater advantages over satellite, microwave and radio transmissions. Radio has largely been phased out due to restricted bandwidth and poor data transmission. Compared to ground-based communication (optical fibre cables), all geostationary satellite communications experience high latency due to the signal having to travel 35,786 km (22,236 mi) to a satellite in geostationary orbit and back to Earth again. In addition, Satellite communications are affected by moisture and various forms of precipitation (such as rain or snow) in the signal path between end users or ground stations and the satellite being utilized. Modern optical fibre networks transmit high volumes of voice and data traffic with higher security and reliability and at a lower cost than satellite systems. Besides fibre optic networks offering a number of security advantages over satellite communications, they are thought to be much harder to “eavesdrop” on than satellites and have more dependable installation and repair practices.

5.2. A different location

The primary criteria for site selection were availability of land access from UNRA, the location of MDA offices and avoidance of cost on compensation related payments. The utilization of road reserves for such activities is also an existing practice that could lead to little or no resistance during project implementation.

5.3. The “No Go” Alternative

The Environmental and Social Impact Statement examined the impact of doing nothing i.e. not

connections to these areas where the developer is mandated to improve where the developer acquired land for the proposed development (i.e. the “No Go” option).

The option of doing nothing i.e. not proceeding with the proposed development (i.e. the No Go Option) in this ESIA would not impact the environment, no clearance, no impact on vegetation, no temporary disturbances or noise during excavation. This option that don't facilitate the improvement of service delivery using ICT.

5.4. Alternative FOC Designs

The alternative of utilizing a different design will involve looking for the shortest distance to the MDA locations. This would impact on people livelihoods as it would pass through private property [gardens and compounds] which would lead into issues of compensation, potential litigation and also reduce on the NITA-U social license to operate. The alternative design therefore that has been chosen for this project is to utilize existing infrastructure and road reserve.

CHAPTER SIX

STAKEHOLDER/ PUBLIC CONSULTATIONS

6.1. Public consultations

This chapter presents views of various stakeholders considered during the study and recommendations provided for the different aspects of interest. These shall alter/inform aspects of project design and implementation in the various areas visited. Consultations were carried out at project sites, with road users like boda-boda stages, project relevant LG officials among others. Consultation approaches looked at the Environment, Social-Economic and Cultural issues in line with the National Environment Act, Cap. 153, the EIA Regulations, 1998, Conduct of Environmental Practitioners Regulations, 2001 and Guidelines for EIA in Uganda. The full list of stakeholders consulted has been provided in appendix 8. These provide a list of all people consulted and a sample of the original field record sheets. All these sheets have been scanned and shall be stored by NITA-U for future reference. Consultations utilized interviews and questionnaires which were majorly purposive looking at beneficiaries and host community members that could be impacted by the project like businessmen, boda boda riders/ cyclists among others.

The overall impression from the consultative meetings indicates that stakeholder welcome the project with caution on mainly land-take fears, child labour, consideration of women and the PWDs in employment, workers safety among others. However, some stakeholders did not cooperate in the ESIA and have not provided any comments. Table 6.1 below is the results from the representation of the stakeholder consultation engagements carried out.

Table 6.1: Stakeholders' views during public consultation

Name/ Contact	Comments/ Concerns	Response
Ms. Vivian Ddambya Director Technical Services NITA-U Tel: 0772-363544	<ul style="list-style-type: none"> ✓ NITA-U as a Government agency with a mission and core values will absolutely be privileged to be compliant as has always been with all legal requirements of all her projects including this last mile. ✓ We look forward to the ESIA report that will assist the institution to design a project that meets the current national and international ratings including the donor requirements ✓ Ensure stakeholders as possible are consulted to enrich the ESIA report 	<ul style="list-style-type: none"> ✓ Indeed compliance improves public and donor confidence within the institution ✓ Our team will conduct extensive stakeholder consultations and engagements with all host districts to enrich the ESIA ✓ The ESIA will be publically disclosed upon approval by NEMA and World Bank

Name/ Contact	Comments/ Concerns	Response
Paul Ngabirano Manager Infrastructure Delivery – NITA-U 0772 366552	<ul style="list-style-type: none"> ✓ Will the project will provide employment opportunities to locals of the host districts, ✓ Since it will involve connections through urban centers, it attracts more stakeholders’ attentions thus urban council authorities must be involved 	<ul style="list-style-type: none"> ✓ Provision of employment opportunities is among the project’s positive social and economic benefits that must be harnessed by stakeholders ✓ Consultations will be as inclusive as possible to eliminate/minimize complaints among the community members
Mr. Maganda Moses DEO Jinja Tel: 0772-984826	<ul style="list-style-type: none"> ✓ The program is highly welcome only that it has even taken long ever since the NBI cable was laid to connect to Districts. ✓ However, NITA-U needs to involve as many stakeholders as possible to avoid disturbances during implementation ✓ Since most of the utility services are within the road reserve including water, other private communication service providers, there is need for proper markings/signage for each user to avoid service interruptions due to damages 	<ul style="list-style-type: none"> ✓ Indeed stakeholders will be engaged as much as possible to ensure their concerns are captured and incorporated within the ESIA. We just need your help in identifying them for us ✓ Signage for our cable will be a must because we are also cautious to avoid damages and cost therein pus the inconveniences that come with such damages
Mr. Mpoza Esau Senior Environment Officer Wakiso District Tel: 0782-688 709	<ul style="list-style-type: none"> ✓ Welcomes development as it will contribute to job creation for some of our community members. ✓ NITA-U gets clearance from UNRA and Urban Councils for use of Road reserves with mitigation plans in regard to inconveniences like Traffic flow. ✓ Am interested to know the engineering designs for swampy areas. ✓ Hope to participate in the review the ESIA report when it is ready. 	<ul style="list-style-type: none"> ✓ Contractors will be encouraged to employ locals since most of the work requires unskilled labour. ✓ As has always done NITA-U is committed to complying with laws and regulations for the different authorities and where need be dialogue takes precedence ✓ The designs will be fully explained in the ESIA report

Name/ Contact	Comments/ Concerns	Response
Mr. Doreen Fualing DNRO Nebbi Tel: 0782-878098	<ul style="list-style-type: none"> ✓ Welcomes development and hope for improved service delivery in terms of time and reporting frequency and offloading the district from the burden of costs involved in carrying reports to Kampala ✓ Contractors should cooperate with local authorities in ensuring minimum distractions to peoples' movements and welfare as they do their work ✓ Contractors should also ensure that they program on a portion of their daily work that they must complete fully within that particular day to avoid leaving open trenches 	<ul style="list-style-type: none"> ✓ Indeed service delivery improvement and effectiveness is the goal of such infrastructure investment thus we hope to meet your expectations ✓ This will be emphasized in the report including a GRM (Grievance Redress Mechanism/Plan) to be incorporated ✓ The work schedules will not allow leaving of open trenches and where it happens due to unavoidable reasons, the site will be cordoned off with clear signage
Mr. Mbaziira Josephat – DNRO Nakasongola Tel: 0772-668024	<ul style="list-style-type: none"> ✓ We welcome development in the area since it will improve service delivery. ✓ As long as the study will be conducted, we only pray that the implementers will incorporate the concerns ✓ Hope the project will not affect the planted trees within the road reserves. 	<ul style="list-style-type: none"> ✓ Definitely since your District is among and it is government's wish to connect all Districts ✓ All the concerns will be addressed through incorporating them in the ESIA which will include the ESMMP to be followed during implementation
Mr. Buyinza Simon DCDO – Nakasongola Tel: 0756-106627	<ul style="list-style-type: none"> ✓ Hope the locals will be given jobs during implementation. ✓ Issues of child labour abuse need to be mitigated. 	<ul style="list-style-type: none"> ✓ The ESIA process will try as much as possible to make recommendations based on such views for consideration
Dr Baraza Benard MUK –GIS Specialist Tel: 0701-712526	<ul style="list-style-type: none"> ✓ It's a good investment venture for Government for its efficiency and effectiveness to institutions such as Makerere especially for student's research since internet costs will be greatly lowered ✓ I hope NITA-U in the design will use GIS applications to solve some of the problems ✓ It's one thing to consult and include our concerns within the document but it is also another to ensure implementation of stakeholder concerns. 	<ul style="list-style-type: none"> ✓ Thanks for your positive comment and indeed the project will ensure that the goal of the project is met ✓ More consultations will be made on how best such technologies can support the program for effective delivery ✓ ESIA process will develop an ESMMP that will ensure strict monitoring of the implementation

Name/ Contact	Comments/ Concerns	Response
Eng. Asaja G Retired and now Self employed	<ul style="list-style-type: none"> ✓ Respect/care for other properties within the road reserve to avoid conflicts and detractions to the works schedule ✓ Authorities should monitor works for proper restoration (backfilling and compaction) of roads where trenching crosses roads ✓ Implementation should follow the approved designs and where changes are inevitable, stakeholders should be notified 	<ul style="list-style-type: none"> ✓ NITA-U as a developer will ensure contractors maintain harmony with the local authorities and road users ✓ ESMMP will ensure compliance to approved designs and where changes are to be made, contractors will seek for new approvals too
Ojok Charles Traffic Officer Mukono Police 0782413341	<ul style="list-style-type: none"> ✓ Ensure that areas are backfilled. The teams should liaise with Police and also get support especially around traffic management. 	<ul style="list-style-type: none"> ✓ All excavation works shall be carried out in consultation with the district leadership including Uganda Police. ✓ Contactor shall ensure that all areas are appropriately backfilled.
Mr Kamoga Hamza Mukono District Physical Planner 0703366047	<ul style="list-style-type: none"> ✓ Share layouts with this office and other technical teams for their inputs before work commences 	<ul style="list-style-type: none"> ✓ NITA-U shall ensure that these are shared with the District leadership prior to project commencement and shall work hand in hand with all technical teams in the districts to benefit from the last mile project
Namutosi Salama Ag DPC-Buikwe 0714667824/ 0704711614	<ul style="list-style-type: none"> ✓ This is a good project. It will however move smoothly if an official communication is sent to Police 	<ul style="list-style-type: none"> ✓ All stakeholders shall be provided with official communication and also invited to pre-entry meetings so as to capture and embrace all project related aspects
Nalumansi Margret Lugazi Police LC1 0782500694	<ul style="list-style-type: none"> ✓ This is a good development and we welcome it in our area ✓ Provide a sketch plan before excavation 	<ul style="list-style-type: none"> ✓ NITA-U strives to provide quality services to enhance efficiency in all its clients' operations. ✓ All plans shall be shared and desired access points planned together with local authorities prior to excavations.

Name/ Contact	Comments/ Concerns	Response
<p>Walusimbi Andrew Senor Labour Officer-Jinja 0702616524</p>	<ul style="list-style-type: none"> ✓ The social economic interventions on the project e.g opening & improper restoration disrupts business for women and youth ✓ Refilling is always inappropriate- people seem to be in a hurry and ditches come up ✓ Some contractors use Vulgar language which is inappropriate for our society 	<ul style="list-style-type: none"> ✓ All works shall be carried out in liaison with local leadership and as first as possible to reduce on business interruptions ✓ Awareness sessions on refilling and restoration shall be carried out. Refilling shall also form part of the KPIs to consider ✓ Respect to cultural norms and values shall form part of the induction process for all project teams
<p>Omulongo Noah P.M Kigulu Chiefdom 0771626377</p>	<ul style="list-style-type: none"> ✓ NITA-U should only bring technology that will not impact on people ✓ NITA-U should look into the benefits that Busoga kingdom will gain from the project ✓ The project should avoid cutting trees since these have various uses 	<ul style="list-style-type: none"> ✓ NITA-U strives to only utilize the most recent technology with utmost EHS considerations to provide for the health and safety. ✓ Project is expected to have cumulative benefits that shall also boost the kingdom given the increase in efficiency. Government shall continue liaising with all cultural institutions in aspects of sustainable development ✓ Intentional avoidance for trees and shrubs shall be carried out.
<p>Ahebwa Grace Iganga Chief Magistrates Court 0706731561</p>	<ul style="list-style-type: none"> ✓ Ensure that the new internet is better than what is available now in terms of quality 	<ul style="list-style-type: none"> ✓ The new service will be faster and cheaper making it better and more competitive marketwise.

Name/ Contact	Comments/ Concerns	Response
Kawuma Benadet DEO Bugiri 0774142577	<ul style="list-style-type: none"> ✓ Restoration of sites should be carried out ✓ Ensure that workers' occupational Health and Safety (OHS) is priority during project implementation 	<ul style="list-style-type: none"> ✓ Backfilling and site restoration shall be carried out as in liaison with NITA- technical teams and District technical teams. Post restoration inspections should also be carried out ✓ All works shall adhere to safe systems of work with minimums set by NITA-U. Risk Assessments, Supervision by competent personnel, awareness sessions toolbox talks, issuing of appropriate PPE among others shall be done during project implementation.
Sarah Akwi NWSC Busia 0752426661	<ul style="list-style-type: none"> ✓ Ensure that pipes are not cut during excavations. NWSC can provide a guide during the excavation exercise for the whole of Busia to check on this as it has been a challenge in with fibre cable related businesses in the area 	<ul style="list-style-type: none"> ✓ NIT-U welcomes the guidance and project teams should ensure that prior communication to NWSC is given so as to have smooth operations with all help available
IP Khisa Milton Regional ICT Officer Bukedi Police 0776999000/ 0711042014	<ul style="list-style-type: none"> ✓ Stick to road reserves 	<ul style="list-style-type: none"> ✓ In the very unlikely event that landtake goes to sections outside road reserves, NITA-U shall engage relevant stakeholder to look at compensation aspects. ✓ There shall also be a grievance resolution mechanism to cater for various issues, this inclusive
Boda-boda Mount Elgon Stage (FGD)	<ul style="list-style-type: none"> ✓ Please cover area on the same day or improvise a shade if you cannot complete work fast since the trench may make it hard for us to rest under our stage tree 	<ul style="list-style-type: none"> ✓ Excavations shall be phased and backfilling carried out as soon as reasonably possible
Sebuhinja Richard Head, Inspectorate of Government Mbale 0772317932	<ul style="list-style-type: none"> ✓ Project welcome and we hope it improves our IT systems and cut down costs ✓ We shall bear the cost of dust and distance but it should be done swiftly 	<ul style="list-style-type: none"> ✓ NITA-U pledges to provide world class services at competitive prices

Name/ Contact	Comments/ Concerns	Response
Ben Moses Orena Mt Elgon Hotel 0774724346	<ul style="list-style-type: none"> ✓ No objection since it is a government project passing through the road reserve ✓ Please back fill areas and minimize damage on impacts 	<ul style="list-style-type: none"> ✓ All impacted areas shall be backfilled to encourage business continuity.
Ogwang Nicholas Gulu UHRC 0779009991	<ul style="list-style-type: none"> ✓ These are Old premises and the office shall be moving to new point net year near Gulu LGHQs former cemetery 	<ul style="list-style-type: none"> ✓ All offices moving to new premises have been noted and an agreed approach to connecting these as they await relocation shall be provided to ensure smooth operations and transfer- hopefully utilizing poles as opposed to excavations
Emmanuel Koni NWSC Gulu 0772551978	<ul style="list-style-type: none"> ✓ Obtain permission from Head office IT before excavation 	<ul style="list-style-type: none"> ✓ All works shall only commence after communication to the relevant stakeholders
ASP Ayiki Joseph District Police Commander, Gulu 0714667893	<ul style="list-style-type: none"> ✓ This is a very good project & healthy idea that will ease our work and we look forward to operating with NITA. Contact us where you need police assistance 	<ul style="list-style-type: none"> ✓ NITA-U pledges to provide world class services at competitive prices
Gulu Prime Minister's Office- FGD	<ul style="list-style-type: none"> ✓ Is it possible to share with PPDA since we share most costs since we are in the same compounds? If you bring separate lines, can we switch off one line ✓ Please if we can use our router or do we need a big IT office It is a good initiative to get a reliable network since the current one is not stable ✓ Can this be paid for quarterly since we get our money in quarters ✓ What if the amount paid is not used. Is it just cut off or forwarded. ✓ Why doesn't the project first focus on entities that have no connection at all e.g Amur, Lamar, Adjumani 	<ul style="list-style-type: none"> ✓ NITA-U shall ensure that all queries related to the connections are addressed as and when they arise ✓ NITA-U has plans to have other districts connected in the near future.
Bosco Bainamazima BOU Kabale 0702475095	<ul style="list-style-type: none"> ✓ Ensure that communication should prior to excavation to the Director Administration Services BOU Kampala. 	<ul style="list-style-type: none"> ✓ All works shall only commence after communication to the relevant stakeholders

Name/ Contact	Comments/ Concerns	Response
Talwana .B. Nathan Principal, Uganda technical College Lira 0772374432	<ul style="list-style-type: none"> ✓ Work together with estates team to avoid situations like those on roads where they are constructed & broken thereafter (proper planning). 	<ul style="list-style-type: none"> ✓ All works in this institute shall be carried out in liaison with the estates team.
Kobusingye Viola Systems Administrator Mpigi High Court 0706730690	<ul style="list-style-type: none"> ✓ Weak link & other buildings like the CAO's office, water office and health are not connected, please look into it. 	<ul style="list-style-type: none"> ✓ NITA-U strives to continuously improve on their systems, the last mile project shall provide better services and also provide for extension into other blocks.
Muwanga G LC III Chairman Buwama Sub county HQ 0782837402	<ul style="list-style-type: none"> ✓ Please consult UNRA before excavation. 	<ul style="list-style-type: none"> ✓ Approvals from UNRA have already been acquired and NITA-U shall continue to liaise with UNRA during project implementation.
Rose Nakyejjwe Masaka DEO 0704556781	<ul style="list-style-type: none"> ✓ Future projects should consider using bigger conduits or pipes so that any new developments utilized this and it also eases decommissioning. 	<ul style="list-style-type: none"> ✓ NITA-U strives to continuously improve on their systems and shall further study this approach for future projects.
Jjuuko Elias DWO Masaka 0772899754	<ul style="list-style-type: none"> ✓ No fears however, this is Buganda Kingdom's land, so we should ensure that the LG & Buganda kingdom should first give permission for excavation. ✓ Coordinate with UNRA and other agencies to align plans so as to avoid continuous road and surface excavations 	<ul style="list-style-type: none"> ✓ NITA-U shall ensure that all relevant stakeholders are on board to ensure smooth operations
Sharon Athieno BM, NWSC Kalisizo 0752916902	<ul style="list-style-type: none"> ✓ Please look into situations where offices are already connected to other providers like MTN, UTL 	<ul style="list-style-type: none"> ✓ NITA-U shall have solutions to all field scenarios to ensure smooth transition as and when the need arises.
Muhwezi Stephen Physical Planner Ntungamo Municipal Council 0774208686	<ul style="list-style-type: none"> ✓ Avoid surging after drilling across the road. ✓ Ensure that the municipal engineers are consulted ✓ Add landlords and owners of structures to the list of people invited for disclosure meeting 	<ul style="list-style-type: none"> ✓ NITA-U shall ensure that all relevant stakeholders are on board to ensure smooth operations

Name/ Contact	Comments/ Concerns	Response
Okola Isaac District Environment Officer, Dokolo	<ul style="list-style-type: none"> ✓ Ensure that dust and mud issues after excavation are addressed 	<ul style="list-style-type: none"> ✓ Project teams shall provide for dust suppression especially during dry spells and timely back filling to limit mud related hazards like slips. ✓ Barricades or caution tape shall be utilized to check on access to excavated points
Walusimbi Andrew Senior Labour Officer-Jinja 0702616524	<ul style="list-style-type: none"> ✓ Look for people with disabilities, women and children. These should be considered and areas backfilled in time/have proper crossing point for people to pass. 	<ul style="list-style-type: none"> ✓ Phased excavation shall be carried out while a provision for alternative routes has been forwarded in the ESIS to cater for this.
James Bagaya, Academic Registrar Uganda Petroleum institute, Kigumba 0782438582	<ul style="list-style-type: none"> ✓ The OFC will improve access to e-learning resources since text books are few this being a new discipline in the country. It will allow the institute run e-operations such as an e-learning system, e-exams and e-registration. It will help the institute cut costs. Currently, it is paying 1350 dollars per month and \$ 270 per Mbps. 	<ul style="list-style-type: none"> ✓ NITA-U is committed to proving sound and efficient connections in the area
Moses Tumusime DEO Bulisa 0784986552	<ul style="list-style-type: none"> ✓ This is a good project and it shall improve on our monitoring if we have all documentation centralized. 	<ul style="list-style-type: none"> ✓ NITA-U is committed to proving sound and efficient connections in the area
Mr. Okello Tom (Area Manager) UWA Paraa UWA Headquarters 0772550294/07015 50294	<ul style="list-style-type: none"> ✓ The Current UWA internet service provider is Iway Africa. Since Iway uses satellite and not cable, the signal is weak whenever it is cloudy ✓ The OFC will improve connectivity in the park and we need it both at the gate and office to support e-business. ✓ There is a risk of animal attacks for the installation team. Buffaloes, hippos, crocodiles, snakes and lions pose the greatest risk. ✓ Poaching of animals may also happen. Some workers may for instance carry antelopes. You have also heard about the Lugaves (Pangolin) as the most trafficked animals. ✓ To reduce the risk of animal attacks, wear not bright clothes. Do not also stand between water and hippos ✓ Use manual but have many rangers. We prefer underground not aerial because elephants could push it down, trees can fall on them. 	<ul style="list-style-type: none"> ✓ All works in Protected Areas shall be carried out in close liaison with UWA. Teams shall have UWA rangers to check on poaching and animal attacks ✓ Appropriate PPE shall be provided for workers throughout the project life cycle. ✓ NITA-U is committed to proving sound and efficient connections in the area

Name/ Contact	Comments/ Concerns	Response
<p>Agondua Ronnie CAO Buliisa 0783480957</p>	<ul style="list-style-type: none"> ✓ The district already has existing network installation from intra-health serving DHO. ✓ We are struggling with subscriptions and the OFC should help cut these costs when installed and operationalized. Environmental and social risks may be higher because some target beneficiaries are located away from the local government. RDC is located in town. EC is across the road. Bulisa HC IV and Bugoigo HC IV are also far. ✓ Wifi could be placed at the Tullow funded resource center in the district for mass access 	<ul style="list-style-type: none"> ✓ NITA-U is committed to safe working practices and shall ensure that all environmental aspects related to the project are addressed. ✓ Connection shall be made in liaison with the district technical teams.
<p>Kyambadde Richard Principal Officer WMD-MWE</p>	<ul style="list-style-type: none"> ✓ Look at approaches of utilizing wireless or point to point connections in areas with stretches of wetlands so as to limit excavations there. Cables can easily be damaged by animals and the wet conditions. ✓ Look at the use of concrete cast poles as opposed to wooden poles in the wetlands 	<ul style="list-style-type: none"> ✓ All feasible approaches shall be considered in the design phase so as to increase project efficiency and sustainability.
<p>Jonathan Tibalira Safety Inspector OSHD/MGLSD 0779390517</p>	<ul style="list-style-type: none"> ✓ Any pressure tools should be inspected and certified by the MGLSD ✓ NITA-U should ensure that routine inspections are carried out on these tools ✓ Ensure that contractors and all project teams adhere to the provisions of the occupational health and safety act 	<ul style="list-style-type: none"> ✓ NITA-U is committed to safe working practices and shall ensure that inspections are carried out ✓ Aspects of certifications and auditing should be key aspects considered while selecting a contractor and equipment to use. ✓ Proper inductions and emphasis of safe work practices, PPE usage and hazard identification shall be carried out during project planning and implementation

CHAPTER SEVEN

EVALUATION OF POTENTIAL IMPACTS

7.0. Evaluation of Environmental, Social, Health and Safety Impacts

This chapter looks at various impacts associated with project implementation from the planning, construction, operation and decommissioning phases of the project. It then provides an ESHS risk Assessment to act as the initial guide in dealing with project related risks.

7.1 Prediction and Analysis of Impacts

The planned OFC installation activities fall largely in the road reserve. Potentially, these project activities may therefore, trigger occupational and health safety as well as community and health safety risks. They may also pose a risk to the vulnerable and marginalised groups, visual aesthetics, services and infrastructure as well as the physical and cultural resource environments. Districts like Kaberamaido where the NBI line (at Otuboi along the Soroti-Lira highway) is at least 15 kms away from the district headquarters and Rakai where the line that currently stops at Kyotera among other districts may experience these risks more. In this section, each of these risks are assessed in all the forty (40) project districts spread across the country. Reflecting the intention, under each potential risk area, the section also provides mitigation measures for risks that are negative and optimisation measures for risks that are positive.

Furthermore, each impact risk is assessed using a four point likert scale that rates each variable as very low, low, medium and high.

Table 7.1: Impact Assessment Criteria

Scale of Impact Intensity	Criterion	Score
Very low/Short	The changes are negligible	1
Low/Short	The changes are within the existing limits of natural variations	2
Moderate	Environmental changes exceed the existing limits of natural variations but the changes are naturally reversible	3
High	The changes are significant and irreversible without an intervention	4

Using this rating, the significance of each impact is evaluated and presented pre and post mitigation in its residual form or optimisation using receptor sensitivity, duration and the extent of impact as criteria. The extent of impact evaluates its sphere of influence in the project environment i.e. whether the impact will occur on site, locally (within 5 km radius of the site); district wide, regionally, nationally or internationally. On the other hand, duration evaluates the longevity of impact on the

subject receptor. This can be very short term (<1 year); short term (1 – 5 years); medium term (5 – 15 years); long term (15-25 years); or permanent.

7.2 Construction Phase

7.2.1 Potential Positive Impacts

Job Opportunities

The project will create both temporary skilled and semi-skilled jobs for the VMGs including the women, youth, the poor, orphans, persons with HIV/AIDS (PHAs) and persons with disability (PWDs) in its beneficiary communities. In areas where the cable crosses the road for example, they shall be employed as traffic wardens. Such areas dot all municipalities with local government offices, health facilities, schools and MDAs located astride either sides of roads and streets. In all the forty districts too, majority of beneficiary VMGs will be employed during pole erection activities. However, as an impact, the likelihood of this project creating construction job opportunities will be very high although they will be very short term, largely localised with unskilled and semi-skilled labour to be locally recruited but also national and international skilled contractors sourced.

Optimisation

The Project will:

1. Provide safeguards against all forms of discrimination
2. Prioritise VMGs in the recruitment process provided they meet minimum requirements
3. Develop an appropriate Grievance Resolution Mechanisms (GRM) to ensure no employee is exploited in any form.
4. Follow the labour laws of Uganda including those relating to labour, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.
5. Unskilled and semi-skilled labour will be recruited exclusively from the project affected communities (PACs) provided the pool of candidates for semi-skilled labor has the requisite qualifications, competencies and desired experience;
6. Sensitise workers and the community about the dangers of Child Abuse and exploitation (CAE), Sexual and Gender Based Violence (SGBV) and their rights to employment.
7. Monitor contractors' employment practices on a monthly basis, including the number of jobs by type (skilled / semi-skilled / unskilled); geographical area; total man hours and wages paid and turnover by job type, gender and area.
8. Through the contractor develop and HIV/AIDS, SGBV and CAE mitigation policy
9. Outline in the Codes of Conduct the responsibilities of: (i) the company to create a positive culture for its workplace and employees; (ii) managers to ensure that this culture is implemented; and, (iii) individuals to adhere to the principles of this culture and not to engage in GBV and/or CAE.
10. Require all employees to attend training prior to commencing work to reinforce the understanding of HIV/AIDS, GBV and CAE. Subsequently, employees must attend a mandatory training course at least once a month for the duration of mobilization.

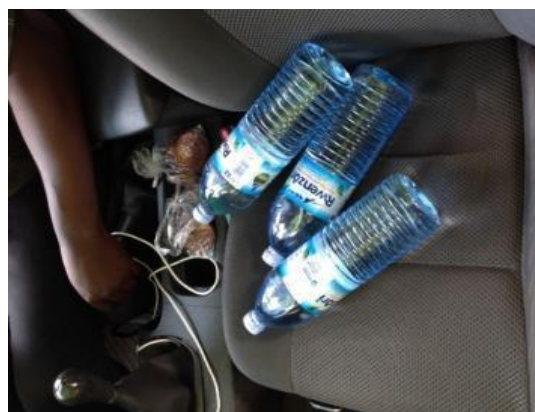
Table 7.2: Impact Assessment for Job Opportunities

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
Job creation	VMGS	Very high	Localised, national and international	Very short	High	High

Market and Income Opportunities

Given the large size of manpower that will be required to trench and install the cable across 750 MDAs and 40 districts, market and income opportunities are very highly likely to be created for the business community and vendors.

The biggest receptors include vendors trading in food, water, fruits, chapati or in the general service sector particularly, the bodabodas, airtime, drug shops, guest houses, fruit and vegetable stalls as well as fuel stations. Hard ware/construction equipment (hoes, Peak axes, etc) and personal protective equipment vendors including those trading in gloves, gumboots and huts among others will also highly benefit in all the 40 project district especially, if local procurement where technically and commercially reasonable and feasible is promoted. Though very high however, this impact will also be very short term, localised but also national and international with many of the supplies nationally and internationally sourced. (Plate 7.1).



Source: Last Mile ESIA Field Photos 2018

Plate 7.1: Fruit Stalls in Kaberamaido and Water Bought by the ESIA Field Team in the Car Optimisation

1. Implement the GRM to ensure no business person is exploited in any way.
2. Follow the laws of Uganda
3. Promote local procurement where technically and commercially reasonable and feasible

Table 7.3: Impact Assessment for Income Opportunities

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
Income Opportunities	The community	Very high	Localised, national and international	Very short	High	High

7.2.2 Potential Negative Impacts

Child Labour and Exploitation

In Uganda the Employment Act No 6, 2006, the Occupational Safety and Health Act No. 9, 2006 and the Child Labour Policy prohibit the employment of children in any work that is injurious to the child’s health, dangerous or hazardous or otherwise unsuitable. Section 32 (1) of the Employment Act states that “*a child under the age of 12 years shall not be employed in any business undertaking or workplace*” while Clause (2) of Section 32 states that “*... a child under the age of 14 years shall not be employed in any business, undertaking or workplace, except for light work carried out under the supervision of an adult aged over 18 years, and which does not affect the child’s education.*” To mitigate the risk of child labour, the Occupational Safety and Health Act No. 9, 2006, provides for the inspection of work places, identification of hazards at the workplace and other connected matters. Although low, out of empathy, economic logic, lack of awareness and other factors, there is risk that children may directly or indirectly get involved in the trenching activities of the project especially, in central and Northern Uganda where children are most at the risk of child labour (UBOS and ILO, 2013). Child labour in the project would directly lead to conflict with the labour laws of Uganda. It is also injurious to children, with adverse consequences such as termination of schooling, poor school performance and body injuries, more so, if:

- They are aged 5-11 years and they are at work but not expected to work.
- They are aged 12-13 doing work other than “light work” or do work beyond 14 hours a week.
- Aged 14-17 involved in hazardous forms of labour or working for an equivalent of 43 hours in a week or beyond (UBOS and ILO, 2013).

Mitigation

The project will:

1. Observe a zero tolerance policy on child labour and or exploitation
2. Coordinate with MoGLSD and develop protocols on responding to labour and child protection issues.
3. Comply with all labour safety and health laws and policies of Uganda or of the UN endorsed by Uganda
4. Project teams should liaise with the labour officers during project implementation.

Table 7.4: Impact Assessment for Child Labour and Exploitation

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/ level
Child labour & exploitation	Children	Low	Moderate	Short	Low	Very Low

Prostitution, Multi-Sexual Partners and Social Disorders

Construction activities usually escalate prostitution. This is explained by increased incomes of the unskilled and semi-skilled labour g from the project that in turn increases alcohol consumption, attracts commercial sex workers from elsewhere into the area (the honey pot effect) and vulnerable young girls and married women into prostitution with their willingness and ability to offer higher prices for sex. New skilled workers implementing the project in the different sites may also get sexually involved with the locals that find them more attractive than their fellow locals because they pay better prices and are elegant.

Community sensitivity to this risk is especially, higher where labour force-community interactions are high after work, in the bars and along the streets or where prostitution is most vibrant. Nalwerere, Kyotera, Buganda Pub (in Gulu) are only but a few examples of these high sensitivity sites for this risk. Unfortunately, prostitution increases with the spread of sexually transmitted infections including HIV/AIDS, Hepatitis B, genital herpes, candidiasis and syphilis among others.

For fear of contracting these infections too, divorce, marital instability, sexual and gender based violence may also increase disrupting marital and family stability. The risk of these infections can be localised but is higher where labour is recruited from non-project affected communities, where illiteracy, alcoholism and risky sexual practices are high. This risk of prostitution though national is however, low in this project given its short term nature in each site but also given that it will not have flying camps for workers. The project should utilize police potsts and existing parking areas for their project equipment during project execuuiou.

Mitigation

The project will:

- Sensitise its labour force on the health risks involved in dealing with prostitutes, multiple sexual partners and unsafe sex
- Provide counselling and testing services for HIV/AIDS to the community and its labour force
- Encourage the use of preventive measures like condoms and avail condom dispensers to construction staff.
- Develop and implement a comprehensive STI and HIV/AIDS policy
- The client will procure the services of an approved HIV/AIDS service provider to provide STI and HIV/AIDS awareness/services for site workers/affected communities.

Table 7.5: Impact Assessment for Prostitution, Multi-Sexual Partners and Social Disorders

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
Prostitution, Multi-Sexual Partners and Social Disorders	VMGs and family stability	Low	Low	Very Short	Low	Very Low

Increased Crime Incidents

This project has high sensitivity to incidents of different typologies of crime especially, in its affected communities. Violent crimes including fights among the workers and between the workers and the community may for instance, arise, resulting in chaos. This risk will potentially be triggered by many factors including competition for sexual partners, sexual relations involving women and girls from the community or working in the project especially, if married and labour related grievances. The sensitivity of the project to this risk is also high as most skilled manpower is coming from other areas and since marginal income in the locally sourced manpower is expected to increase with multiple and extra-marital or even commercial sexual relations.

Furthermore, theft of community and public items and utilities incidents are likely to increase as workers gain access to restricted areas in MDAs and Local Governments. Among other things, these may include appliances, merchandise and water for drinking during work or cleaning themselves after work in private stands. Workers may also steal and roast people’s cassava and livestock including the chicken that may be attracted by the excavated termites in the site. The sensitivity of this risk is higher where workers don’t wear uniform or don’t have identity tags for some thieves may disguise as workers, infiltrate the construction areas and like the workers, steal from public places and the community.

Other than community and public items and utilities, the project is also sensitive to theft of its construction materials and tools. Optic fibre cables may for example be stolen by both community members that associate it with particular uses. With some mercury substance in the OFC, the sensitivity of the project to this risk is potentially very high. Delayed and under payment on the other hand may also mislead workers to connive with the locals to steal materials and tools from the company. Police in particular; associate these cases with instances where workers are not paid on time or where the community does not support the project.

Mitigation

1. Work with local and relevant authorities and Police
2. Ensure workers are paid on time and adequately
3. Provide security during the construction for construction materials and tools
4. Monitor equipment to prevent them from being stolen
5. Source semi and unskilled manpower from the respective project communities
6. Ensure all workers have uniforms and carry identity cards to avoid infiltration by disguised thieves
7. All workers will be equipped with a code of conduct that discourages theft

Table 7.6: Impact Assessment for Increased Crime Incidence

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/ level
Increased Crime Incidence	Project materials and the community	Very High	Site specific	Very Short	High	Moderate

Increase in Sexual Offences

All the forty project districts are sensitive receptors for the risk of sexual offenses including defilement and rape that may increase during construction works. In the event of these risks, school going girl children may conceive, contract HIV/AIDS and drop out of school. And with many schools located where trenching is expected, all the forty project districts are highly sensitive receptors of sexual involvement of workers with some of the students. Rural areas where the OFC line is yet to be laid are even more sensitive receptors of this risk including for example, the 15 km stretch from Otuboi to Kaberamaido with more than 5 primary and secondary schools along the road and a hospital. (See plate 7.5).



Source: Last Mile ESIA Field Photo

Plate 7.5: Achilo Corner Primary School at Lwala-Kaberamaido 15 Km Stretch to be trenched

Marital stability is also a receptor of this risk where promiscuity, illegitimate pregnancies, sexually transmitted diseases, alcoholism, domestic violence, especially, sexual and gender based violence escalate with casual labour and wage based incomes or where workers engage in sexual relations with married women or elope with young girls and people’s wives. The sensitivity of this risk is high but localised to the project area and is of short term nature.

Mitigation

1. Provide for sexual offences in the induction pack for project teams
2. Observe a zero tolerance policy on sexual offences
3. Coordinate with MoGLSD and develop protocols on responding to sexual offenses
4. Comply with all sexual offenses laws and policies of Uganda or of the UN endorsed by Uganda

Table 7.7: Impact Assessment for Sexual offences

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
Increased Crime Incidence	VMGs and Women	High	Localised	Very Short	High	Low

Noise, Airborne diseases and hazards related to loose particles (dust)

Suspension of dust particles into the air during excavation works may cause air borne diseases in project communities and populations. Airborne diseases including cough, flu and conditions like occupational asthma will particularly escalate where construction works coincide with the dry season. Noise generation will be of great concern to areas like hospitals and offices. Baseline noise measurements have been taken to provide a basis for monitoring of the same during project implementation. The sensitivity of the project to this risk is however, too low given the width of the trench dug and the immediate restoration that follows. It is also citing specific and reversibly of very short term nature.

Mitigation

1. Where necessary, the project will sprinkle water in site that are affected
2. Provide appropriate PPE for project teams
3. Carry out awareness sessions on dust related hazards and also utilize signage
4. Carry out routine equipment servicing to check on noise emissions

Table 7.8: Impact Assessment for Airborne diseases

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
Airborne diseases	Community	Very High	Site specific	Very Short	High	Moderate

Slips, Trips and Falls

Some pedestrians especially, members of the vulnerable groups like the elderly, the drunk, riders, workers, persons with disability and children be tripped by cables and incur physical injuries of varied degrees including bruises and fractures. The most sensitive receptors of this risk include hospitals, schools, bars, taxi and bus parks all of which are in all the forty project districts. Highlighting this risk for example, an Administrator of Bugiri hospital during consultations observed:

We receive patients from all directions. Very sick patients that can barely move and children might fall into these ditches...

Accidents may also occur if the tools used are left scattered in the site and footways. However, the potential of this risk is site specific and short term in nature. All these triggers and sustainers make pedestrian slips and falls inevitable, more so, where the site is slippery.

Mitigation

1. Put up adequate signage showing work in progress and also sensitize the locals before the works kick off
2. Cordon off construction sites with clear reflectors, ribbons and tapes
3. Plan ahead on where the fibre should pass to minimize harm in peak hours and sites
4. Provide wooden bridges for pedestrians to cross over trenched areas
5. Cordon off manholes during construction to reduce fall in accidents
6. Provision of sound housekeeping practices.

Table 7.9: Impact Assessment for Slips, Trips and Falls

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
Pedestrian slips and Falls	Community	Very High	Site specific	Very Short	High	Low

Traffic Accidents and Flow Disruptions

A part from the traffic flow that will definitely be affected especially, where there are diversions and around junctions crossed by the OFC lines, traffic accidents are a potential risk in project affected areas. The most sensitive receptors of this risk include busy streets. Although this will be minimised by trenching such areas in the night and during off-peak hours, workers also risk accidents in these busy roads from motorists especially, those drunk and unaware of the on-going construction works or where trenches are not cordoned or signage is inadequate. Busy access roads leading to areas with dense populations such as Universities, hospitals, public offices and shopping centers are the most sensitive receptors.

Mitigation

1. Use traffic wardens to regulate traffic
2. The project will work more during night hours in busy areas to minimize traffic accidents
3. Have all workers wear reflector jackets and other relevant PPEs
4. Divert traffic where necessary along busy roads and junctions to avoid accidents
5. Provide for working during off peak hours to reduce on traffic interruptions and have sections covered as soon as possible.

Table 7.10: Impact Assessment for Traffic Accidents and Flow Disruptions

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/ level
Traffic Accidents and Flow Disruptions	Motorists	High	Site specific	Very Short	Low	Low

Moral Degeneration

Workers are likely to use abusive, vulgar and sexually sensitive language, dressing codes and dancing. Without shirts, construction workers will also walk indecently and half naked in the project affected communities. The most sensitive receptors of this risk include construction sites adjacent to schools, places of worship and health units. In addition to the risk of extra-marital, multiple sexual relations and prostitution, where this occurs and is adopted especially, children in project affected communities, moral degeneration will be expected. This risk is high but short term and site specific in magnitude.

Mitigation

- Workers will site specifically, be inducted on the moral “Dos and “Don’ts” before the beginning of project work

7.11: Impact Assessment for Morale Degeneration

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/ level
Morale Degeneration	Community	High	Site specific	Very Short	Low	Low

Physical and Cultural Resources (Chance Finds)

Ms of chance finds, a number of settlements with the likelihood of harbouring cultural burial sites and spiritual trees were observed in a number of the 40 project beneficiary districts and their community roads. The most sensitive receptors of this risk include towns and trading centres that harboured war camps. In Lwala Township in Kaberamaido, Gulu, Lira, Kiryandongo, Kumi, Soroti, Luwero and Kasese, chance finds especially, graves may be found because of the many war camps they hosted for many years with many people being buried there and there remains not being relocated. Acholi road in Gulu for example, has a mass grave in the road reserve that has affected progress in the current road construction in that section.



Courtesy Photos: Chris Opesen 2018

Plate7. 6: A Grave Marked in one of the Karamoja Roads for illustration of Chance Finds

Highlighting the sensitivity of this risk in the district too, the Gulu district IT Officer noted:

Part of Acholi and Kitgum road has a mass grave. It has even stalled road works. To avoid these graves, IFMs was put in the reserve space closer to the road but this explains why the Chinese cut it during the current road works. We did not think the road expansion would eat all that space.

These towns also have graves where road ambushes were executed or where traffic accidents claimed lives. In Fort Portal, Hoima, Kampala, Jinja, Iganga, Kasese there are also cultural institutions which increase the likelihood of other chance finds underground. Rubaga division in particular, in Kampala where the Kingdom of Buganda sits has many cultural images, trees and shrines with the most famous in Mengo and Kasubi. There are also cultural sites in Muganzilwazza and Katooke Wamala in Nansana, Wakiso district. Some sections of the road reserve also have ethno medicine and shrines especially, in Kiryandongo. Kulungu district, being hosted on cultural property also has historical trees, places of worship, graves and shrines. Where need arises to trim some of these trees especially, the historical, the project will become more sensitive. This is also true of Rakai district where not only cultural trees are along major roads but the district offices are also sitting on property owned by the Kamswaga with shrines, sacred and worship places rendering it a sensitive receptor of the chance finds risk. In municipalities like Soroti, Gulu, Lira, Kumi, Mbale, Jinja and in the East generally, most trees in the road reserves are also historical because they were planted by the British and may need removal or stripping in order to use the road reserve. Attempts to avoid them may mean entering private land.

Mitigation

1. The chance finds procedures must be followed to secure all PCR's encountered.
2. Trees will not be cut down.
3. Develop and use a sound GRM to handle complaints that may arise.
4. Community awareness and engagements will be conducted to identify and save PCR's.
5. In the event of chance finds, the chance finds procedure in Annex 3 will be followed.

Table 7.12: Impact Assessment for the Physical and Cultural Resources (PCR's)

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
PCR's/Chance Finds	Community	Moderate	Site specific	Long-term/Permanent	Low	Low

Work related upper Limb Disorders (WRULDs) and body injuries

Repetitive activities, poorly maintained equipment and poor working postures have the potential to impact on the health of the project implementing team. Aspects of manual labour for long stretches can lead to back pain and spinal injury which impacts could appear long after excavations are carried out. Lack of appropriate PPE could also increase exposure of personnel to occupational injuries which could lead to LTIs or even fatalities. Since workers shall be changed from region to region, this risk though high is not expected to have long-term impacts if mitigation measures are adhered to.



Source: Last Mile ESIA Field Photo

Plate 7.9: Typical poor PPE culture in Uganda during excavations, Last Mile to avoid such cultures during project implementation

Mitigation

1. Provide for inductions and awareness sessions on EHS aspects of the project, manual handling techniques among others
2. Provide for a lessons learned folder to capture any near misses or project non-compliances and routinely review these to enable continuous improvement.
3. Provide for rest breaks and shifts in scenarios where there is night shift work
4. Provide and inspect tools to ensure that they are functional. Ensure timely repair of the same by competent personnel and with compatible parts.

Table 7.13: Impact Assessment for WRULDs

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
NITA-U	Very high	High	Very high	Very high	Medium

7.3 Operations Phase

Improved Access to Public Services and Information

With the project expected to connect over 1000 MDAs and 40 districts to the NBI coverage for IT infrastructure in the country will not only improve but also the delivery of public services with the help of an efficient government cloud infrastructure. The sensitivity of project affected MDAs and districts to this impact is very high as most now use applications such as IFMS and IPPS. This is facilitated by the potential of the project to cut the cost of each Mbps to a record low US \$ 20, making internet more affordable, reliable and accessible.



Source: Last Mile ESIA Field Photo

Plate 7.10: A Functional OFC Sub-Station at Mega FM in Gulu

As a tertiary effect, it will help government institutions, improve financial transparency, monitoring and tracking of all transactions since every transaction can then be done online. It will also boost e-service delivery in the district as well as e-business. Reflecting this, the Town Clerk- Bugiri observed:

“The project is very welcome as it will ease communication with Central Offices especially now that we are using PBS to report”

The IT Officer-Gulu District also observed:

“I welcome the project to Gulu because its gains outweigh the cost. It will help government institutions, improve financial transparency and monitoring and tracking of all transactions since every transaction then be done online”

Institutions and schools that will benefit from the project are also expected to experience improved access to research materials. The Deputy Principal Bushenyi NTC equally added:

The service is welcome because we have a challenge accessing internet for students. This initiative would solve this particular challenge and improve research within the institution.

Optimisation

1. Connect all the nearby facilities to the infrastructure
2. Ensure that the internet is faster and functional
3. Use standard gauges for the underground cables
4. Liaise with property owners where MDAs are renting.
5. Harmonize the project connectivity plans with the institutions' physical development plans. Where an MDA or a local government is in a rented house for example, consider connectivity also in the new office premises being constructed
6. Create regional structures to connect NGOs and private service providers that will need to be connected
7. Clarify on the procedure to guide connection of NGOs and the civil society to avoid illegal connections

Table 7.14: Impact Assessment on Access to Public Services and Information

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs, MDAS, LGs	Very high	High	Long term	Very high	Very High

Loss of Business Opportunities by Internet Cafes

Currently, a substantial part of communications services in the 1000 beneficiary MDAs and 40 districts is run in the private sector internet cafes. Connection of these MDAs and districts to the NBI therefore, represents a substantial loss of business by internet cafes. As a high risk for example, the CDO of Bugiri observed,

“When this project becomes operational, there will be loss of business by private internet cafes.

Reflecting the same risk, the CDO of Bukedea asked:

“How soon will we be connected because we keep going to cafes and using personal modems?”

Mitigation

To make the cost of internet affordable, government will make it possible for the private sector also to connect to its OFC in the near future thus further reducing costs

Table 7.15: Impact Assessment on Loss of Market Opportunities by Internet Cafes

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
Internet cafes	Very high	High	Long term	Very high	Very High

Increase in the Burden of Disease

Incidence of malaria is likely to go up especially, if back filling is not done properly especially, in the malaria endemic districts with high per capita mosquito bites crisscrossed by the project in Northern and Eastern Uganda. The risk is also likely to be high where water logging is common due to delayed and poor backfilling of the trenches creating mosquito breeding grounds. To illustrate this, a FGD with Boda-Bodas in Jinja noted:

.... *“Based on past experience, your previous OFC workers did not for example, burry back the road to its original state, the ground was left uneven and when it rains it collects water which later enables breeding of mosquitoes”*

Mitigation

The project will ensure timely and proper backfilling of trenches to avoid creating breeding grounds for mosquitoes

Table 7.16: Impact Assessment of the Burden of Disease

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs	Very high	High	Short term	High	Moderate

Rise in the Incidence of Crime

Incidence of crime is expected to go up in all project beneficiary districts and MDAs. As a highly sensitive receptor, there will for example, be many illegal OFC connections during operations including in private houses currently rented by MDAs and local governments across the country should they get their own official premises. The cable may also be vandalized by individuals hunting for mercury or who want to use these cables in some way. Optic fibre cables may also be stolen by community members that associate it with particular uses. In the Eastern and Northern regions for example, lighting arrestors in most ginneries have been excavated by those that hope to find mercury

underneath the earth wire. With some mercury substance in the OFC, this risk is very high and long term. A small group interview at the Lands Office in Kaberamaido district in this respect, observed:

“If it has mercury, don’t be surprised. Some will also cut it thinking it can be used to provide spare wires for electronic works more so, those that repair radios and TVs.”

Delayed and under payment of wages may also mislead workers to connive with the locals to steal materials and tools from the company. Away from these, cybercrime is likely to increase. For example, internet connectivity will not only expose workers to pornography but also enable fraudsters to hack institutional financial management systems, data bases and cause a lot of cyber insecurity.

Mitigation

1. The project will install locks for pornographic links
2. The project will raise awareness on cyber ethics
3. The project will provide regular monitoring of the OFC
4. The project will protect the OFC from vandalism
5. The project will install adequate i-cloud security systems
6. NITA-U should create regional structures to connect NGOs and private service providers that will need to be connected
7. NITA-U should clarify on the procedure to guide connection of NGOs and the civil society to avoid illegal connections
8. NITA-U should empower Local Governments to oversee and protect these connections and any connections must involve writing to the district for authentication that they are regular before any works start

Table 7.17: Impact Assessment on the Rise of Crime Levels

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs, NITA-U	Very high	High	Permanent	Very High	High

Alteration in Visual Aesthetics

Due to landscape alterations and the trenching of paved road reserves, scenic beauty in project affected communities will be affected. While attempts will be made to reinstate them, the high cost involved in reinstating tarmac and paved road reserves makes murrum and or soil the most used backfilling material (see plate 7). A Key informant interview with Jinja Municipality Environment Officer for example, revealed:

“From our past experience with your OFC, reinstatement is not usually done well which results into destruction of vegetation, walk ways and the tarmac on the road.”

In Gulu, the District IT-Officer narrated:

“In the NBI we only saw a manhole here. We did not know because we were not involved. We thought it was MTN. The contractor only alerted us when they were making the manhole. We are told to put this manhole here, they said. For who, We asked? Even the manhole was not properly made. Each time it breaks, they have to dig a large area to locate it.”

Soil erosion and mud may also accumulate along the excavated areas of the road after heavy rains especially, where backfilling is poorly done. Heavy downpours after excavation works may also wash

soil into the drainage systems and block the drainage systems. Districts most prone to flooding like Kasese are the most sensitive receptors of this risk.

Mitigation

1. Use ducts where they already exist without trenching especially, in municipalities with roads designed with duct.
2. Use alternative technologies to extend the NBI without excavating including bridges that can transmit data in a vacuum of up to 100 km.
3. Not cut the roads but burrow to avoid defacing their scenic beauty
4. Will involve and engage with all stakeholders timely, adequately and effectively.
5. Replace or fix any infrastructure damaged during construction activities
6. Repair the construction area to its original state
7. Obtain a certificate of completion from the town clerk as an indicator of adherence with compliance standards.

Table 7.18: Impact Assessment on Alterations in Visual Aesthetics

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs, Local governments	Low	Low	Short term	Low	Low

Rampant Cutting of the OFC

Most roads in the project determined roads are not only narrow but also have short life spans. Any upgrades will come therefore, with rampant cutting of the cable, disrupting thus sustainability of its benefits where the cable is not placed deep enough. Laid 1.2 meters deep, this risk is a concern in all the 40 beneficiary districts.



Source: Last Mile ESIA Field Photo

Plate 7. 9: NWSC Pipes in Kalerwe Cut in the on Going Road Works

In Gulu, CCCC has started the construction of 11 roads and since the town is not well planned, this risk very high. Illustrating the reality in all the 40 beneficiary districts, the District Environment Officer-Dokolo observed:

“Water pipes that are not dug deep enough can burst once heavy equipment passes over. In the case of your cable, it can be cut by an earth mover during road works.”

This risk is compounded by the reality that most city roads do not have ducts yet telecom companies are trenching repeatedly along the same road reserves. In cities like Gulu, some departments located about 1 km from the district headquarters including Works, three months back had their IFMS link cut CCCC and it cannot be repaired until construction is completed. The risk of OFC being cut is very high because roads are expanding quite often and local governments are constructing new buildings all the time. This necessitates construction of access roads that may run across the cable lines. NWSC as well as other telecom companies also trench in the road reserve and could easily cut the cable in their construction activities.

But other than the earth movers, the OFC is prone to vandalism. In customs border points like Busia, smugglers will be interested in interrupting the network system to disrupt tax assessments and enforcement, Busia Customs Police, noted. In addition, where private land is trespassed without compensation or the locals are not involved in unskilled and semi-skilled the risk of vandalism is high. The cable may also be vandalized by youth involved in electronics repairs expecting free wires. Other people may also excavate the OFC expecting mercury components. Explaining this, the Ag. District IT Officer Kaberamaido observed:

“They have removed all installations in ginneries for example, associated with mercury have been vandalized. All our earth wires have also been vandalised who think there is mercury underground. And when you go to transformers, they also vandalise them for transformer oil. Some of those people even come from Kampala”

Mitigation

1. Use existing ducts where feasible to reduce the risk of the cable being cut if it does not make the OFC prone to vandalism.
2. Ensure detailed OFC designs are shared with the Physical Planners and Environment Officers
3. OFC will be restricted to the road reserve and existing public land to avoid triggering trespassing in private land and where land is needed at any one time which is unlikely, land owners will be compensated adequately and timely prior to construction
4. Where the OFC crosses the road, burrow it underground



Source: Courtesy Photo by Chris Opesen

Plate 7. 10: NWSC System Safely Burrowed Under the Panaora Hotel Road in Nakapiripirit

5. Locate the OFC safely so that the cable is not vandalized by smugglers
6. Work hand in hand with the local authorities, opinion leaders, and security to ensure the community owns it, to minimize vandalism and the risk of being cut
7. Ensure cable is installed as deep as possible depending on the location to avoid the fibre from being damaged during the maintenance works
8. Ensure OFC is marked for easy identification when other developments come in the same areas

9. Take into consideration the physical development plans of the local governments and MDAs
10. Sensitize communities on the risks and implications of vandalizing the OFC
11. Engage with the different beneficiary agencies to harmonize the OFC line with their physical development plans
12. Consider the depth for the OFC depending on the site

Table 7.19: Impact Assessment on the Rampant Cutting of the OFC

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
NITA-U	Very high	High	Permanent	Very High	High

7.4 Decommissioning Phase

There are many risks that are likely in this phase including all those enlisted in the construction phase, both positive and negative. In this part however, the report focusses on those not emphasised in the construction phase.

E-Waste Generation

The NITA-U NBI project sub-stations visited in Gulu for example, are installed with appliances and electronics with short, medium and long term life spans. With increased access to IT in the districts, this risk will increase. There will be ICT system components that have reached end of life.



Source: Last Mile ESIA Field Photo

Plate 7.11: Potential E-Waste outside an existing Sub-Station in Gulu and a General Waste Bin of Kaberamaido District Local Government

Mitigation

1. Electronic wastes generated will be managed using a NEMA certified service provider and following the good practices in e-waste management

2. Manufacturer E-waste management procedures and standards in each electronic device will be observed including their service durations. Understanding MSDS for all materials procured shall further enhance sound handling of waste from the operations

Visual Aesthetics

Paved grounds will certainly be cut during decommissioning activities. Whenever this happens, aesthetic scenic beauty of the area will always be affected.

In a small FGD with a Physical Planner & IT Officer-Bugiri too, an observation was made that:

“From past experience, workers cover up temporarily and then dig up again after breaks. This causes an even reinstatement and a risk of the ground collapsing”

Sites after defacing of pavements may become muddy and areas where tree branches and roots are stripped will also change in their scenic appearances.



Source: Last Mile ESIA Field Photo

Plate 7.12: Makerere University UH Gate Now After Restoration of the OFC Cable depicting change in scenic appearance

Mitigation

1. All sites will be restored to pre-trenching state including walkways after installation works
2. Installation works will not cut but burrow any connections that cross roads.
3. Vegetation cover will be re-planted and the ground levelled to its initial state where it is substantially affected
4. Compaction will be done especially along slopes to avoid soil erosion distorting the landscape after trenching
5. The project will work with road engineers to make use of ducts in the road reserve where they exist instead of trenching
6. Electronic wastes generated will be managed using a NEMA certified service provider and following the good practices in e-waste management
7. The bridge technology will be used in sensitive areas to avoid trenching everywhere.
8. The project will have a sound GRM to address community concerns from time to time during the project

7.5 Environment Social Safety and Health Risk Assessment

To ensure that appropriate controls are in place to deal with project associated risks, all project related works shall be subjected to risk assessments and reviews prior to execution. Risk ratings shall be as per the risk matrix utilized by NITA-U (Appendix 4). This shall guide on both likelihood and consequences of the risks associated with various project phases. The risk assessment provided for guidance purposes is presented in table 4.

Table 7.20: Environment Social Safety and Health Risk Assessment

Project Steps	Impact or Risk Description	Impact receptors	Initial rating		Rating	Mitigation measure (s)	Residual extent/ consequence
			L(1-5)	C (1-5)			
1. Pre-project stakeholder engagement and project disclosure meetings	Stakeholder fatigue. This is mainly due to the fact that a number of activities are taking place at the same time that could impact on how stakeholder view the NITA-U project. Some could easily react negatively because of unfulfilled pledges by past projects e.g.. the pipeline project in Mubende up to Mutukula	NITA-U staff and the contractors' pre-project launch team	4	2	M	<ul style="list-style-type: none"> ● Provide for time management in the meetings ● Avoid promising unachievable outcomes to stakeholders ● Utilize competent team members in engagements ● Utilize broader channels of communication to reach teams that may have not been invited for meetings 	L
	Poor reception, physical attacks and lack of support from local leaders	NITA-U staff and contractors	3	5	H	<ul style="list-style-type: none"> ● Initial engagements through the ESIA have taken place ● Provide for security during meetings to check on assault ● Utilize competent consultants in discussing sensitive aspects of the project. ● Provide for a sound grievance management system and communicate this to the stakeholders from the onset. 	L
	Impersonation and con men or grifters on jobs and other beneficiaries to the public could lead to loss of finances and abuse of vulnerable groups	Host communities or general public	4	3	H	<ul style="list-style-type: none"> ● Provide for appropriate contractor introductions to local leaders through meetings and radio talk shows among others ● Provide for known identification systems and proper recruitment channels that provide for recommendations from the LC ● The contractor should utilize competent staff in the recruitment process 	M

2. Equipment and personnel mobilization to site	Bad drivers, poor road conditions could lead to accidents impacting on people and machines	Trucks/ equipment, Project personnel, third parties	3	4	M	<ul style="list-style-type: none"> ● Acquire Authorisation from the relevant authorities, ● Use permit to work, non-authorized people should not be allowed at the work place. ● Contractors should have an accident log to record all these occurrences 	L
	Equipment damage	Trucks/ equipment,	3	4	M	<ul style="list-style-type: none"> ● Use competent personnel to man equipment ● Carry out routine equipment inspection and planned maintenance ● Only repair and replace with compatible parts 	L
	Environmental pollution due to spills	Physical environment	2	3	L	<ul style="list-style-type: none"> ● Inspect units prior to loading and utilize competent and certified personnel ● Sound incident monitoring systems should be adopted to ease accident and incident investigation. 	L
3. Excavation of the ground using specialized drilling machine and hand tools	Road accidents due to poor road conditions, incompetent drivers, , bad drivers, black spots, Driving while talking on phone, poor journey management plan. Road kills especially in animal keeping communities and protected areas	Access Roads and Highways	3	4	M	<ul style="list-style-type: none"> ● Appropriate inductions for project teams ● Make use of Journey movement plan (JMP) with known journey managers. ● Ensure that drivers are trained and competent. Where appropriate, utilize drivers that understand the routes and the hazards associated with them like black spots. ● Provide for routine vehicle inspections and servicing 	L
	Accidents to people, machines, Equipment damage, Environmental pollution	Final destination (offloading equipment)	3	4	M	<ul style="list-style-type: none"> ● Acquire Authorization, use permit to work, use competent personnel to do the work, non-authorized people should not be allowed at the work place. 	L

<p>Conflict and community unrest associated with land take, excavation works, child labour and Poor or no payments among others</p>	<p>Plant and vegetation lose, Roadside users' disturbances, water bodies' alterations, underground resources/ utilities disturbances.</p>	<p>4</p>	<p>4</p>	<p>H</p>	<ul style="list-style-type: none"> ● Acquire authorization and notify host communities and leadership prior to excavation works. ● Provide for a grievance management system and a one stop centre for all forms to be submitted. There should be a known timeframe for reviewing and providing feedback to the grieved party ● Use permit to work system, ● All personnel should be properly inducted ● Provide for references from LC chairpersons prior to recruitment of personnel ● Contractor should provide know payment structure to the client ● Carry out community entry and exit meetings in which these issues are closed out. 	<p>L</p>
<p>Damage to existing underground/ ground services could lead to loss of business to other parties, injury and death in some cases</p>	<p>Personnel working on the project, third parties and utility companies like NWSC, MTN Uganda, UMEME etc</p>	<p>4</p>	<p>4</p>	<p>H</p>	<ul style="list-style-type: none"> ● Use competent personnel for the works, make sure the site is properly inspected or scanned for all potential hazards including underground utilities before work starts, ● Cordon off the work place, ensure that the site is properly restored, ensure that dust is properly controlled during the on-going works, use appropriate PPE use equipment that minimize noise pollution while working, ● Provide for Task Specific Safety Analysis (TSSA) and toolbox talks for staff to understand all controls and steps for works to be undertaken 	<p>L</p>

<p>Temporary business interruptions especially for roadside Kiosks and access to shops and business entities due to excavations along walkways</p>	<p>Host communities</p>	<p>5</p>	<p>2</p>	<p>M</p>	<ul style="list-style-type: none"> ● Provide alternative routes or ramps for sections with businesses ● Provide for phased excavations and timely backfilling of sections to cater for stretched that could be impacted by the activity ● Limit works in UNRA road reserves and provide for compensation or resolution formats to create win-win situations 	<p>L</p>
<p>Loss of equipment and general security of personnel during project implementation</p>	<p>NITA-U and contractor</p>	<p>1</p>	<p>4</p>	<p>L</p>	<ul style="list-style-type: none"> ● Provide for security personnel to guard equipment in the night and consider routine checks and full head counts for project personnel ● Liaise with resident security agencies to ensure safety of all project components 	<p>L</p>

	<p>Body injuries to personnel excavating the trenches and third parties passing by (pinch points, bruises, entanglement)</p>	<p>Project staff Third parties and animals</p>	4	4	H	<ul style="list-style-type: none"> ● Provide awareness sessions on powered tools, excavations etc to project implementation staff ● Ensure equipment inspection and certification from the Ministry of Labour Gender and Social Development. ● Provide for appropriate PPE and awareness on PPE usage ● Barricade off areas to be excavated and utilize warning signs understood by the host communities to reduce on spectators ● Carry out community/ stakeholder awareness programmes ● Provide for rest breaks to reduce on the stress exposed to workers during project execution ● Contractor should have a sound PPE policy approved by the project management team ● Provide fully stocked first aid kits and trained first aiders for project teams in the field. ● Ensure that contractors have known functioning phone contacts for medical personnel or facilities where project staff can be taken for medical treatment ● Follow NITA-U project incident reporting procedure for all near misses and incidents in the project area 	L
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<p>Dehydration and harsh weather conditions. Dehydration could lead to headaches and worse reactions while rains could easily lead to water accumulation in excavated points and other impacts related to harsh conditions. Lightening related hazards are also present especially</p>	<p>Workers or field teams</p>	<p>3</p>	<p>1</p>	<p>L</p>	<ul style="list-style-type: none"> ● Provide for enough clean portable drinking water for all project team members and ● Carryout awareness on the dangers of not utilizing this amongst the field team ● Provide for sunscreen for team members that could be adversely impacted by sunlight. ● Provide for shade to be utilized during rainy spells ● Provide for water pumping prior to entry into excavated points ● Provide lightening conductors especially on the poles utilized in the project and other units in lightening prone areas 	<p>L</p>
<p>Food poisoning and hygiene related issues especially in Kaberamaido where this is already a concern amongst stakeholders</p>	<p>Workers or field teams</p>	<p>2</p>	<p>5</p>	<p>M</p>	<ul style="list-style-type: none"> ● Utilize only known food vendors during the operations and ensure that these are effectively pad by the contractor ● Spot checks of food provision areas should be carried out to check on the level of hygiene for the as one of the ways of ensuring the safety of field teams ● Provide for known medical facilities to help out on food safety related incidents ● Provide awareness sessions to project teams on food safety and hygiene 	<p>L</p>
<p>Shallow gas and H₂S related impacts in wetlands</p>	<p>Workers or field teams</p>	<p>1</p>	<p>4</p>	<p>L</p>	<ul style="list-style-type: none"> ● Provide for proper aeration prior to entry into excavated areas ● Look out for rotten egg smell prior to entry into excavations especially in wetlands ● Provide for gas testing if deemed necessary by competent EHS project members ● Have clear rescue plans for sections like this and events of people 	<p>L</p>

						collapsing while working in such areas	
	Equipment and cable damage during installation works	Developer	1	3	L	<ul style="list-style-type: none"> • Utilize only competent personnel in the exercise • Provide for proper storage and known standard operation procedures for works execution. • Provide for JSAs and toolbox talks for staff to understand all controls and steps of works • Ensure that equipment is serviced regularly. Certification of borrowing and pressure equipment should also be carried out by the MGLSD. 	L
	Wetland ecosystem disturbance in areas like Peche wetland in Gulu, silver wetland in Kiryandongo.	Host environment and communities	2	2	L	<ul style="list-style-type: none"> • Consider movement of cables through wetlands in the initial project design with emphasis on aspects of utilizing concrete cast poles to check on rotting or utilization of wireless connections to limit impacts in wetlands. • Look at options of utilizing existing structures or bridges technology to transmit internet to avoid trenching • Acquire approvals from the MWE and wetland user permits from NEMA for any works through water resources 	L

<p>Biological hazards like snakes, wasps and disease causing organisms. During installation or construction phase, teams may also contract zoonic diseases and the animals may also get human diseases</p>	<p>Developer, contractor and third parties</p>	<p>2</p>	<p>2</p>	<p>L</p>	<ul style="list-style-type: none"> ● Provide for proper site screening prior to excavation works especially in swampy areas. ● Ensure that potential exposure is looked into during pre-job planning sessions ● Provide for sound waste management and ensure that workers have rangers to guide them at all times while in protected areas. ● Provide competent project supervisors and adherence to national announcements on disease outbreaks ● Ensure that all project teams are inducted 	<p>L</p>
<p>Poor or no backfilling works present trap hazards for animals and pedestrians while it also brings in a cost for levelling of the area by the day to day users of these spots.</p>	<p>Developer, contractor and third parties</p>	<p>4</p>	<p>4</p>	<p>H</p>	<ul style="list-style-type: none"> ● Provide for awareness sessions on agreed backfilling practices ● Carry out post backfill inspection and spot checks to ensure compliance with set practice and add fill in areas with depression ● Reduce open excavation to mainly areas without tarmac, opt for non-surface destructive penetration as has been the practice 	<p>L</p>
<p>Noise and Dust emissions especially during the borrowing tool usage. Loose material excavated is easily blown by wind</p>	<p>Office users, Patients in Hospitals, Court disruptions, Neighbouring households, pedestrians</p>	<p>1</p>	<p>3</p>	<p>L</p>	<ul style="list-style-type: none"> ● Utilize dust suppressing method like water sprinkling. ● Utilize silencers were appropriate. Ensure that units are services to reduce on noise emissions. Provide for excavation works during off peak hours to check on potential disruptions ● Provide appropriate PPE like ear muffs for project execution teams ● Carry out regular equipment servicing 	<p>L</p>

Accidents due to poor equipment use and incompetent personnel	contractor and third parties	4	3	M	<ul style="list-style-type: none"> ● Provide teams with appropriate PPE and have a known PPE ● Provide for sound job coronation and approvals during SIMOPS 	L
Chance finds and cultural heritage destruction could easily be destroyed due to lack of knowledge causing loss of valuable cultural and heritage information. It could also lead to conflicts where known areas of interest are disturbed during project implementation	Contractor and Host environment	2	4	M	<ul style="list-style-type: none"> ● Train project execution teams in chance finds and their importance ● Carry out chance find surveys during project planning phase and assessments to provide over view of potential finds. ● Provide for social license acquisition during project implementation including aspects of proper introductions to cultural institutions, local council chairpersons for all areas to be disturbed. 	L
Plant or vegetation loss along project excavation lines could lead to loss of red-listed vegetation, medicinal plants for communities, impact on the scenic view of the area and also increase area susceptibility to soil erosion.	Host environment and communities	5	2	M	<ul style="list-style-type: none"> ● Carry out plant identification prior to excavation works to identify plant species in the area. Avoid trees and plants of high importance if encountered during the ESIA and TSSA ● Restoration should be carried out immediately after backfilling ● Provide for awareness sessions to the project execution teams on restoration and its benefits ● Avoid plants selected by local leaders as medicinal and ● Limit excavations to only areas of interest (1/2 meter wide stretch) 	L

<p>Human rights abuse especially to vulnerable groups (the girl child, women and children). These including persons with rare conditions like albinism could easily be take advantage off and not be recruited or abused after recruitment</p>	<p>Host communities and contractor staff</p>	<p>2</p>	<p>5</p>	<p>M</p>	<ul style="list-style-type: none"> ● Continuous coordination with the labour office in regards to recruitment of all personnel ● Provide roles earmarked for vulnerable groups like flag personnel, record or stock taking team members among others ● Have the none-discrimination project related policy discussed during inductions to all staff. ● Provide secure channels for reporting any actual or suspected abuse of human rights including aspects related to vulnerable groups. ● Provide for appropriate TSSA for jobs carried out with vulnerable groups provided special attention. 	<p>M</p>
<p>Poor housekeeping and associated risks of trips and falls, vermin accumulation among others</p>	<p>Host communities and the contractor</p>	<p>4</p>	<p>3</p>	<p>H</p>	<ul style="list-style-type: none"> ● Ensure good housekeeping is adhered to and teams provided with awareness sessions on the same ● Provide for waste collection points and transport waste off site 	<p>L</p>

Fall from heights, Accidents,	Personnel working, non-authorized personnel on site, existing tress, existing power lines and other utilities, motor vehicles and bodaboda passing near the site.	4	4	H	<ul style="list-style-type: none"> ● Use well standardized and inspected scaffolds, ● Non-authorized personnel should not be allowed on site, use appropriate PPE and signage, cordon off the area of work and acquire permission from the district environment officer before cutting any existing tree or altering any water body. ● Provide for appropriate TSSAs and permit to work issuance prior to works executions 	L
Impact on the general scenery	Host communities	3	2	L	<ul style="list-style-type: none"> ● Utilize know utility line spaces to limit on impacts associated with scenic view destruction 	L
High voltage power electrocution for sections utilizing poles and in excavations	Contractor and host communities	3	5	H	<ul style="list-style-type: none"> ● Switch off the power lines before installing the cables where practicable, ● Works should not be carried out in rainy conditions or when deemed risky by on site supervisor ● Provide for scanning or swiping to check for ground or underground utilities prior to excavation works ● Provide teams with appropriate PPE ● Awareness sessions on hazards associated with the project should be conducted for all team members ● Look at options of using already existing services or third party utilities 	M

5. Housing	Open holes present risks of slips, trips and falls, materials and off cuts left on site and neighbourhood property not restored could lead to conflicts and an unwelcome to the project, roads, power lines, water, sewerage pipes and other utilities damaged and not restored. Loose particles like glass chips and other off cuts could stick in the skin, eye or even contaminate food and if ingested can cause internal haemorrhaging	Host communities and animals	3	4	H	<ul style="list-style-type: none"> • Provide for post site monitoring by contractor with known parameters to look out for • Provide for spot checks and routine inspections by project consultants and NITA-U teams • Provide appropriate PPE and adhere to the waste management plan. • Provide awareness sessions on impacts associated with cable termination among other activities 	L
	Accidents and Environmental pollution		1	4	L	<ul style="list-style-type: none"> • Provide for proper journey planning in compliance with the NITA-U journey management plan. • Proper equipment inspection to ensure that only sound vehicles are utilized in transporting equipment • Utilize competent and certified personnel 	L
6. Demobilization	Road accidents, bad drivers, black spots, potholes on the roads, poor visibility, animals crossing, driving under the influence of drugs, Driving while talking on phone, poor journey management plan.	Communities along utilized routes (Highway), machinery and Equipment	H	H	H	<ul style="list-style-type: none"> • Make use of Journey movement plan(JMP), use your seat belts, don't drive while under the influence of drugs, don't drive while tacking on phone, use competent drivers, be vigilant while driving with other road users, follow road safety rules, signage and speed limits. • Non-authorized people should not be allowed at the work place during loading operations • Provide for barricades and appropriate supervision during critical operations 	L

7. Overlapping risks	Poor human waste disposal could lead to disease outbreaks and also tarnish the general image of NITA-U	Host communities, NITA-U and contractor	1	4	L	<ul style="list-style-type: none"> • Inductions and Toolbox talks should also focus on waste management practices for NITA-U as per the NITA-U waste management plan • Contractor should provide portable toilet facilities for stretches without toilet facilities and also discuss with facilities in areas that have to allow project staff to utilize their ablutions. 	L
	Poor management of general waste streams like treated transmission poles, oil spills from servicing operations could impact on the health of communities that reuse poles for cooking while spills would impact on the environment and also be a source of fires	Host communities and environment	3	3	M	<ul style="list-style-type: none"> • Ensure adherence to the waste management plan • Only transport Waste using NEMA licensed waste handlers. • Provide awareness sessions on hazard identification and utilization of MSDS for all project related materials • Awareness sessions on the potential impacts of treated poles used as firewood should be provided to workers so that this doesn't occur • Waste management aspects should be provided for as part of the induction process. • Provide for disciplinary action to culprits • Provide for proper chain of custody for waste and records on waste collected. 	L

	<p>Poor E-waste management and disposal</p>	<p>Host communities</p>	<p>4</p>	<p>4</p>	<p>H</p>	<ul style="list-style-type: none"> ● NITA-U is participating in the initiatives by NEMA on E-waste management. ● Compliance shall be in line with the draft e-waste management regulations under the proposed waste management regulations and the guidelines by the ministry of ICT ● Provide awareness sessions and publications to the public on proper E-waste management and ● Provide collection centres for e-waste at various points throughout the country to ease waste collection. ● Only transport Waste using NEMA licensed waste handlers 	<p>M</p>
	<p>An increase in connectivity will lead to an increase in potential exposure to cyber crime since more people shall be able to utilize the internet services</p>	<p>Ugandan citizens and globally</p>	<p>4</p>	<p>5</p>	<p>H</p>	<ul style="list-style-type: none"> ● NITA-U is one of the agencies spearheading legislation reforms to cater for cybercrime in Uganda. Efforts are already underway to harmonize legislation on Cybercrime and electronic evidence towards Ratification of the Budapest Convention on Cyber Crime. ● A number of awareness programmes should be designed to cater for connectivity related inductions for end-users' ● Automated controls should also be in place to provide for security and secure connections 	<p>M</p>
<p>L: Likelihood C: Consequence</p>		<p>L: Low M: Moderate H: High</p>			<p>Rating: impact significance/ consequence</p>		

Refer to Risk Matrix in Appendix 4

CHAPTER EIGHT

ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN

8.0. Environment and Social Management and Monitoring Plan (ESMMP)

The Environment and social Management and Monitoring Plan identifies potential environmental and social aspects that should be monitored by the project developer hand in hand with NEMA, other relevant government agencies and development partners. Specifically, it identifies parties responsible for monitoring actions, monitoring indicators and reporting. A monitoring process will be established to check/assess the implementation progress and effectiveness of the mitigation measures suggested and the resulting effects of the proposed project on the environment and people. The ESMMP comes into force right from the pre-implementation engagements as controls should be in place to ensure that environmental and social aspects of the project are considered. Tangible start of the project often starts the construction phase and continues throughout the operation phase. It will also include regular reviews of the impacts that cannot be adequately assessed before the beginning of the project, or which arise unexpectedly. In such cases, appropriate new actions to mitigate any adverse effects will be undertaken.

8.1. Structure of the ESMMP

The ESMMP lists the requirements to ensure effective mitigation for all potential impacts. It provides information on:

- Likely impacts and their indicators;
- Monitoring indicators
- Data sources
- A description of the mitigation measures (actions) that Mariana Agencies Ltd will implement;
- Responsible party for ensuring full implementation of that action.

The project specific ESMMP is presented as table 30:

Table 8.1: Summary of the Environment and Social Management and Monitoring Plan for the Last Mile RCIP Project Components

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Land take prior to construction	Where grievances in the resettlement process emerge, steps will be taken to address the grievance in accordance with the RCIP RAP framework	All grievances arising from compensations for loss of land, livelihood and destruction of property settled efficiently and effectively	No complaints from the property owners affected by land acquisition	RAPs report Grievance settlement reports, incidence investigation reports Annual audit reports	Before project implementation	NITA-U, Contractor, LC grievance committees, District grievance committees, NITA grievance committee	Cost of land, property in case compensation and livelihood restoration to be determined
Impacts related to property acquisition within the road reserve.	Stakeholder consultations shall precede project implementation to brief PAPs on project activities, address their concerns and promote transparency and their participation	Participation and cooperation of PAPs for project sustainability	Stakeholder consultation site specific attendance registers and minutes	RAPs reports Stakeholder management reports Annual audit reports	Before project implementation	NITA-U, Contractor	As per approved budgets to carry out activity
	Adequate notice should be given to the affected persons within the road reserve	Owners of property within the road reserve affected by the project are given adequate relocation notices	No complaints from the property owners affected by project activities	NITA survey and census inventories	Throughout the project lifecycle	NITA-U and Contractor	Negligible
Road safety impact and occupational injuries	Only trained and professional drivers and operators should be allowed to man construction vehicles and machinery or vehicles for survey and RAP census teams	Safety from traffic offences and work hazards	Proportion of drivers and operators with requisite training and professional documents	Contractor employment records Contractor compliance reports NITA survey and census inventories	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Installation of all necessary sign posts for works crossing roads	No accidents resulting from project related activities.	Safety sign posts on site	Consultations, monitoring and inspection reports.	Throughout construction period and after project completion	NITA-U and Contractor	As per approved budgets to carry out activity
	First Aid kits should be carried around by the investigation teams during the RAP census and in each construction site	No life is lost due to injury incidents triggered by project related work	Proportion of injury incidents receiving first aid	Injury and illness incident reports	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
Children and Vulnerable Groups protection	Project workers and communities inducted & sensitized on protection of children, gender and criminal effects of sexual engagement with children in the project sites	Promote respect for rights of PAPS and workers especially, VMGs. No PAP-contractor staff conflicts. No STI, HIV/AIDS, sex abuse and family breakups triggered by the project.	% of sites with workers and communities inducted and sensitized on child, gender and criminal effects of sexual engagement with children in the project sites	Contractor sensitisation records, Field visits and observations	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
	Coordinate with MoGLSD and develop protocols on responding to labor and child protection issues.	All cases of labor and child rights infringed by contractor staff on site handled according to the laws of Uganda	Status of protocol development with MoGLSD on responding to labor & child protection issues.	Project inventory review	Before works commence	NITA-U and Contractor	As per approved budgets to carry out activity
	Construction Phase						
	Impact on the Socio-economic environment						

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Positive Impacts							
Creation of employment and business (livelihood) opportunities	Vulnerable and disadvantaged groups in the project area such as the women, youth, poor, orphans, PHAs, PWDs etc will be the preferred source of unskilled and semi-skilled labor provided they have the requisite qualification, competence & experience	Optimize participation and livelihood opportunities for PAPs in all project activities	Proportion of the un/skilled women, youth, poor, orphans, PHAs, PWDs etc. with qualification from the PA employed	Contractor employment records Contractor compliance reports	Weekly	Contractor, NITA	As per approved budgets to carry out activity
	The project will promote procurement of materials from local suppliers where it is technically, qualitatively and commercially reasonable and feasible.	Local communities and businesses benefit from procurement process	Number of local businesses benefiting from construction related procurement	Contractor Procurement records Contractor compliance reports	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
	Ensure regular business dealers especially food vendors are registered for identity & effective GRMs	PAPs earn livelihood without exploitation	Proportion of regular business dealers by category registered	Contractor inventory for regular business dealers by category	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
	Ensure that nationals benefit from employment opportunities and observe the national labor laws	Optimize participation and livelihood opportunities for local PAPs in all project activities	Proportion of nationals in the project labor force	Contractor employment records	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
Negative Impacts							

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Temporal business disruptions due to trenching in urban centers and markets in rural areas	Works should be planned for out of business peak hours (night) and days (weekends) to minimize inconveniences to businesses	Implement the project with as less disruptions on the PAPs especially, the VMGs as possible	Number of community complaints lodged over disruptions	RAPs Report, Field Visits	Monthly	Contractor, LG leaders NITA-U	As per approved budgets to carry out activity
	Communities should be sensitized on road use during construction.	Minimal disruption of community facilities operations during construction activities	Number of complaints from communities long the project area		Throughout construction period	NITA-U and Contractor	Negligible
Construction noise, vibration and air quality	Only equipment and vehicles in good working order will be used	Management of noise, dust and vibration nuisance	Complaints of DMC equipment and vehicles in use	Field consultations with District Engineer, Complains from the operators and community	Daily	District Engineer, NITA-U and Contractor	As per approved budgets to carry out activity
	Only trained and professional drivers (operators) should be allowed to drive construction vehicles and to operate machinery.	Management of noise, dust and vibration nuisance	Proportion of drivers (operators) with requisite training and professional documents	Contractor employment records Contractor compliance reports inventories	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Implement best driving (operator) practices to minimize noise /dust created through unnecessary acceleration and breaking	Management of noise, dust and vibration nuisance	Complaints on bad driving/machine operations. Evidence of best fleet management policy for example: Proportion of machines/vehicles with a call number for bad driving/operation Proportion of bad driving/operation reports acted on by the contractor	Contractor compliance reports, field consultations with OC traffic	Daily	OC Traffic, NITA-U and Contractor	As per approved budgets to carry out activity
	Regular inspection of vehicles, machinery and equipment used in the operation according to manufacturer inspections to ensure that they are in good working condition	Management of construction noise, dust and vibration nuisance	Proportion of vehicles, machinery and equipment inspection and serviced according to manufacturer specifications	Inspection records of vehicles, machinery and equipment field consultations with OC Traffic and District Engineer	Daily	OC Traffic, District Engineer, NITA-U and Contractor	As per approved budgets to carry out activity
	Noise-prone activities will not be implemented between the hours of 6 pm. and 6 am	Avoidance of noise-prone activities between the hours of 6 pm. and 6 am	Complaints of excessive noise from construction areas from between the hours of 6 pm. and 6 am	Community observations Contractor compliance reports Field visit District Environment Officer	Daily	District Environment Officer, NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Noise generating sources should be located away from residential areas, schools, hospitals and other sensitive receptors to meet the noise emission levels provided in IFC's General EHS Guidelines	To keep noise emission at levels provided in IFC's General EHS Guidelines especially, in noise sensitive receptors	Complaints of noise generating sources located in residential areas, schools, hospitals and other sensitive receptors	Community observations Contractor compliance reports Field visit consultations with District Environment Officer	Daily	District Environment Officer, NITA-U and Contractor	As per approved budgets to carry out activity
	Use of noise suppression shields and mufflers	To keep noise emission levels low	% of machines generating beyond 65dBA with noise suppression shields and mufflers	Field observations and consultations with District Environment Officer	Monthly	District Environment Officer, NITA-U, Contractor	As per approved budgets to carry out activity
	Observe the 75 dBA and 65 dBA NEMA regulation limits for day and night time noise levels respectively	To comply with the NEMA regulation limits for day and night time noise levels respectively	Complaints of noise levels beyond the 75 dBA and 65 dBA NEMA regulation limits for day and night time noise levels respectively	Field visit consultations with the district Environmental office	Daily	District Environment Officer, NITA-U, Contractor	As per approved budgets to carry out activity
	Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use.	To keep noise emission levels low	Complaints on engines of vehicles/trucks and earth-moving equipment running when not in use.	Field visit consultations with the district Engineer and OC traffic	Daily	District Engineer , OC traffic NITA-U, Contractor	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Installing suitable mufflers on engine exhausts and compressor components to reduce vibration levels	To keep vibration nuisance levels low	% of machines generating vibration nuisance with mufflers	Field visit consultations with the district Environmental office	Daily	District Environment Officer, NITA-U, Contractor	As per approved budgets to carry out activity
	Sprinkling water regularly during dusty conditions	To suppress dust emissions, improve visibility and at the same time minimize the health impact of dust pollution to both workers & the general public.	Public recognition of contractors attempts to manage dust particles through water sprinkling	Reports from safeguards' staff	Daily	<ul style="list-style-type: none"> NITA-U MGLSD Contractor NEMA	Negligible
Social ills of construction labor and HIV/AIDS	As a contractual obligation, contractors should have an HIV/AIDS policy and a framework (responsible staff, action plan, etc.) to implement it during execution of this project.	No illicit sexual relationships among construction workers and local community	<p>All construction workers are aware of HIV/AIDS risk and responsible living.</p> <p>All construction workers living in a camp adhere to a "No fraternization" and comply with latest entry time into camp (6PM) set to avoid prostitution.</p>	NITA-U Contractor; Local Government	Throughout construction	NITA-U	<p>As per approved budgets to carry out activity</p> <p>HIV/AIDS awareness programmes, posters/fliers and free condoms</p>

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Impact on cultural heritage/ archaeological interests/ Chance finds in OP 4.11 safeguards	Locations of Cultural Heritage/ Archaeological interest should be avoided by project activities	To keep Cultural Heritage/ Archaeological sites intact	No. of Cultural Heritage/ Archaeological interest interfered with by the project activities	NITA-U Contractor; Local Government	Daily	Contractor Cultural leaders, NITA U, Department of Antiquities	As per approved budgets to carry out activity
	Work must immediately stop along an affected section, and the Supervising Engineer, Department of Museums and Antiquities and the competent authority under NEMA immediately informed to take a decision on the way forward	To save and protect chance finds in OP 4.11 safeguards	Incidents where work continued in sections of chance finds in OP 4.11 safeguards	Chance finds reports, field visits	Daily	Contractor NITA-U Local government Supervising Engineer, Department of Museums and Antiquities and the competent authority under NEMA	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Care must be taken during the excavation of borrow pits to avoid family or clan graveyards. Where family graveyards are affected, the RCIP RAP framework must be observed to compensate the PAPs	To save and protect family or clan graveyards. To ensure prompt and adequate compensation as guided by the RCIP RAP framework to the PAPs	Proportion of family or clan graveyards avoided. Proportion of cases promptly and adequately compensated according to the RCIP RAP framework. Proportion of compensation grievances addressed as guided by the RCIP RAP framework	Chance finds reports, field visits RAP reports	Monthly	Contractor NITA-U Local government Supervising Engineer, Department of Museums and Antiquities and the competent authority under NEMA	As per approved budgets to carry out activity
Occupational Health and Safety risks	All manual equipment such as pickaxe, Pick Mattock, Cutter Mattock, etc should be sturdy and firmly fixed	Promote occupational health and safety	Complaints of workers sheared by falling off pick, mattock, hoe etc.	Occupational health and safety risk incidence inventories	Monthly	MGLSD NEMA Contractor District labour officer	As per approved budgets to carry out activity
	Only trained and professional drivers and operators should be allowed to man construction vehicles and machinery.	Management of traffic accidents	Proportion of drivers and operators with requisite training and professional documents	Contractor employment records Contractor compliance reports inventories	Monthly	District Engineer, NITAU and Contractor	As per approved budgets to carry out activity
		To reduce the risk of accidents involving pedestrians and vehicles.	Reports of pedestrians and vehicles falling into trenches	Site visits, complaints filed in Police, Reports from safeguards' staff	Daily	NITA-U MGLSD NEMA Contractor District Labour Officer	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	All open trenches and excavated areas should be backfilled as soon as possible after cable laying and construction has been completed. Open trenches or ongoing excavation shall be provided with adequate barriers/fences, appropriate signages and should be illuminated at night.	To reduce the risk of accidents involving pedestrians and vehicles.	Reports of pedestrians and vehicles falling into trenches	Site visits, complaints filed in Police, Reports from safeguards' staff	Daily	NITA-U MGLSD NEMA Contractor District Labour Officer	As per approved budgets to carry out activity
	Construction workers should be provided with and enforced to wear suitable Personal Protective Equipment (PPE) including hard hats, overalls, high-visibility vests, safety boots, gloves etc.	Promote occupational health and safety	Proportion of workers provided with and enforced to wear suitable Personal Protective Equipment (PPE)	Reports from safeguards' staff	Daily	NITA-U MGLSD NEMA Contractor District Labour Officer	As per approved budgets to carry out activity
	Clear signage should be used near project sites	To reduce traffic accidents	Public & worker complaints on lack of signage	Reports from safeguards' staff	Daily	NITA-U MGLSD Contractor District OC Traffic	As per approved budgets to carry out activity
	Training of workers and community members on safety precautions.	To reduce accidents	Training reports	Reports from safeguards' staff	Daily	NITA-U MGLSD Contractor District OC Traffic	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Community and workers training on potential of disease transmission such as HIV/AIDs, Hepatitis, Gender Based Violence and Child abuse	Prevent potential transmission of diseases such as HIV/AIDs, Hepatitis, Gender Based Violence and Child abuse	Training reports	Field visits, documentary review	Daily	<ul style="list-style-type: none"> NITA-U MGLSD Contractor NEMA 	As per approved budgets to carry out activity
	Documentation of Accidents and actions taken	For assess and improve safety mechanisms	Evidence of accidents documentation	Reports from safeguards' staff	Daily	<ul style="list-style-type: none"> NITA-U, MGLSD, Contractor, NEMA DHO 	As per approved budgets to carry out activity
	Ensure latrine, bathroom and accommodation facilities are separate according to sex	To protect VMGs from abuse of sexual, gender and privacy rights	Evidence of separate latrine, bathroom and accommodation facilities by sex	Reports from safeguards' staff	Daily	<ul style="list-style-type: none"> NITA-U, MGLSD, Contractor, NEMA DHO 	As per approved budgets to carry out activity
Construction traffic related accidents and traffic interference	Trenching across roads and project vehicles and trucks movement should be scheduled during general traffic off-peak hours	To avoid traffic jam due to project activities	Evidence of trenching across roads and project trucks moving during traffic peak hours	Reports from traffic wardens and safeguards staff	Daily	NITA-U MGLSD, DHO Contractor, NEMA	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Employ safe traffic control measures, including temporary road signs and flag persons to warn of dangerous conditions and on-going road construction works or diversions	Minimize traffic accidents	Evidence of traffic control measures	Reports from safeguards' staff	Daily	NITA-U MGLSD Contractor District OC Traffic	As per approved budgets to carry out activity
	Trucks carrying construction materials will be covered with tarpaulin or appropriate polythene material from or to project site	Prevent injuries caused by flying objects from project trucks hauling construction materials	complaints of people being hit by objects from moving project truck	Reports from safeguards' staff	Monthly	MGLSD, NEMA, Contractor, District labour officer and OC Traffic	As per approved budgets to carry out activity
	Attach speed limits to vehicles that will use the Road	To reduce human error associated with accidents due to over speeding	complaints of over speeding by project vehicles	Field visit consultations	Monthly	MGLSD, NEMA, Contractor, District labour officer	As per approved budgets to carry out activity
	Documentation of Accidents and actions taken	To ascertain the impact of the project and take timely corrective action	Evidence of accident documentation	Reports from safeguards' staff	Daily	NITA-U, MGLSD Contractor, District OC Traffic	As per approved budgets to carry out activity
Risk of assault/ Attack/ intimidation	Report all the criminal cases to police and seek police protection in affected sites	To prevent risk of assault/ Attack/ intimidation	Cases reported to police	Incident reports in Police	Daily	NITA-U, MGLSD Contractor, DPC	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Potential loss of land/property/livelihood (crops, market stalls, sewer and water lines, electricity and telecom cables as well as roads networks)	The project will use the road reserve and public land to avoid physical displacement/loss of land, livelihood and destruction of property.	Implement the project with as less resettlement effect on the PAPs especially, the VMGs as possible	Number of incidents in the project communities losing land, livelihood or property due to project triggered activities	RAPs report	Before project implementation	NITA-U and Contractor	As per approved budgets to carry out activity
	Where the project leads to damage of property or physical displacement leads to loss of land, livelihood and destruction of property, owners shall be compensated. Regardless of their ownership or tenure of the lands, occupants/owners of affected structures, crops, garden, economic trees shall be compensated in accordance with OP 4.12 and the RPF. This includes those whose livelihood or businesses have been temporarily disrupted due to construction. A simple RAP shall be prepared for each district to inventory, assess the value and compensate owners of structures, crops, garden and economic trees as well as disruption of businesses.	All PAPs with incidents of loss of land, livelihood and destruction of property re-settled promptly and adequately	Proportion of incidents of land, livelihood or property loss due to project triggered activities resettled promptly and adequately in accordance with the RCIP RAP framework	RAPs report	Before project implementation	NITA-U and Contractor, MoLHUD	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Where grievances in the resettlement process emerge, steps will be taken to address the grievance in accordance with the RCIP RAP framework	All grievances arising from compensations for loss of land, livelihood and destruction of property settled efficiently and effectively		RAPs report Grievance incidence resettlement reports Annual audit reports	Before project implementation	NITA-U, Contractor, LC grievance committees, District grievance committees, NITA grievance committee	As per approved budgets to carry out activity
Impact on the Biophysical environment							
Potentially Negative							
Increased susceptibility to soil erosion during rainy days	Stripping of vegetation shall be restricted to existing road reserves and diversions to transmission sub-stations	Minimized effect on the adjacent ecosystem	Evidence of restricted stripping of vegetation to the road reserve and diversions to transmission sub-stations Evidence of eroded mass from project sites	Field visits and consultations with the District Environment Officer	Daily	NITA-U, Contractor, District Environment Officer	As per approved budgets to carry out activity
	Use aerial transmission poles in erosion prone spots	Preserved ecosystem	Evidence of eroded mass from project sites	Field visits and consultations with the District Environment Officer	Daily	NITA, Contractor LG staff, DEO	As per approved budgets to carry out activity
	The Contractor will preferably deal with local borrow material suppliers certified by NEMA	Best practices in project footprint and soil erosion management	The legal status of local borrow material suppliers	Field visits and consultations, audit of supplier documentation	Daily	NITA, DEO, Contractor, LG staff	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Impact on natural habitats and protected areas	Siting of strong short towers/poles (<9 Meters) that cannot be damaged by larger fauna along the road reserves in conservation areas	Protected critical habitats e.g. nesting grounds, bird flying spaces, foraging corridors, and migration corridors	The layout of the OFC implemented in conservation areas	Field visits, monitoring and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Avoidance of construction activities during the breeding season and other sensitive seasons or times of day in collaboration with conservation teams.	To avoid interference with the breeding seasons and habits of endangered species in conservations	The timing of construction in conservation areas	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Minimizing clearing and disruption to riparian vegetation. Re-vegetation of disturbed areas with native plant species	To avoid interference with the habitats of conservations	The extent of the project foot prints in conservation areas. Evidence of re-vegetation	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
Construction waste generation	Trenching spoil material should be used for backfill	Properly preserved spoil material for use during backfilling	Evidence backfilled trenches	Field visits and consultations	Daily	Contractor, NITA LG Staff, DEOs/NE MA	As per approved budgets to carry out activity
	All wastes should be collected in gazetted areas and sorted	Separation of hazardous and non-hazardous wastes for proper disposal	Records for wastes generated and disposal practice	Field visits and consultations	Daily	Contractor, NITA LG Staff, DEOs/NE MA	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Contractor should seek guidance of local environmental officers to identify acceptable disposal sites for oily/ fuel waste	Disposal of waste by a licensed service provider. Availed records of waste disposed of.	Reports of illegal waste dumping in non-designated areas	Field visits and consultations Records of waste disposal records of waste disposed of.	Daily	Contractor, NITA LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	Where it does not exist for hazardous wastes, a NEMA certified waste handler should be contracted	To transport and disposal of wastes to a known NEMA approved waste disposal facility.	Reports of illegal handling of hazardous waste by un licensed companies	Field visits and consultations	Daily	Contractor NITA LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	Contractors should induct their drivers and sensitise them on safe transportation of the rubble and cut-to-spoil materials to the final disposal site	Proper handling and transportation of waste material	Induction and sensitisation reports for drivers Traces of waste spillages along transportation routes	Field visits and consultations	Daily	Contractor NITA LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	Implementing fuel delivery procedures and spill prevention and control plans applicable to the delivery and storage of fuel for backup electric power systems, preferably providing secondary containment and overfill prevention for fuel storage tanks;	Controlled fuel spillages	Evidence of fuel delivery procedures and spill prevention and control plans Availed spillage contingency plan	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NE MA	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
E-Waste	Contractors should undertake waste segregation to separate e-waste from waste	To restore excavations	Waste segregation practice reports	Field visits and consultations	Daily	Contractor NITA-U, LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	Ensuring that new support equipment does not contain PCBs or ODSs. PCBs from old equipment should be managed as a hazardous waste	To avoid hazard wastes	Manufacturer equipment specifications	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	Purchasing electronic equipment that meets international phase out requirements for hazardous materials contents and implementing procedures for the management of waste from existing equipment according to the hazardous waste guidance in the General EHS Guidelines.	Durable and genuine equipment installed	Manufacturers' Specification records	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	Considering the implementation of a take-back program for consumer equipment such as cellular telephones and their batteries.	To avoid accumulation of hazardous wastes	Equipment purchase and handover agreements	Field visits and consultations	Daily	Contractor NITA-U, MoICT LG Staff DEOs/NE MA	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
	Review of regulations and the strategic electronic waste management plan to cater for e-waste disposal options in and outside the country	New defined regulation and plans on waste management capturing e-waste aspects Provision and encouragement of developers or government to invest in e-waste management facilities	Regulations rollout amongst project teams and country at large Presence of e-waste management facilities or know collection points	Field visits Publications of new legislation and strategic plan	Monthly	NITA-U, NEMA, MoICT	As per approved budgets to carry out activity
Water pollution	Maintenance and cleaning of vehicles, trucks and equipment should take place offsite and away from water sources and conservation areas	To keep the ecosystem from pollution	Project vehicles cleaning and maintenance records	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	All the wastes should be collected in areas separate from the surface water bodies such as streams	Responsible waste management and protected water sources.	Records for water sample analysis Evidence of garbage/refuse, oily/ fuel waste in drains	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NE MA	As per approved budgets to carry out activity
	Recycling or proper disposal of all waste lubricants and oils		Waste recycling or disposal records	Field visits and consultations	Daily	Contractor & NITA-U	As per approved budgets to carry out activity
	Constructor should provide latrine facilities for construction workers to avoid indiscriminate defecation in nearby bush or shores		Evidence of latrine facilities on site	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NE MA	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Post-Construction Phase							
Potential impacts on the socio-economic environment							
Potential Negative impacts							
Visual and Aesthetic Impacts i.e. Alteration of visual and aesthetic quality of sites	Taking into account public perception about aesthetic issues by consulting with the local community during the siting process of antenna towers.	To review site, material and technology alternatives with the visual interests of project communities in mine	Concerns with aesthetic changes	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Limiting vegetation clearance to the road reserve	Limited interference with sceneries in project communities	The extent of the project foot prints in conservation areas. Evidence of re-vegetation	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Any areas that were cleared of vegetation but are not paved should be planted with grass indigenous to those areas.	To restore the vegetation to its indigenous state	The extent of the project foot prints in conservation areas.	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Restoration of quarry and borrow pit sites opened by the contractor to as far as is possible their original conditions	Sceneries aesthetic kept in their pre-construction form Restoration of borrowed areas	Public complaints Presence of an appropriate restoration plan	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Demobilization and restoration of sites hosting support construction facilities for the project at project closure	Site restored to its original aesthetics	Demobilization and restoration status of sites hosting support construction facilities	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Buying materials from only suppliers with evidence of compliance with Statutory requirements for commercial sources in place.	Compliance with Statutory requirements for commercial sources in place.	Evidence of compliance with statutory requirements for commercial sources in place.	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Proper storing and disposal of all wastes generated to appropriate gazetted areas with the help of NEMA certified service providers	A well-protected integrity of the ecosystem	Waste storing and disposal records	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
Operational phase							
Impact on Socio-Economic Environment							
Positive Impact							
An efficient government cloud infrastructure with better public service delivery	Connectivity to as many Government, Private and Cultural Institutions as possible.	An improved service delivery and accessibility	Number of entities connected Percentage reduction in time delays in service delivery	Monitoring reports Quarterly review reports	Quarterly	NITA-U Project coordinator and Contractor, MoICT	Improved delivery of public services by improving efficiency through government cloud infrastructure
Better capacity in management of IT programs and projects	Design training programs for effective use of the infrastructure by beneficiaries as part of the project.	A resourceful management structure.	Training programs design status for effective use of the infrastructure	Monitoring and evaluations	Annually	NITA-U, MoICT and contractor(s)	Building capacity in management of IT programs and

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
							projects
Improved policy and regulatory environment for ICT in country	Formulate and review policies and regulations based on project performance	Well-structured and relevant policy framework	Number of policies and regulations reviewed based on home grown experience	National policy and legal framework.	Annually	NITA-U, MoICT and contractor(s), NEMA	Improved policy and regulatory environment for ICT in country
Job creation/ Loss	National and regional labor laws should be observed	An established job creation venture	Trend of employment in the IT sector	Consultations, monitoring and evaluation reports.		NITA-U, and contractor(s)	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Occupational Health and Safety Risk	<p>Only qualified and certified workers shall be employed to install, maintain, or repair any equipment onsite</p> <p>Maintenance workers will be provided with adequate PPE to limit their risks to works accidents. Such PPE will include gloves, helmets, safety belts for working in heights, and any other as deemed necessary.</p> <p>A first Aid kit will be kept onsite whenever there are maintenance activities. This will help in administering the first help in an event of injury of any operation staff.</p>	A good health and safety culture.	Reports of injuries during maintenance	Accident log.	Bi-annually	NITA-U and contractor(s)	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Social misdemeanor and cybercrimes	<p>Formulate and enact policies, laws, rules and regulations to protect private, public and shared information and prevent cybercrimes, including fraud, copyright piracy, pornography etc. on national intra- and inter-net;</p> <p>Educate MDAs' personnel and enhance personnel management, regularly conduct the appropriate amount of education on procedural management of websites/portals;</p> <p>Strengthen educational programs on patriotism and moral construction to resist the penetration and influence of corrupt thoughts and culture, and keep the purity of our thoughts and morality;</p> <p>Censure internet content to suit target end users</p>	A controlled and responsible usage of intra and internet.	<p>ICT policies, laws, rules and regulations enacted</p> <p>Certificates of training</p> <p>Education Curricula content at different levels</p> <p>Websites blocked</p>	Consultations, monitoring and evaluation reports.	Real time tracking coupled with monthly reviews	NITA-U, MoICT, Uganda Police	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Lightning risks and associated impacts	Lightning arrestors will be incorporated in the project design. The appropriate earthlings will be provided to safeguard against lightning. This installation shall be supervised by a qualified person.	Installation during construction and maintenance during operation	Installed/erected lightning conductors in place	Installation and maintenance manuals Records of lightning strikes	Bi-annually	NITA-U	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
Electric and Magnetic Fields	<p>Evaluating potential exposure to the public against the reference levels developed by the international Commission on Non-Ionizing Radiation Protection (ICNIRP).</p> <p>Average and peak exposure levels should remain below the ICNIRP recommendation for General Public Exposure; Limiting public access to antennae tower locations (see also 'Community Health and Safety' of this document, below); Following good engineering practice in the siting and installation of directional links to avoid building structures;</p> <p>Taking into account public perception about EMF issues by consulting with the local community during the siting process of antenna towers.</p>	Limited exposure to electromagnetic field	Reported cases of health effects associated with exposure to electric and magnetic, i.e., cancer, leukemia.	<p>ICNIRP recommendation for General Public Exposure;</p> <p>Public consultation and disclosure reports.</p> <p>Field inspection / monitoring reports</p>	Bi-annually	NITA-U, MoICT, Uganda Atomic Energy Council	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
e-waste generation	Management should undertake waste segregation onset to separate e-waste waste from non-e-waste waste.	NITA-has records of proper waste disposal indicating quantities dumped and location of dumping site	Quantities of e-waste generated		Quarterly	NITA-U	As per approved budgets to carry out activity
	Decommissioning Phase						
	Possible Socio-Economic Impact						
	Potential impact on the biophysical environment						
Soil erosion and landslides	NITA-U should consider the option of not removing installed cables in some areas or whole network Contractor should restrict vegetation stripping to critical sites to minimize project footprint and soil erosion Contractor should avoid ground and vegetation stripping in steep sloping areas to minimize soil erosion and risk of landslides.	Retarded rate of erosion	Traces of gullies of Cases of siltation downstream.	Consultations, monitoring and evaluation reports.	Throughout the decommissioning period	NITA-U, DEOs, Contractor(s)	As per approved budgets to carry out activity
Water quality	No garbage/refuse, oily wastes, fuels/waste oils should be discharged into drains or onto site grounds	Proper storage of waste and responsible disposal	Water quality test report	Water quality test records	Quarterly	NITA-U, DEOs, DHOs, Contractor(s)	As per approved budgets to carry out activity

Environmental/Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/Supervision Responsibility	Cost Estimate
e-Waste generation	Management should undertake waste segregation onset to separate e-waste from non-e-waste and use NEMA certified service providers for safe disposal E-waste separated from non-e-waste	Labeled waste bins and no waste littered Documentation of formal engagement of refuse handlers Segregated waste storage area	Records of waste generated and disposed of. Waste storage area with segregated compartments.	Quarterly reports	Quarterly	NITA-U, DEOs, DHOs, Contractor(s)	As per approved budgets to carry out activity

Cultural Heritage Management Plan

The cultural heritage management plan identifies the negative impacts of the proposed project and then suggests mitigation measures and assigns responsibility centers for the cultural heritage management in the affected areas. These are tabulated on Table 3.2.

Table 8.2: Proposed mitigation measures for potential negative impacts on cultural heritage resources.

Impact on cultural heritage resources	Mitigation	Responsibility
<p><i>Kiryandongo Archaeological site 1</i></p> <ul style="list-style-type: none"> • Destruction of potsherds and any other cultural materials found underground. • Interchange of the cultural material layering hence losing their provenance. 	<ul style="list-style-type: none"> • Conduct pre-development awareness programmes for the workers on how to recognize cultural materials during the construction phases. • Follow chance finds procedures during development phase. 	Archaeologist and cultural heritage consultant & NITA-U
<p><i>Kiryandongo Archaeological site 2</i></p>	<ul style="list-style-type: none"> • Ensure that a watching brief by qualified personnel (archeologist/cultural heritage specialist) is put in place and followed to help locate possible chance finds before ground breaking or dumping. 	Archeologist/cultural heritage specialist & NITA-U
<p>Destruction of the potsherds and other possible remains in the area.</p>	<ul style="list-style-type: none"> • Conduct pre-development awareness programs (training) for the workers on how to recognize cultural materials during the construction phases. 	
<p>Interchange of the landscape and the meaning of the object hence losing the provenance of objects.</p>		
<p><i>Gulu Archaeological site</i></p>	<ul style="list-style-type: none"> • Involvement of the archaeologist and cultural heritage specialist in site selection 	Archaeologist and cultural heritage expert and NITA-U
	<ul style="list-style-type: none"> • Conduct pre-development awareness programs (training) for the workers on how to recognize cultural materials during the construction and development phases. 	
<p>Destruction of the potsherds and other materials that could be in the area.</p>	<ul style="list-style-type: none"> • Ensure that watching brief by qualified personnel (archeologist/cultural heritage specialist) is put in place to help locate possible chance finds before ground breaking or dumping. 	
<p>Interchange of the landscape and the meaning of the object hence losing the provenance of objects.</p>		
<p><i>Nakasongola Archaeological site</i></p>	<ul style="list-style-type: none"> • Conduct pre-development awareness programs (training) for the workers on how to recognize cultural materials during the construction and development phases. 	Archaeologist and cultural heritage expert and NITA-U
<p>Destruction of potsherds and any other cultural materials found underground.</p>	<ul style="list-style-type: none"> • -Ensure that a watching brief by qualified personnel (archeologist/cultural heritage specialist) is put in place to help locate possible chance finds before ground breaking. 	
<p>Interchange of the cultural material layering hence losing the provenance</p>		
<p><i>Gulu mass grave/cemetery</i></p>	<ul style="list-style-type: none"> • Avoidance 	NITA-U

Table 8.3: Assessment of Significance

Site		Significance/Value	Magnitude of Potential Impact	Overall Impact Assessment
Kiryandongo site 1	Archaeological	Low	Medium	Medium Positive
Kiryandongo site 2	Archaeological	High	Major	Large Positive
Gulu Archaeological site		High	Major	Large Positive
Nakasongola site	Archaeological	High	Major	Large Positive
Gulu mass graves/cemetery		Low	Medium	Medium Positive

Monitoring Plan

This entails how the cultural heritage resources will be monitored for proper management. Monitoring should place emphasis on archaeological materials which could be found underground during the project activities at all construction phases. It is therefore recommended to involve a qualified archeologist and cultural heritage specialist to ensure that cultural materials are properly monitored. As part of monitoring there will be need to create awareness/training of all contractor's/developer's staff on identification of archeological resource materials, their documentation using photography and GPS coordinates, procedure for informing and consulting community leaders and the Department of Museums and Monuments (DMM) to be considered during the project implementation.

The developer should hire a cultural heritage specialist to be available whenever need arises to salvage materials of archaeological and cultural heritage nature. This will ensure that chance finds from the sites are well documented and salvaged. The monitoring plan would follow suggestions in Table 8.4 below.

Table 8.4: Archaeology and cultural heritage Monitoring Plan

Activities	Responsibility	Frequency	Reporting to
Creating awareness of Contractor’s staff on identification of archeological resource materials.	Developer/DMM	Before commencement of the Project	DMM
Watching brief on PCRs by qualified personnel.	Developer/DMM	Ground breaking phase	DMM
Documentation of archeological materials by taking photographs and GPS coordinates (Record of CF)	Developer	During construction (All times when materials are discovered).	DMM
Living cultural resources: Avoid camping or any other activity at the site	Developer	All times of the project.	DMM

Chance Finds Procedures

Archaeological sites are the only physical evidence that tell us about the past history of Uganda and are indicators of the indigenous people’s cherished values and identity. The 1995 Constitution of Uganda, under the national objectives and directive principles of the state policy (XXV), obligates the state to protect and preserve Uganda’s Heritage. This emphasizes the Historical Monuments Act 1967 amended in a decree in 1977 that governs the protection of all cultural property in Uganda. The Department of Museums and Monuments is therefore mandated to monitor the protection, preserving, gazetting and rescue/salvage of any material of archaeological, paleontological or historical importance on behalf of the State. Thus the DMM came up with a Chance Finds procedure. Chance Finds are sites or materials such as pottery or Stone tools, Iron Slag, Charcoal that could be found during earthworks of any development. Pottery or broken pots may be decorated or plain, red ware or brownish or even yellowish-white for those that used kaolin. Stone tools may also be in black/dark (chert), white without or with crystals (quartz/quartzite) and many others. Some other people may find iron slag, spears, knives or other objects made from iron ore and bones of either human or animal remains. It is therefore important to follow the protocol provided below while operating in culturally rich areas of Kichwamba II zone, Kichwamba Sub County, Kabarole district.

Procedures to address chance find

In line with the General Specification for Road and Bridge and WB Physical Cultural Resource (PRC) Safeguard Policy Guidebook, the Contractor must stop work immediately after discovering evidence of possible scientific, historical, prehistoric, or archaeological data and notify the Resident Engineer giving the location and nature of the finds.

The Contractor shall exercise care so as not to damage artefacts or fossils uncovered during

excavation operations and shall provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the Employer. The Contractor shall also document/record the Chance Finds and provide a report with the following;

- Date and time of discovery
- Location of the discovery
- Description of the PCR
- Estimated dimensions of the PCR
- Temporary protection implemented.

Note: This report will first be submitted to the Resident Engineer who will report to the main developer and then other authorities for further communications and actions.

The Resident Engineer should notify the Commissioner DMM of such finds for verification and salvage by writing a notification letter or email and where urgency is needed a telephone call. The contact name' Rose Nkaale Mwanja; email; mwanjankale@gmail.com and telephone numbers: 0414 232 707 or 0772 485624. This is in line with the Historical Monument Act 1967, Section 11(1 &4) and section 12b.

The DM should be able to provide a solution at least within 7 to 28 days after being contacted. This implies that where salvage archaeology is required, works of the contractor should be suspended for at least not more than 28 days. A report of the finds should be shared with all authorities especially the developer and DMM.

The project areas in the Northern districts are relatively archeologically and historically rich especially in pottery which indeed the project investigations revealed. The impact of the project on the recorded cultural heritage sites will be direct during the entire phases of construction. Chance finds procedure should be emphasized given the anticipations of more archaeological remains that could have not been observed from the surface.

Relation to the project: the project team has incorporated sample studies of an archaeologist during the ESIA and shall ensure that project teams are provided with awareness sessions on chance finds prior to project execution.

CHAPTER NINE
PROJECT DECOMMISSIONING

9.0. Decommissioning

Given the numerous conditions and factors that could come into play during the operation phase of the project, decommissioning and restoration of facilities shall require development of detailed plans and acquisition of demolition certificates. Planning for decommissioning should ideally be carried out when the project reaches 80% of its life span. Involvement of a consultant or specialist shall enable the client provide restoration and decommissioning plans to NEMA, other relevant lead agencies and development partners for further guidance. Prior to removal of material, approaches such as reuse shall be looked at so that the facilities are utilized for other compatible projects. Where this is not feasible, client shall follow guidance of the relevant lead agencies, National legislation and international best practice. All works shall be in line with all stated EIA approval conditions with strict supervision to ensure adherence to this.

A typical decommissioning plan should provide information on:

- The project location, length
- Anticipated waste quantities and composition
- Transportation and disposal of materials from site
- Traffic management during the decommissioning project phase
- Anticipated impacts and mitigation measures
- The project team and
- The relevant legislations in place
- Anticipated outcome of the decommissioning exercise

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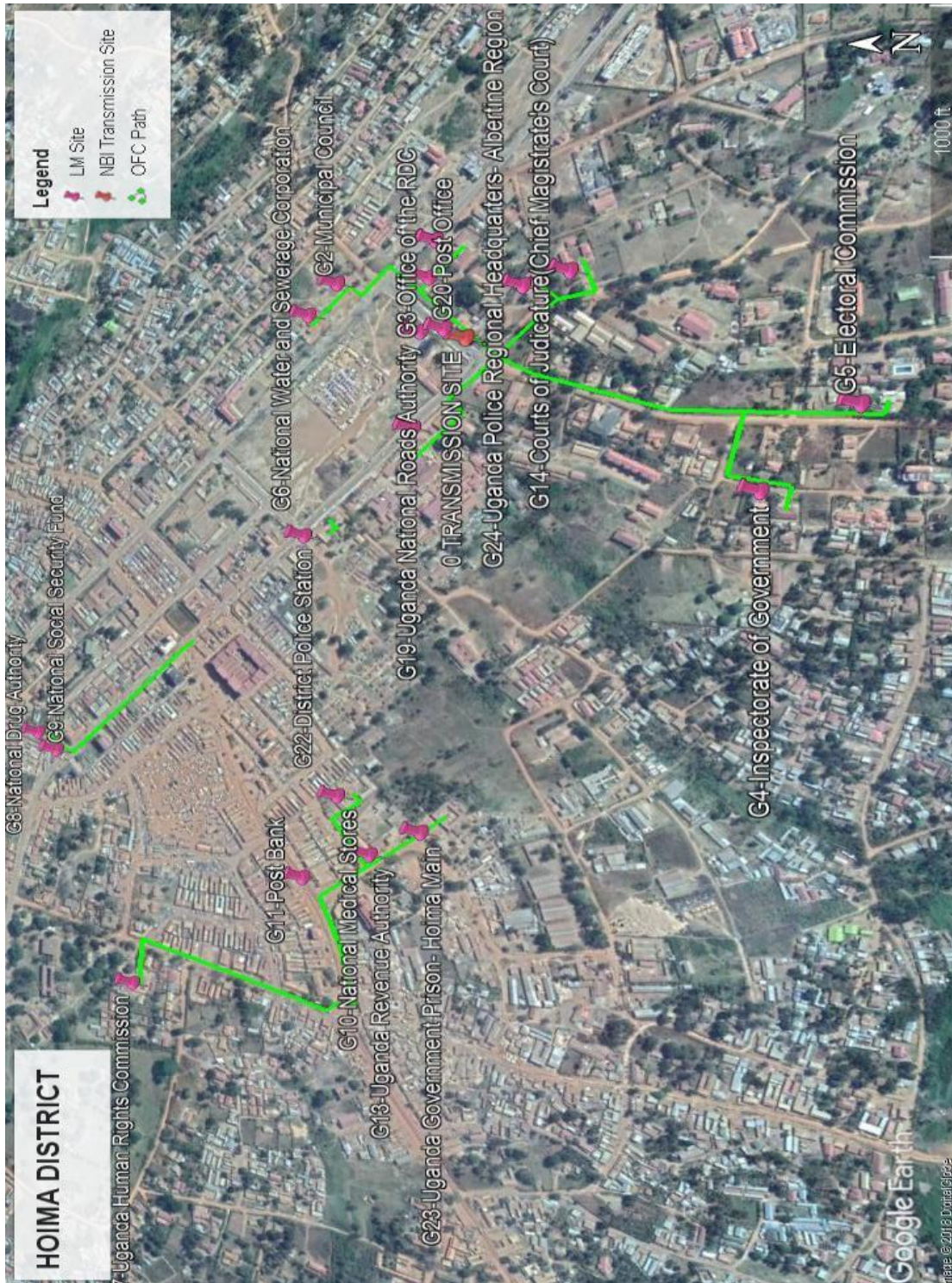
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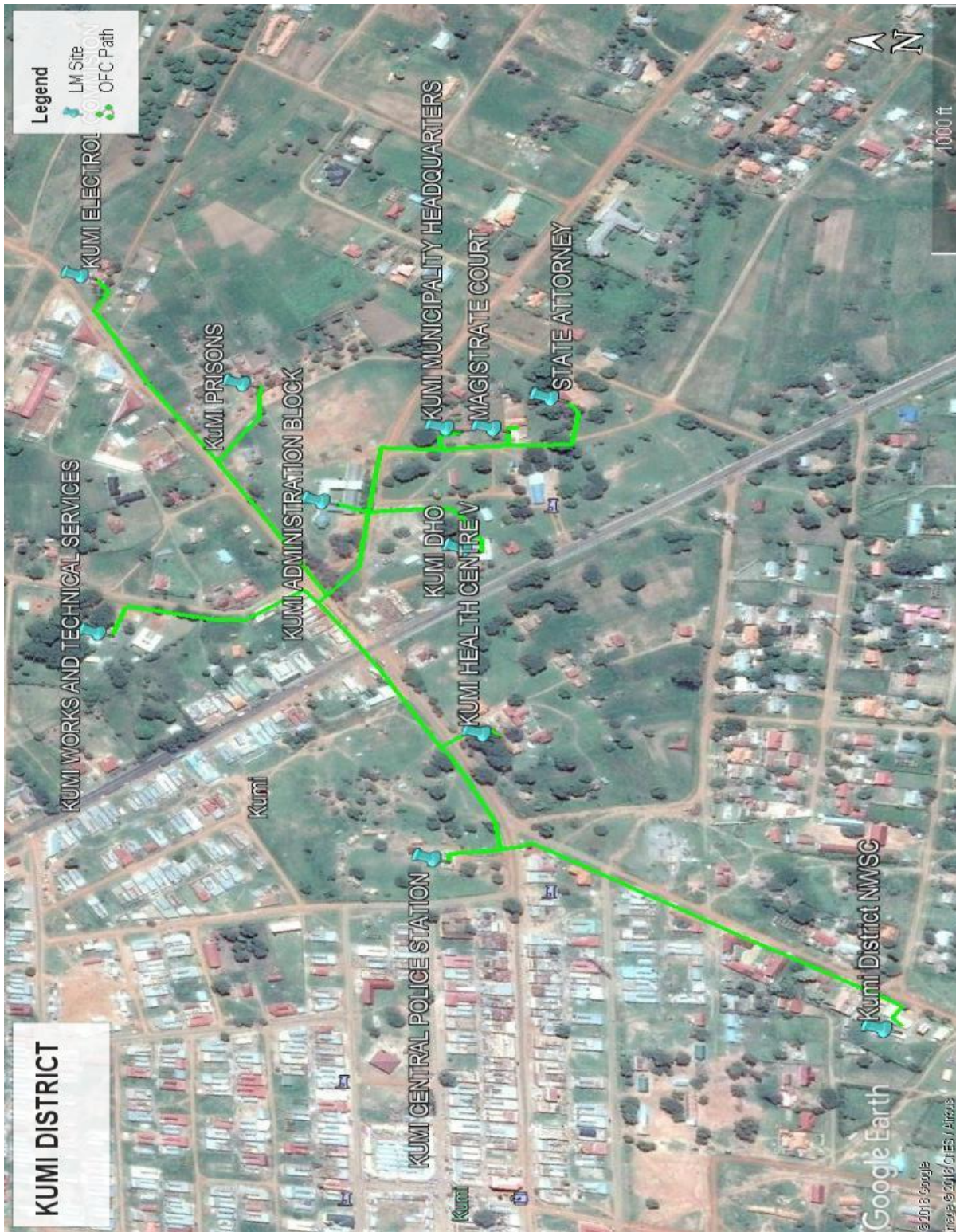
APPENDICES

Appendix 1: Examples of layouts for the routes in selected districts to be visited

a) Hoima District



b) Kumi



Appendix 2: UNRA clearance to utilize road reserves for project activities



Uganda National Roads Authority

Plot 5 Lourdel Road
P.O. Box 28487
Kampala Uganda
In any correspondence on this subject
Please quote No. UNRA/PL/87

05th June 2015

Executive Director
National Information Technology Authority (NITA)
Palm Courts, Plot 7A Rotary Avenue Lugogo Bypass
P.O. Box 33151
Kampala-Uganda



IMPLEMENTATION OF PHASE 3 OF NATIONAL DATA TRANSMISSION BACKBONE INFRASTRUCTURE AND EGOVERNMENT INFRASTRUCTURE OPTICAL FIBRE CABLES

Approval of Request to Lay Optical Fibre Cables along Right of Way (RoW)

Reference is made to your letter dated 12th April 2015 in which you requested UNRA for permission to lay Optical Fibre Cables along the Right of Way (RoW) of Masindi-Hoima-Kyenjojo, Kampala-Masaka, Masaka-Mutukula, Masaka-Mbarara, Mbarara-Ntungamo-Kabale and Kabale-Katuna road links. We have reviewed your request and find it acceptable.

The purpose of this letter is to inform you that UNRA has no objection to your request on condition that:

- i. You will closely monitor the implementing contractor and ensure compliance with the approved proposal and method of work;
- ii. Proper traffic management and safety is maintained during implementation of works;
- iii. You will ensure proper planning and coordination with relevant stakeholders before implementing the works;
- iv. You will make good at your cost any damage(s) caused to the bridge structures during implementation and maintenance of your works;
- v. UNRA shall not bear any cost and risks associated with the process of laying the fibre across the bridges; and
- vi. UNRA will not be responsible for costs associated with relocation of cables when future upgrade of the roads and bridges is undertaken. All costs will be borne by you.

Yours sincerely,

Allen C. Kagina
EXECUTIVE DIRECTOR

- Cc: Ag. Director Operations
Cc Regional Manager - Western
Cc Regional Manager - Central
Cc Regional Manager - Southern
Cc Station Engineer - Masindi
Cc Station Engineer - Masaka
Cc Station Engineer - Mbarara
Cc Station Engineer - Kabale

GT/PL

Tel: +256 31 2233100* 256 414 318000* Fax: +256 414 232807, 347616*E-mail: executive@unra.go.ug*Website: <http://www.unra.go.ug>

Appendix 3: Chance Finds Protocol

Source: *Environmental and Social Management Framework for the proposed Regional Communications Infrastructure Project, 2015.*

- a) The contractor shall not perform excavation, demolition, alteration or any works that may harm resources of cultural importance without authorization of the Engineering Assistant or officials from the Department responsible for museums and monuments.

- b) In case of chance finds, the Contractor shall mark, cordon and secure the subject site(s) to avoid damage in the course of road construction and immediately notify the Department responsible for museums and monuments.
- c) Opening of a new borrow or quarry site shall be witnessed and inspected by official(s) from the Department responsible for museums and monuments for the first 2 days of site opening. The official(s) shall maintain watching briefs during works, with clear procedures for protection and documentation of any “chance finds” encountered (cost of this has been provided in the ESMP,).
- d) The contractor is obliged to provide for and ensure archaeological intervention in case they come across new finds. This involves immediate discontinuation of works and notifying the Department responsible for museums and monuments about any discoveries.
- e) “Chance finds” encountered in presence of official(s) from the Department of Museums and Monuments
- f) “Chance finds” encountered in absence of these official shall be handed over to supervising Engineering Assistant, Environmental Officer or District Engineer who would immediately notify officials of the Department of Museums and Monuments.
- g) The Contractor and supervising engineer shall maintain contact details of the Department of Museums and Monuments to quickly notify it in case chance finds are encountered.

Appendix 4: Risk Matrix

		HAZARD SEVERITY / CONSEQUENCE				
		1	2	3	4	5
PEOPLE	Insignificant Negligible injury or illness; no absence from work.	Minor Minor injury or illness.	Moderate Injury or illness but not a fatality.	Major Single fatality.	Severe Multiple Fatality	
	Contained and recovered spills, within set system controls. Issue discussed at localized level with field management team or supervisor	Short term effect e.g. Release of oil from project vehicles outside an environmentally sensitive area. Issue moved to Local Council chairperson and solved with no further action required	Incident with moderate impact with clean up carried out using resident or local resources. Issue discussed solved with the involvement of the District technical teams like the DCDO, DEO etc...and NITA-U project manager and NITA-U Team Coordinators	Incident with medium to long term impact to environmentally sensitive area. Response requires external assistance. Issue discussed with District Leadership, NITA-U Director, development partner focal points and other relevant Lead Agency representatives at District Level	incident with major environmental impact. Extensive & persistent damage, requiring long term clean up & 3rd party help. Issue involves joint response from various lead agencies, NITA-U Leadership Team and development partners' representatives. Issue could lead to international coverage and Nationwide concern	
ENVIRONMENT AND SOCIAL						
PROPERTY/EQUIPMENT DAMAGE/LOSS/Theft (Ug Shillings)	<1,000,000	1,000,000 - 10,000,000	>10,000,000 - 30,000,000	>50,000,000 - 100,000,000	> 100,000,000	
LIKELIHOOD OF OCCURRENCE	1 Rare An unexpected combination of factors would be required for the incident to occur	Low	Low	Low	Low	Low
	2 Unlikely Rare combination of factors would be required for the incident to occur	Low	Low	Low	Medium	Medium
	3 Possible Incident could occur if a number of additional factors are present	Low	Low	Medium	Medium	High
	4 Likely Not certain but incident could occur with one normally occurring additional factor	Low	Medium	Medium	High	High
	5 Very Likely Almost certain that the incident could occur	Low	Medium	High	High	High

Appendix 5: Cultural heritage, archaeological and historical sites

ID	Site name		Description	District
UG-C-001	Speke Monument	Memorial	Spot where explorer John Speke stood and sited the Source of the River Nile in 1862.	Buikwe
UG-C-002	Mabira Forest		Cultural resource, with indigenous, herbal medicinal trees.	
UG-C-005	Buvuma Island		Sangoan Late Stone Age site, Earthworks and Rock Art Paintings.	Buvuma
UG-C-007	Ssesse Island		The Islands rich in Middle Stone Age Tools (flakes, tortoise cores and rough picks), late stone age implements (waste, flakes chips and small cores), and later iron age materials (from the Earthworks).	Kalangala
UG-C-008	Luggo Forest		Site where 'Ddamula's stick for Buganda Kingdom 'S King is obtained.	
UG-C-010	Independence Monument		Statue representing 1962 Independence Monument (An adult person lifting a new born infant (Uganda).	Kampala
UG-C-011	Independence Tablet		Commonwealth independence October 9 - 1962, Jubilee park.	Kampala
UG-C-012	Kololo Monument		50 years of independence.	Kampala
UG-C-013	Kololo Monument	Hero	Ignatius Musaaazi independence liberation hero	Kampala
UG-C-014	Kololo /ceremonial grounds		Commemoration of independence/raising of Uganda's flag on the 9th October 1962.	Kampala
UG-C-015	Mackay ,Natete	Memorial	Anglican Church at the 1st site of occupation by the CMS missionaries in the country (1890), headed by Reverend Mackay.	Kampala
UG-C-016	Busega Memorial	Martyrs	Rubaga, Three Anglican Martyrs were killed and buried here.	Kampala
UG-C-017	Bulange		Royal seat of the Buganda Kingdom.	Kampala

ID	Site name	Description	District
UG-C-018	Nagalabi Buddo	Coronation site for Buganda Kingdom Kings.	Kampala
UG-C-019	All Saints Church Kisozi	One of the first and oldest churches in Uganda.	Kampala
UG-C-020	Shree Shanathan Dharma	1954 Hindu Temple, original form, rich oriental architecture & traditional building skills.	Kampala
UG-C-021	Rubaga Cathedral	Head of the Catholic churches.	Kampala
UG-C-022	Namirembe Cathedral Hill	Head of Anglican Churches, historic cave and historic buildings by the missionaries. 1st cathedral was built in 1st march 1890-1894 made up of mud and wattle	Kampala
UG-C-023	Gadaffi Mosque	The main seat for the Chief Khadi of the Muslim faith Uganda.	Kampala
UG-C-024	Kibuli Mosque	Seat for the Muslim faith built in 1945 by the Aghakan and Prince of Buganda.	Kampala
UG-C-025	Bahai Temple	Seat for the Bahai Faith	Kampala
UG-C-026	LusazeLubya Church	Catholic mission of 1879 Kijukizo church	Kampala
UG-C-027	Fort Lugard, Old Kampala	Established by Captain Lugard 1890 where he raised the British flag, served as and headquarters up to 1894 Survived by the first museum in the country and the Gaddaffi mosque.	Kampala
UG-C-028	Aghakan Mosque	Old Kampala	Kampala
UG-C-029	St Athanasius Bazzekuketta	Mengo Memorial, Catholic Martyr	Kampala
UG-C-030	St MatiaKalembaMulumba	Site in memory of the oldest Martyr of the 22 catholic martyrs.	Kampala
UG-C-031	High Court building Nakasero	Seat of Highest Court building in the country.	Kampala

ID	Site name	Description	District
UG-C-032	The Parliamentary Building	Seat where the law makers of the country meet to transact business.	Kampala
UG-C-033	Uganda Bookshop	Oldest bookshop plot 4 Colville street 1927 publishing and printing house.	Kampala
UG-C-034	Makerere University Building	Ivory Tower building as one of the oldest iconic education institutional seat.	Kampala
UG-C-035	BasiimaBakyagaya house	Late Sir Apollo, Kagwa's house, on KabakaNjagala Road, built 1903.	Kampala
UG-C-036	Buganda court building	Mengo	Kampala
UG-C-037	Doset building	At Makerere university	Kampala
UG-C-038	Nagulu communications mast	Two national for television and radio	Kampala
UG-C-039	Uganda Museum	Oldest Museum in East Africa	Kampala
UG-C-040	National Theatre	National Culture Centre	Kampala
UG-C-041	Public Library	On Buganda Road House in an Indian Building.	Kampala
UG-C-042	Nommo Gallery	African village.	Kampala
UG-C-043	Tulifanya Gallery	Art gallery and craft shop.	Kampala
UG-C-044	St. Balikudembe (Owino) Market	Traditional market in centre of city.	Kampala
UG-C-045	Nakasero Market	Built in 1927.	Kampala
UG-C-046	Mulago hospital	National Referral Hospital. Old Mulago was founded in 1913 by Sir Albert Ruskin Cook, while the New Mulago facility was completed in 1962.	Kampala
UG-C-047	Musa body metal works	Katwe plant that fabricates oil refineries and brick making.	Kampala

ID	Site name	Description	District
UG-C-048	Twekobe Palace	KabakaMutesa II Residential palace	Kampala
UG-C-049	Buttikiro	Katikkiro of Buganda Official residence.	Kampala
UG-C-050	Kabaka lake	Manmade Cultural Water Body.	Kampala
UG-C-051	Kampala Club	At Sezzibwa road is the oldest club in Kampala	Kampala
UG-C-052	Kisingiris House	One of those historic buildings of the Kabakas Chiefs.	Kampala
UG-C-053	TefioKisonsokole	Kampala	
UG-C-054	Sir Albert cooks house	Makindye, Kabaka Birth place.	Kampala
UG-C-055	Kawutas house	Ring road.	Kampala
UG-C-056	CHOGM Monument	Officially known as the CHOGM monument, commemorates the hosting of the heads of government meeting in Uganda 2007. An imposing copper structure	Kampala
UG-C-057	Clock tower	Commemorating the queen's visit in 1954 built within the Queens way.	Kampala
UG-C-058	Kololo Airstrip	Monuments, burial for heroes, airstrip national functions.	Kampala
UG-C-059	Constitutional square	Upper part commemorates World war 2 victims, lower part is Monument of the constitutional square.	Kampala
UG-C-060	Kasubi Tombs	Grass thatched round house containing the tombs and insignia of Mutesa I, and three northern subsequent rulers of Buganda.	Kampala
UG-C-061	KasubiMasgidTawahud Mosque	Built by Mutesa I in 1870 when he first had his capital at Kasubi, Nabulagala.	Kampala

ID	Site name	Description	District
UG-C-062	Wamala Tombs	Grass thatched round hut very similar to Kasubi tombs, containing the tombs of Sunna II of the Buganda kingdom 1856.	Kampala
UG-C-063	MapeeraBakateya mba House Nalukolongo	Established by Mapeera to treat the disabled and the elderly.	Kampala
UG-C-064	Kiwewas Tombs	At Masanafu in Kampala is the Tombs of King Kiwewa.	Kampala
UG-C-065	Old railway house	Railways building –More information	Kampala
UG-C-066	GOU analytical lab	Built in 192, a historical building	Kampala
UG-C-067	Corner House	Plot 44 Rashid Hamis road (historic buildings)	Kampala
UG-C-068	St Peters boys Nsambya	One of the first schools by the Hill Mill Fathers 1907	Kampala
UG-C-069	Nsambya convent	Several historic buildings(assign someone to take the history)	Kampala
UG-C-070	Musajalumbwa house	Built heritage	Kampala
UG-C-071	Kisingiris house Mengo	Residential	Kampala
UG-C-072	Kakungulu's house	Built heritage	Kampala
UG-C-073	Gomboloa House	Balintuma road.	Kampala
UG-C-074	Speke hotel	Built in 1920, historical and has maintained colonial look.	Kampala
UG-C-075	Port bell pier	1st- pier for large ships landing in Luzira	Kampala
UG-C-076	Grand Imperial Hotel	One of the oldest hotels in Kampala Initially known as Grand hotel.	Kampala
UG-C-077	Ruparellia Building	Martin Road	Kampala

ID	Site name	Description	District
UG-C-078	Mawanda's House	Salaama Road	Kampala
UG-C-079	Kampala Club	Ssezibwa Road.	Kampala
UG-C-080	Jimmy Purmas house	Salaama road	Kampala
UG-C-081	Centenary park	Monument commemorating 100 years of	Kampala
UG-C-082	Kalagala Falls	Falls with a series of natural and cultural caves.	Kayunga
UG-C-083	Bukomero	Mass graves, NRA War memorial	Kiboga
UG-C-084	Lwamata	Mass graves and NRA war memorial.	Kiboga
UG-C-085	Mpanga Forest	Several shrines and 16 springs are found here.	Kiboga
UG-C-087	ButuntumulaKikyusa, ZirobweMakulubita	NRA War mass graves memorial	Luweero
UG-C-088	Walusii hills	At Kikyusa is Muteesa' palace and main ancestral grounds.	Luweero
UG-C-089	Mulajje Cathedral Kasana	The 3rd catholic cathedral/seminary in the country was established in 1914by the white fathers after Daudi Chwa gave them 30 acres of land.	Luweero
UG-C-092	Masaka Fort	Fort established and existed from in 1897- 1901. Originally the site of a Church	Masaka
UG-C-094	Villa building	Maria First Catholic old mission church and brick house 1891	Masaka
UG-C-095	Kitovu cathedral	Catholic church on the World Monuments Watch list.	Masaka
UG-C-096	Farther memorial	Ngobya Burial place for renowned father Ngobya at Kitovu Catholic church	Masaka
UG-C-097	Kiwala Pit shafts	At Kako, are Kaolin pit shafts similar to those of Mityana for mining?	Masaka

ID	Site name	Description	District
UG-C-098	Tanda Archaeological site	Old mining pit shafts (Kaolin) (EnyangazaWalumbe,) totaling to 400 in number.	Mityana
UG-C-099	Kyamusisi	NRA War memorial, and mass burial grounds.	Mityana
UG-C-100	Magonga Shrines	2 miles to Mudende Town are Kintus shrines.	Mityana
UG-C-101	Bukalamuli catholic mission.	NRA war memorial. KikandwaLuttamemorial,and Diocese.	Mityana
UG-C-103	Equator Monument	At Kayabwe circular arches on both sides of the road signify the equator crossing	Mpigi
UG-C-104	Kibibi	NRA War mass grave	Mpigi
UG-C-105	Muduuma	NRA War mass grave	Mpigi
UG-C-106	Kiringaente	NRA War mass grave at Luvumbula	Mpigi
UG-C-107	KiringaenteButoBuvuma	At Luvumbula again is a ritual site, place for the coronation of Saza chiefs.	Mpigi
UG-C-108	Mubende Hill (witch tree)	Last Chwezi \Capital	Mubende
UG-C-109	Kanyogoga gorge	Corridor	
UG-C-110	Lake Wamala	Receded from Lake Victoria, with active shrines of King Wamala.	Mityana
UG-C-111	Moniko Rock Engravings	Engravings and Harrows on top of the hill.	Mukono
UG-C-112	Kitale Rock Gong	Popularly known as Dindo's Rock with Kintus foot, print, etc.	Kayunga
UG-C-113	Polish camp. Refugee	Kojja (Mpunge) Polish Jewish refugees were exiled in Uganda in 1945.	Buikwe
UG-C-114	Kisweera	NRA War Memorial.	Mukono

ID	Site name	Description	District
UG-C-115	Kinanisi	Royal iron working and smelting site.	Buikwe
UG-C-116	Ssezibwa falls	Cultural site and forest resource with spiritual significance.	Mukono
UG-C-117	Ma Ngira forest	Traditional cultural forest resource.	Mukono
UG-C-118	Buvuma Islands	Rock paintings and cultural forests. In Buvuma Mpaata	
UG-C-119	Ham Mukasa Home	Gulu,Nasuti Ham Mukasaa country residence.	Mukono
UG-C-120	Nambi's cave shrine	In Kyagwe where the Kintu, Nambi and walumbe are still worshiped. And soldiers business fraternity and job seekers flock the place for blessings	Buikwe
UG-C-121	Katikamu memorial	war Mass graves	Nakaseke
UG-C-122	Wakyato	Mass grave and memorial at the Sub county headquarters.	Nakaseke
UG-C-123	Kikamulo	Mass grave and memorial at Sub county headquarters.	Nakaseke
UG-C-124	Nakaseke	Mass grave and Memorial	Nakaseke
UG-C-125	Semutto	Mass grave and Memorial	Nakaseke
UG-C-126	NamunkekeeraKap peka	Mass grave and memorial	Nakaseke
UG-C-127	Nakibinge Tombs	At Kitinda are shrines for KabakaNakibinge	Nakaseke
UG-C-128	Bumera Tombs	KanzinzeMasuulita are shrines Kimeras.	Nakaseke
UG-C-129	LuwokoKatikamu Masulita	KabakaTembo's palace.	Nakaseke
UG-C-130	OyiteOjok Memorial site	At Mijeera, Plane crash site.	Nakasongola
UG-C-131	Nakasongola Hill	Nakasongola named after a stone on Nakasongola hill that sticks out.	Nakasongola

ID	Site name	Description	District
UG-C-132	Kageri Hill Wabinyoyi	, Historically known by the Baruli for Protection against their enemies.	Nakasongola
UG-C-133	Macumu hill Kikangula	in King Kabarega resided here during his battles with the British (footprint print available.)	Nakasongola
UG-C-134	Kirooro	Nyinamwiru the daughter of Bukuku mother of Ndaula the Cwezi King Lived here.	Nakasongola
UG-C-135	Kyawaikaakata Lwampanga sub-county	, Kabalega & Mwanga were detained here before they were exiled to Seychelles.	Nakasongola
UG-C-136	Wakibombo	NRA Mass grave	Nakasongola
UG-C-137	Muduuma tombs	Tomb of Winyi III Ruguluka Macolya	Nakasongola
UG-C-138	Kamuswagas' palace	King of Kooki royal residence.	Rakai
UG-C-139	Serinya Tombs	Kooki Kingdom royal burial grounds	
UG-C-140	Simba Hills Monument Kasambya Fort?	K.A.R.1914-18, Simba site. Also Speke's spot to view lake Victoria.	Rakai
UG-C-141	Kasozi church	At Katuntu is the second oldest catholic church.	Rakai
UG-C-142	Muzimu Caves	At Kasambya are ritual caves	Rakai
UG-C-143	Rwanda Genocide Memorial	Graves at Kasensero/Kyebe / Rwandan genocide graves.	Rakai
UG-C-144	Katubi Tombs	Royal Burial grounds	Rakai
UG-C-145	Kyarurangira	Hippos view	Rakai
UG-C-146	Kiya hill	Archaeological sites of early stone age works.	Rakai

ID	Site name	Description	District
UG-C-147	Kigera cave	Along Kyotera-Mutukula road. Became popular during the pre-colonial wars between the Baziba of Karagwe.	Rakai
UG-C-148	Bigo byaMugyenyi	Earth works, Archaeological Site 13th- century to 16th century	Cwezi Ssembabule
UG-C-149	Ntusi earthworks	Earth works, Archaeological site capital 11th century.	Cwezi Ssembabule
UG-C-150	Kasonko earthworks	Earthworks, Archaeological site	Ssembabule
UG-C-151	Bwogero Basin	Several scrapped depressions & mounds, associated with rituals of the Cwezi.	Ssembabule
UG-C-152	Equator Crossing at Nshozi	Small Monument signifying equator crossing	Ssembabule
UG-C-153	LwentaleLyamugye nyi	Granite rock with rock sounds.	Ssembabule
UG-C-154	Hippo bay cave Entebbe	Archaeological, Olduwan and Acheulean tools site.	Wakiso
UG-C-155	OmutigweDdembe, Entebbe	Freedom site where Ignatius Musaazi held independence struggle meetings.	Wakiso
UG-C-156	Kigungu ,Monument and Church	First catholic church and Catholic missionaries landing, Mapeera monuments and church 1879	Laudel&Amans Wakiso
UG-C-157	Bugonga Church and Tree.	Farther Laudel landed at Kigungu but camped at Bugonga .	Wakiso
UG-C-158	St Johns Church, Entebbe	Built by the first colonial Anglican masters in Entebbe, is one of the oldest buildings.	Wakiso
UG-C-159	Entebbe Cinema Hall	One of the very first cinema hall used by colonial masters to watch films when Entebbe was headquarters ,	Wakiso
UG-C-160	Luzira Figurines	Iron age stone tools including pottery (the Luzira Head at the Uganda Museum.)	Wakiso
UG-C-161	Mpangas ,Luzira	Shrine (Ekigwa)	Wakiso

ID	Site name	Description	District
UG-C-162	Buloba hill	Dimple based pottery	Wakiso
UG-C-163	Kazi ,Busabala	KaziYatch club meeting place of Stanley and Muteesa in 1875.	Wakiso
UG-C-164	Nalukolongo Martyrs	Memorial?	Wakiso
UG-C-165	Namugongo Martyrs shrine	At Buloori is the catholic shrine	Wakiso
UG-C-166	Namugongo Martyrs shrine	At Kyaliwajala is the Protestant shrine	Wakiso
UG-C-167	Mamugongo Masjid Nuru	At Buloori, Moslem martyrs.	Wakiso
UG-C-168	Kalema'sKomeraK atereke	Prison ditch for Buganda prince and Princesses	Wakiso
UG-C-169	MuganziLwaza prison	Prison ditch located in Kisalosalalo, Kyebando.	Wakiso
UG-C-170	MuganziLwaza tombs mounds.	Located in Kazo, Mpererwe. Tombs and mounds.	Wakiso
UG-C-171	Baagalayazze Tombs	At Mpererwe are tombs of NamasoleBagalayazze mother to KabakaMwanga II.	Wakiso
UG-C-172	Kyabaggu Tombs Kyebando.	Tombs of the 25th king of Buganda ,Kyabaggu ruled,1750-80	Wakiso
UG-C-173	Kiwewea Tombs	At MasanafuKiwewa	Wakiso
UG-C-174	Kimeras shrines	KabakaKimeras jaw bone.	Wakiso
UG-C-175	Kongoje Shrines	Jaw bone shrines of KabakaNakibinge, Sekamanya and Mutebi.	Wakiso
UG-C-176	Equator crossing	In Lake Victoria island	Wakiso
UG-C-177	Sir Apollo Kagwa	At Manyangwa is a mausoleum, residential house, Church.	Wakiso

ID	Site name	Description	District
UG-C-178	LEGCO Assembly building (Currently housing NARO.)	Seat of Uganda's first legislative council , parliament established by the British colonial government in 1920 by then all MPs were whites, (NARO	Wakiso
UG-C-179	Old Entebbe airport	First\ old airport. (Israels raid during Amin's regime.	Wakiso
UG-C-180	Muzinga square	Long range German gun captured by the British and brought to Entebbe, at the time the government seat of Uganda	Wakiso
UG-C-181	Entebbe zaMugula.	At the shores of Lake Victoria, has history to the founding of the Entebbe name.	Wakiso
UG-C-182	Lunyo well.	Well of traditionally used by the then (Kabaka of Buganda.)	Wakiso
UG-C-183	Gombe	War memorial mass graves.	Wakiso
UG-C-184	Masulita	War memorial mass graves.	Wakiso
UG-C-185	Kireka.Wakiso	War memorial mass graves.	Wakiso
UG-C-186	Kakiri	War memorial mass graves.	Wakiso
UG-C-187	Namayumba	War memorial mass graves.	Wakiso
UG-C-188	Busukuma	War memorial mass graves.	Wakiso
UG-C-189	Kasanje	War memorial mass graves.	Wakiso
UG-C-190	Kireka Palace	Current King Mutebi's Official Residence.	Wakiso
UG-C-191	Banda Palace hill	Meeting place of Speke and Mutesa of 1862/also for KabakaMutebi.	Wakiso
UG-C-192	Gayaza	Sangoan culture similar to Sango bay.	Wakiso

ID	Site name	Description	District
UG-C-193	Bulamu palace	At Kasangati is shrine/sacred place for Ndaula, Kiwanuka and Wanema's spirits.	Wakiso
UG-C-194	Ndaulas Shrine	At Kakooge, Buwaali.	Wakiso
UG-C-195	Kakungurus House	At Kirinya is one of those historic buildings.	Wakiso
UG-C-196	Ziika Forest	Bemba's cave with cultural importance is found here, and indigenous herbal tress.	Wakiso
UG-C-197	Mpanga Forest	Bird species and herbal trees and shrubs.	Wakiso
UG-C-198	Entebbe Botanical Gardens.	Exhibition of a variety of plants and herbs	Wakiso
UG-C-199	Lutembe bay	Forests and bird species.	Wakiso
UG-C-200	Lunyo station.	Police First police station in Uganda.	Wakiso
	Nyero paintings	rock rock paintings/rock art nominated for world heritage site status	Kumi
	Kachumbala paintings	rock rock paintings/rock art	Kumi
	Komuge rock art site	rock art rock paintings/rock art	Kumi
	Mukongoro art site	rock rock paintings/rock art	Kumi
	Kakoro rock art site	rock paintings/rock art	Kumi
	Ngora rock art site	rock paintings/rock art	Kumi
	Kapir rock art site	rock paintings/rock art	Kumi

Appendix 6: Plant Species Composition

6a. Eastern-Northern routes

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Stat us
1	<i>Aneilema Aaequinociale</i>	1	.	.	.	.	.	.	.	1	.	.	.	LC
2	<i>Aframomum sp</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
3	<i>Abutilommaurifianum</i>	.	.	.	1	.	.	1	.	.	.	.	.	LC
4	<i>Acacia polyacantha</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
5	<i>Acalypha hispida</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
6	<i>Acalypha brachycalyx</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
7	<i>Acalypha cordata</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC
8	<i>Acalypha ornata</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
9	<i>Acalypha racemosa</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
10	<i>Acanthospermum hispidum</i>	3	.	.	.	.	.	.	.	.	1	.	.	LC
11	<i>Achyranthes aspera</i>	.	.	.	.	1	1	1	2	1	1	.	.	LC
12	<i>Adiantum incisum</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
13	<i>Aeschynomene abyssinica</i>	1	.	.	1	.	.	.	.	.	.	.	.	LC
14	<i>Ageratum conyzoides</i>	.	1	.	.	.	1	1	.	.	.	1	.	INASIVE
15	<i>Albizia coriaria</i>	.	.	1	.	.	1	.	.	1	1	2	1	LC
16	<i>Albizia grandi bracteata</i>	.	.	.	.	.	.	.	1	.	1	.	1	LC
17	<i>Albizia zygia</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
18	<i>Aloe dawei</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
19	<i>Alternanthera nodiflora</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
20	<i>Alternanthera pungens</i>	1	1	3	1	.	.	.	1	.	.	2	.	INASIVE
21	<i>Alternanthera sessilis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
22	<i>Alyscarpus rugosus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
23	<i>Alysicarpus ferruginea</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
24	<i>Alysicarpus rugosus</i>	.	.	.	.	.	.	.	.	1	1	.	.	LC
25	<i>Amaranthus dubius</i>	1	.	.	.	.	1	1	1	.	.	2	.	LC
26	<i>Amaranthus hybridus</i>	.	.	.	.	.	.	1	.	1	.	1	1	LC
27	<i>Amaranthus spinosa</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
28	<i>Amphicarpa africana</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
29	<i>Anacardium occidentale</i>	.	1	1	.	.	.	.	1	.	.	.	.	LC
30	<i>Antiaris toxicaria</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Stat us
31	<i>Arachis hypogaea</i>	1	.	.	.	.	.	.	.	.	.	3	.	LC
32	<i>Araucaria araucana</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
33	<i>Aristida adscensionis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
34	<i>Aristolochia bracteolata</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
35	<i>Arthropteris orientalis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
36	<i>Artocarpus heterophyllus</i>	1	1	.	1	.	1	1	.	.	1	.	.	LC
37	<i>Asparagus africanus</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
38	<i>Asparagus racemosus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
39	<i>Aspilia africana</i>	.	.	.	.	.	.	.	.	1	1	.	.	LC
40	<i>Asplenium loxo scaphoides</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
41	<i>Asystasia gagentica</i>	.	.	.	.	.	1	.	1	.	1	.	.	LC
42	<i>Azadirachta indica</i>	1	.	.	.	.	1	1	.	.	.	.	.	INASIVE
43	<i>Barleria ventricosa</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
44	<i>Bauhinia petersiana</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
45	<i>Bidens pilosa</i>	3	.	1	1	.	1	3	.	1	1	2	1	INASIVE
46	<i>Blumea crispata</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
47	<i>Boerhavia coccinia</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
48	<i>Borassus aethiopum</i>	.	.	.	.	2	.	.	.	.	.	.	.	LC
49	<i>Bothriochloa insculpta</i>	.	1	2	.	.	.	.	.	.	.	.	.	LC
50	<i>Bougainvillea spectabilis</i>	.	1	.	.	.	.	1	1	.	.	.	.	INASIVE
51	<i>Brachiaria brizantha</i>	1	.	.	.	.	.	.	.	.	.	2	.	LC
52	<i>Brachiaria decumbens</i>	1	2	1	1	2	.	10	1	1	.	3	.	LC
53	<i>Brachiaria leersioides</i>	.	.	.	.	.	1	.	.	1	.	.	.	LC
54	<i>Broussonetia papyrifera</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
55	<i>Caesalpinia decapetala</i>	.	1	.	.	.	.	.	.	.	.	1	.	INASIVE
56	<i>Cajanus cajan</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
57	<i>Calliandra calothyrsus</i>	.	2	.	.	.	.	.	.	.	.	.	.	LC
58	<i>Callistemon citrinus</i>	1	.	.	1	.	.	.	.	.	.	.	.	LC
59	<i>Cana indica</i>	.	.	.	.	1	.	1	1	.	.	1	.	INASIVE

No	Species	kkumiri	Bugiri	Bukede	Busia	Dokolo	Gulu	Iganga	Jinja	Kaberaid	Lira	Mbale	Toro	Status
60	<i>Capsicum frutescens</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
61	<i>Cardiospermum grandis</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
62	<i>Cardiospermum halicacabum</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
63	<i>Carica papaya</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
64	<i>Casallanthus ssp</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
65	<i>Cascabela thevetia</i>	1	1	.	.	1	.	3	1	.	.	1	.	INASIVE
66	<i>Cassia mimosoides</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
67	<i>Cassia obtusifolia</i>	.	1	.	.	.	.	1	.	.	.	.	.	LC
68	<i>Cassia occidentalis</i>	.	.	.	1	.	.	.	.	1	.	1	.	LC
69	<i>Cassia siamea</i>	3	2	1	.	.	.	2	1	.	.	1	.	INASIVE
70	<i>Casuarina equisetifolia</i>	.	1	.	.	.	.	.	1	.	.	.	.	LC
71	<i>Catharanthus roseus</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
72	<i>Cedrella odorata</i>	3	.	.	.	.	.	.	.	.	.	.	1	LC
73	<i>Celtisgompophylla</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
74	<i>Centellaasiatica</i>	.	1	.	.	.	.	2	1	.	1	2	.	LC
75	<i>Chamaecrista mimosioides</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
76	<i>Chenopodium procerum</i>	.	1	.	.	.	.	2	.	.	.	.	.	LC
77	<i>Chloris pycnothrix</i>	.	.	1	.	.	.	.	.	1	.	1	.	LC
78	<i>Chlorophytum filipendulum</i>	2	.	.	.	.	.	1	.	.	.	.	.	LC
79	<i>Cissampelos mucronata</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
80	<i>Citrus limon</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
81	<i>Citrus senensis</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
82	<i>Clematis hirsuta</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
83	<i>Clematis simensis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
84	<i>Cleome gynandra</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
85	<i>Cleome monophylla</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC
86	<i>Clerodendrum umbellatum</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
87	<i>Colocasia esculenta</i>	.	.	.	1	.	.	1	1	.	.	1	.	LC
88	<i>Commelina africana</i>	1	.	.	1	.	.	.	.	1	.	1	.	LC
89	<i>Commelina benghalensis</i>	1	.	1	.	.	.	1	1	.	.	1	1	LC
90	<i>Commicarpus pedunculatus</i>	.	1	.	.	.	.	.	.	.	.	1	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Status
91	<i>Commicarpus plumbagineus</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
92	<i>Conyza floribunda</i>	.	.	.	.	.	1	.	.	1	.	.	1	LC
93	<i>Conyza neglecta</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
94	<i>Conyza sumatrensis</i>	2	.	1	.	.	.	2	1	.	.	1	.	LC
95	<i>Crassocephalum montuosum</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
96	<i>Crotalaria recta</i>	.	.	.	.	.	.	2	.	1	.	.	.	LC
97	<i>Crotalaria spinosa</i>	.	.	1	.	1	.	.	.	.	1	.	.	LC
98	<i>Crotalaria subcapitata</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
99	<i>Croton macrostachyus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
100	<i>Cucumis aculeatus</i>	1	.	1	.	.	.	.	.	.	.	1	.	LC
101	<i>Cucurbita pepo</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
102	<i>Cucurmis aculeatus</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
103	<i>Cyanotis lanata</i>	.	1	.	.	.	.	.	.	1	.	.	.	LC
104	<i>Cyathula chyranthoides</i>	2	.	.	.	.	.	.	.	.	.	.	.	LC
105	<i>Cyathula prostrata</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
106	<i>Cynodon dactylon</i>	1	1	2	.	.	.	4	3	.	.	1	.	INASIVE
107	<i>Cynoglossum amplifolium</i>	.	.	.	.	1	.	.	.	.	.	1	.	LC
108	<i>Cynoglossum lanceolatum</i>	2	.	.	.	.	.	.	.	.	.	.	.	LC
109	<i>Cyperus articulatus</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
110	<i>Cyperus cyperoides</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
111	<i>Cyperus dichroostachyus</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
112	<i>Cyperus distans</i>	.	.	1	.	.	.	.	.	.	.	1	.	LC
113	<i>Cyperus rotundus</i>	.	.	1	.	.	.	.	.	1	.	.	.	LC
114	<i>Cyphostemma de docente</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
115	<i>Delonix baccal</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
116	<i>Desmodium hirtum</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
117	<i>Desmodium salicifolium</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
118	<i>Desmodium tortuosum</i>	1	.	.	.	2	.	1	1	.	.	.	.	LC
119	<i>Desmodium triflorum</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
120	<i>Desmodium velutinum</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
121	<i>Dichondra micrantha</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Stat us
122	<i>Digitaria abyssinica</i>	.	.	.	.	.	.	1	1	.	.	1	1	INASIVE
123	<i>Digitaria longiflora</i>	.	1	.	.	.	.	1	.	.	.	.	.	LC
124	<i>Digitaria scalarum</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
125	<i>Digitaria ternata</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC
126	<i>Digitaria velutina</i>	.	.	1	.	.	.	1	.	.	.	.	1	LC
127	<i>Diospyros mespiliformis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
128	<i>Dovyalis hebecarpa</i>	.	.	.	.	.	.	2	1	.	.	1	.	LC
129	<i>Dreggea sehimperii</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
130	<i>Duranta erecta</i>	2	.	.	.	.	.	3	1	.	.	.	.	LC
131	<i>Dyschoriste spp</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
132	<i>Dyschoriste radicans</i>	2	.	.	.	.	.	.	.	.	.	1	.	LC
133	<i>Echinochloa hapoclada</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
134	<i>Eleusine indica</i>	1	.	.	2	.	.	3	.	.	.	.	1	INASIVE
135	<i>Emilia coccinea</i>	.	1	.	.	.	.	5	.	.	.	1	.	LC
136	<i>Eragrostis superba</i>	1	.	1	.	.	.	.	.	.	.	.	.	LC
137	<i>Eragrostis aspera</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
138	<i>Eragrostis exasperata</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
139	<i>Eragrostis tenuifolia</i>	.	2	1	.	3	.	3	.	.	.	.	1	LC
140	<i>Erythrococa bongensis</i>	2	.	.	.	.	.	1	.	.	.	.	.	LC
141	<i>Erytraria marginata</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
142	<i>Eucalyptus camadulensis</i>	1	.	.	.	.	.	.	.	.	.	.	1	INASIVE
143	<i>Eucalyptus grandis</i>	.	.	1	.	.	.	1	.	.	.	.	.	INASIVE
144	<i>Euphorbia heterophylla</i>	1	.	.	.	.	1	.	.	.	.	1	.	INASIVE
145	<i>Euphorbia hirta</i>	1	1	2	.	.	1	1	.	.	1	1	1	LC
146	<i>Euphorbia indica</i>	.	.	1	.	.	.	2	1	.	.	.	.	LC
147	<i>Evolvulus alsinoides</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
148	<i>Ficus benjamina</i>	1	.	.	.	.	.	.	.	.	.	.	.	INASIVE
149	<i>Ficus cordata</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
150	<i>Ficus glumosa</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
151	<i>Ficus natalensis</i>	.	1	1	.	.	.	1	.	.	1	.	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Stat us
152	<i>Ficus ovata</i>	.	.	.	.	.	.	1	.	.	.	.	1	LC
153	<i>Ficus pseudomangifera</i>	.	.	.	.	.	.	2	.	.	.	.	.	LC
154	<i>Ficus sycomorus</i>	.	.	1	.	.	.	.	.	.	.	1	.	LC
155	<i>Ficus thonningii</i>	1	.	.	.	1	.	.	.	.	.	.	.	LC
156	<i>Flueggea virosa</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
157	<i>Galinsoga parviflora</i>	.	.	.	1	.	.	1	.	.	.	1	1	LC
158	<i>Glycine wightii</i>	.	.	.	.	.	.	1	.	.	.	1	.	INASIVE
159	<i>Gmelina arborea</i>	2	1	.	.	.	.	1	.	.	.	.	.	LC
160	<i>Gomphrena celosioides</i>	.	1	1	.	.	.	1	.	.	.	1	.	LC
161	<i>Grevillea robusta</i>	1	1	1	.	2	.	1	.	.	.	.	.	INASIVE
162	<i>Gutenbergia cordifolia</i>	2	.	.	.	.	.	2	.	.	.	.	.	LC
163	<i>Harrisonia abyssinica</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
164	<i>Hibiscus micranthus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
165	<i>Hiptis suaveolens</i>	.	.	.	.	2	.	.	.	.	.	.	.	LC
166	<i>Holopteria grandis</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
167	<i>Hoslundia opposita</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
168	<i>Hyparrhenia filipendula</i>	2	.	.	.	.	.	.	.	.	1	.	.	LC
169	<i>Hyperthelia dissoluta</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
170	<i>Hypitiss suave</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
171	<i>Hypitiss suaveolens</i>	.	1	1	.	.	.	1	.	.	.	1	.	LC
172	<i>Indigofera circinnella</i>	1	1	.	.	.	.	.	.	.	.	.	.	LC
173	<i>Indigofera spicata</i>	.	1	1	.	.	.	.	1	.	1	1	1	LC
174	<i>Ipomoea cairica</i>	.	.	.	.	.	.	.	1	.	.	.	.	INASIVE
175	<i>Ipomoea eriocarpa</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
176	<i>Isolonacongolana</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
177	<i>Jacaranda mimosifolia</i>	1	.	.	.	.	.	1	.	.	1	1	.	INASIVE
178	<i>Jasminum abyssinicum</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
179	<i>Jasminum pauciflorum</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
180	<i>Jatropha curcas</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
181	<i>Justicia flava</i>	.	.	.	.	.	.	2	.	.	.	1	.	LC
182	<i>Justicia heterocarpa</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Stat us
183	<i>Justicia matammensis</i>	2	2	.	.	.	.	1	.	.	.	1	.	LC
184	<i>Justicia schimperiana</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
185	<i>Kalanchoe laciniata</i>	.	.	1	1	.	.	.	.	.	.	1	.	LC
186	<i>Kigelia africana</i>	.	.	.	1	.	.	.	.	.	.	1	.	LC
187	<i>Kyllinga bulbosa</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
188	<i>Kyllinga elatior</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
189	<i>Lactuca inermis</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
190	<i>Lagenaria sphaerica</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
191	<i>Lannea edulis</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
192	<i>Lantana camara</i>	.	.	.	.	.	.	3	2	.	1	1	1	INASIVE
193	<i>Lantana trifolia</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
194	<i>Laportea latipes</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
195	<i>Launae arifolia</i>	.	.	.	.	.	.	2	.	.	.	.	.	LC
196	<i>Leonotis nepetifolia</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
197	<i>Leucas deflexa</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
198	<i>Lippia javanica</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
199	<i>Maerua angolensis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
200	<i>Maerua decumbens</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
201	<i>Majidea sp</i>	.	.	.	.	.	.	1	1	.	.	.	.	LC
202	<i>Mangifera indica</i>	3	1	.	1	3	1	3	1	.	1	.	1	LC
203	<i>Manihot esculenta</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
204	<i>Mariscus dubius</i>	.	1	.	.	.	.	1	.	.	.	.	.	LC
205	<i>Mariscus sumatrensis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
206	<i>Markhamia lutea</i>	3	1	.	.	3	.	5	1	.	2	2	1	LC
207	<i>Maytenus indica</i>	.	1	.	1	.	.	.	.	.	.	.	.	LC
208	<i>Melinis repens</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
209	<i>Milicia excelsa</i>	2	.	1	.	.	.	1	1	.	1	.	.	EN
210	<i>Mimosa pigra</i>	.	.	.	.	.	.	.	.	.	.	.	1	INASIVE
211	<i>Mimosa pudica</i>	.	1	1	.	.	.	2	.	.	.	1	.	LC
212	<i>Mitracarpus virosa</i>	1	.	1	1	.	1	.	.	.	1	.	1	LC
213	<i>Mucuna poggei</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
214	<i>Musa sapientum</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	kkumi	Bugiri	Bukede	Busia	Dokolo	Gulu	Iganga	Jinja	Kabera	Lira	Mbale	Toro	Status
215	<i>Ocimum gratissimum</i>	.	.	1	.	.	.	2	.	.	.	.	.	LC
216	<i>Ocimum lamifolium</i>	2	.	.	.	.	.	.	.	.	.	1	.	LC
217	<i>Ocimum suave</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
218	<i>Oldenlandia goreensis</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
219	<i>Oldenlandia herbacea</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
220	<i>Oldenlandia sp.</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
221	<i>Opuntia ficus-indica</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
222	<i>Orthosiphon suffrutescens</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
223	<i>Oxalis latifolia</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
224	<i>Oxygonum dregeanum</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
225	<i>Oxygonum sinuatum</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
226	<i>Panicum maximum</i>	2	1	.	.	3	.	3	2	.	1	.	.	LC
227	<i>Pararistolochia triactina</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
228	<i>Parthenium hysterophorus</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
229	<i>Paspalum scrobiculatum</i>	.	1	.	.	.	.	.	.	.	.	.	1	LC
230	<i>Passiflora edulis</i>	.	.	.	.	.	.	1	.	.	1	.	.	LC
231	<i>Passiflora quadrangularis</i>	.	.	.	.	.	.	1	1	.	.	.	.	LC
232	<i>Periploca nigrescens</i>	.	.	.	.	.	.	2	.	.	.	.	.	LC
233	<i>Perotis patens</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
234	<i>Persea americana</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
235	<i>Phaseolus vulgaris</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
236	<i>Phyllanthus amarus</i>	1	.	.	.	.	.	2	.	.	.	2	.	LC
237	<i>Phyllanthus maderaspatensis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
238	<i>Phyllanthus pseudoniruri</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
239	<i>Phyllanthus suffrutescens</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
240	<i>Pinus patula</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
241	<i>Polygala albida</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
242	<i>Portulaca oleraceae</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
243	<i>Portulaca quadrifida</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
244	<i>Pouzolzia parasitica</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
245	<i>Priva curtisiae</i>	.	.	.	.	.	.	1	1	.	.	1	.	LC
246	<i>Psidium guajava</i>	1	.	.	1	1	.	.	2	.	.	.	1	INASIVE

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Status
247	<i>Psyrdrax schimperianum</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
248	<i>Rauvolfia caffra</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
249	<i>Rhus natalensis</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
250	<i>Ricinus communis</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
251	<i>Sansevieria americana</i>	.	.	.	.	.	.	.	.	.	.	1	.	INASIVE
252	<i>Sansevieria conspicua</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
253	<i>Sansevieria cylindrica</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
254	<i>Sansevieria parva</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
255	<i>Sapium leonardii-crispi</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
256	<i>Sateria sphacelata</i>	.	.	.	.	2	.	.	.	.	.	.	.	LC
257	<i>Secamone punctulata</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
258	<i>Senna hirsuta</i>	.	.	.	.	1	.	.	.	.	.	.	.	LC
259	<i>Sennahirta</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
260	<i>Senna obtusifolia</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
261	<i>Senna siamea</i>	.	.	.	.	.	.	.	.	.	1	.	1	INASIVE
262	<i>Senna spectabilis</i>	.	.	.	.	.	.	1	.	.	1	.	.	INASIVE
263	<i>Setaria homonyma</i>	.	.	.	.	.	1	.	.	.	1	.	.	LC
264	<i>Setaria kagerensis</i>	.	.	.	.	1	.	1	.	.	.	1	.	LC
265	<i>Setaria sphacelata</i>	.	.	.	.	1	.	1	.	.	.	.	.	LC
266	<i>Sida acuta</i>	2	1	.	1	1	1	4	.	.	.	2	1	LC
267	<i>Sida alba</i>	2	2	.	1	1	.	.	.	1	.	1	.	LC
268	<i>Sida cordifolia</i>	2	.	.	.	.	.	.	.	.	.	1	1	LC
269	<i>Sida rhombifolia</i>	.	.	.	.	.	1	.	.	1	1	.	.	LC
270	<i>Siegesbeckia abyssinica</i>	.	1	.	1	.	.	1	.	.	.	.	.	LC
271	<i>Siegesbeckia orientalis</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
272	<i>Solanum campylacanthum</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
273	<i>Solanum incanum</i>	2	2	.	.	.	.	2	2	1	1	4	1	INASIVE
274	<i>Solanum nigrum</i>	1	.	.	.	.	1	1	.	.	.	1	.	LC
275	<i>Sonchus luxurians</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
276	<i>Spathodea campanulata</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
277	<i>Sporobolu spyramidalis</i>	1	1	.	.	.	.	.	.	.	2	.	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Status
278	<i>Synedrella nodiflora</i>	3	.	1	1	.	.	1	1	1	.	.	.	LC
279	<i>Syzygium cumini</i>	.	.	.	.	.	.	1	.	.	.	1	1	INASIVE
280	<i>Tabebuia pentaphylla</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
281	<i>Tamarindus indica</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
282	<i>Tectona grandis</i>	1	.	1	.	.	.	1	.	.	.	.	.	INASIVE
283	<i>Tephrosia nana</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
284	<i>Tephrosia pumila</i>	3	.	1	.	.	.	.	.	1	.	.	.	LC
285	<i>Terminalia mollis</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
286	<i>Terminalia superba</i>	.	.	1	.	.	.	1	.	.	.	.	.	LC
287	<i>Thunbergia mildbraedii</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
288	<i>Thunbergia alata</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
289	<i>Tinospora caffra</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
290	<i>Tithonia diversifolia</i>	.	.	.	.	.	.	1	.	.	.	.	1	INASIVE
291	<i>Tradescantia zebrina</i>	.	2	.	.	.	.	1	1	.	.	1	.	LC
292	<i>Tridax procumbens</i>	.	.	1	.	.	.	1	1	1	3	1	1	LC
293	<i>Triumfetta flabellato-pilosa</i>	.	.	.	.	.	.	1	.	.	.	2	.	LC
294	<i>Triumfetta rhomboidea</i>	1	.	.	.	.	.	.	.	1	.	.	.	LC
295	<i>Tylosema fassoglensis</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
296	<i>Urena lobata</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC

6b. Western to Southern Routes

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarara	Ntungano	Fakari	Rubirizi	Lvingo	Sthena	Sthena	Status
1	<i>Abutilon mauritanum</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
2	<i>Acacia polyacantha</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
3	<i>Acacia siberiana</i>	.	.	.	2	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
4	<i>Aclypha bipartita</i>	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
5	<i>Aclypha hispida</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
6	<i>Acalypha villiculis</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
7	<i>Acanthospermum hispidum</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
8	<i>Acanthus polystachyus</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
9	<i>Achyranthes aspera</i>	2	.	.	2	1	.	.	2	.	.	1	.	.	.	.	.	.	.	.	.	LC
10	<i>Agave sp.</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
11	<i>Agrotis umcozonoides</i>	2	1	.	.	1	.	.	.	1	.	.	.	.	2	1	.	.	1	1	INVASIVE
12	<i>Albizia coriaria</i>	.	.	.	2	.	.	1	1	.	.	.	.	.	.	.	.	2	.	.	LC
13	<i>Albizia grandbracteata</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
14	<i>Allopylus africana</i>	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
15	<i>Aloe sp.</i>	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
16	<i>Alternanthera</i>	.	1	.	.	.	.	1	1	.	1	.	1	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>ranodiflora</i>																					
17	<i>Alternanthera pungens</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	INVASIVE
18	<i>Amaranthus dubius</i>	.	1	.	.	.	.	1	.	.	1	.	1	.	2	.	.	.	.	.	.	LC
19	<i>Amaranthus graecizans</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	1	.	LC
20	<i>Amaranthus lev</i>	.	.	.	.	.	.	.	1	.	1	1	.	.	.	.	.	.	.	.	1	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>idus</i>																					
21	<i>Artocarpus hettellophylla</i>	.	.	.	.	2	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	LC
22	<i>Asparagusa cemososa</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
23	<i>Aspilia africana</i>	.	.	.	.	.	.	.	.	.	.	.	2	1	.	.	.	.	.	.	1	LC
24	<i>Aspilia kotchy</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
25	<i>Aysteziana gneti</i>	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	ca																					
26	<i>Barliveritricosa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	2	.	.	.	.	.	LC
28	<i>Bidens pilosa</i>	2	.	1	.	.	.	.	1	1	1	.	.	1	.	2	.	.	.	1	.	LC
29	<i>Bouhivariagata</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	INVASIVE
30	<i>Brachiaribrizantha</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
31	<i>Brachiaridecumbe</i>	.	.	.	.	.	.	.	.	2	1	.	.	.	1	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbaramba	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
32	<i>Brachiariscalaris</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
33	<i>Brachiarisp.</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
34	<i>Callistemoncitrinus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
35	<i>Cannalily</i>	2	1	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	INVASIVE
36	<i>Capparis tomentos</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
37	<i>Caricapaaya</i>	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
38	<i>Carisaspinarum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
39	<i>Caryotaurus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
40	<i>Cassiamimosoides</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	1	LC
41	<i>Cassiaobtusifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
42	<i>Casualina</i> sp.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
43	<i>Centellaasiatica</i>	.	1	1	1	1	.	1	.	.	.	.	.	.	1	.	1	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
44	<i>Chamaecrista mimosoides</i>	.	1	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
45	<i>Chloris gayana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
46	<i>Chloris pychnotrix</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
47	<i>Chloropytum galabatis</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
48	<i>Cissampelos</i>	.	1	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>smucronata</i>																					
49	<i>Cissus quadrangularis</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
50	<i>Cissus rotundifolia</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
51	<i>Citrus aurantium</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
52	<i>Citrus limon</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
53	<i>Cleomegy</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>nandra</i>																					
54	<i>Clerodendrum johnstoni</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
55	<i>Clerodendrum rotundifolium</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
56	<i>Coffea robusta</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
57	<i>Commelina africana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
58	<i>Commelinabenghalensis</i>	.	1	1	.	.	1	.	.	1	1	.	.	1	2	.	.	1	.	.	LC	
59	<i>Commelinalatiolia</i>	.	.	1	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
60	<i>Conyzafloribunda</i>	.	1	1	1	2	1	.	1	.	.	.	.	.	.	1	.	.	.	.	LC
62	<i>Corbichonia decumbens</i>	.	.	.	.	.	.	.	1	1	.	.	1	.	.	.	.	.	.	.	LC
63	<i>Corchorus tride</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	ns																					
64	<i>Crassocephalum crapiroides</i>	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
65	<i>Crassocephalum manii</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
66	<i>Crassocephalum montuosum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
67	<i>Crassocephalum</i>	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>alumvitellinum</i>																					
68	<i>Crotalaria incana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
69	<i>Crotalaria spinosus</i>	.	.	.	2	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
70	<i>Cucumis sp.</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
71	<i>Cucurbita pepo</i>	.	.	.	.	.	.	1	.	.	1	.	.	1	.	.	.	.	.	.	.	LC
72	<i>Cyatula coenocoides</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
73	<i>Cyatula prostrata</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
74	<i>Cynodon dactylon</i>	.	1	.	.	.	.	1	2	1	1	.	.	1	2	1	.	1	.	1	1	INVASIVE
75	<i>Cynodon nlemfueensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	INVASIVE
76	<i>Cyperus denudatus</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
77	<i>Cyperus distans</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	LC
78	<i>Cyperus</i>	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>rusdubius</i>																					
79	<i>Cyperus sp.</i>	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
80	<i>Cyphostemma adenocaulae</i>	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
81	<i>Desmodium salicifolium</i>	.	1	1	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	LC
82	<i>Desmodium setigerum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
83	<i>Desmodium sp.</i>	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
84	<i>Desmodium tortuosum</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	LC
85	<i>Desmodium triflorum</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	LC
86	<i>Desmodium velutinum</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
87	<i>Dicrocephala integ</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>rifolia</i>																					
88	<i>Digitaria abyssinica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC
89	<i>Digitaria longiflora</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	LC
90	<i>Dyschoriste SP</i>	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	LC
91	<i>Dracaena stenodneri</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	LC
92	<i>Duranta sp</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	1	.	LC
93	<i>Dyploma</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>Cyclospalmatus</i>																					
94	<i>Dysoxystera radicans</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
95	<i>Elaeagnus africana</i>	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
96	<i>Elaeagnus indica</i>	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	INVASIVE
97	<i>Emilia javanica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
98	<i>Entada sp</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
99	<i>Eragrostis</i>	.	.	1	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>rostis</i> sp.																					
100	<i>Eriobotrya japonica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	LC
101	<i>Erythrina abyssinica</i>	2	.	.	.	1	.	.	.	.	.	.	.	1	.	.	.	1	.	.	LC
102	<i>Erythrococca Congensis</i>	.	1	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	LC
103	<i>Eucalyptus camadulensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	INVASIVE

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala road-Hoina	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
104	<i>Eucalyptus</i> sp.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
105	<i>Euphorbia heterophyllus</i>	.	.	.	.	.	.	1	.	.	1	.	.	1	.	.	.	.	.	.	.	LC
106	<i>Euphorbia hirta</i>	.	1	.	.	.	.	1	.	1	.	.	.	.	.	1	.	.	.	.	.	LC
107	<i>Euphorbia tirucalli</i>	4	.	.	.	2	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	LC
108	<i>Ficus benjamina</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	INVASIVE
109	<i>Ficus natalensis</i>	.	1	.	1	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
110	<i>Ficus platyphylla</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
111	<i>Ficus pseudomangifera</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
112	<i>Ficus sp.</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
113	<i>Ficus thonningia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
114	<i>Fluggea virosa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
115	<i>Galinso gaparviflora</i>	.	1	1	.	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
117	<i>Gomphrena celosoides</i>	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
118	<i>Grevillea robusta</i>	.	1	.	.	.	1	.	.	.	.	.	.	.	.	1	1	.	1	1	.	INVASIVE
119	<i>Grewia similis</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
121	<i>Gynura scandens</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
122	<i>Harungana madagascariensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
123	<i>Hibiscus rosasinensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	LC
124	<i>Hoslundia opposita</i>	.	.	.	.	.	.	.	.	1	.	1	1	.	.	.	.	.	.	.	.	LC
125	<i>Hygrophylla sp.</i>	.	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
126	<i>Hyperrhena filipendula</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
127	<i>Hyperrhena rufa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
128	<i>In dig of era ar ecta</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
129	<i>In dig of era hir sut a</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
130	<i>In dig of era spa</i>	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
131	<i>In dig of era spi cat a</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	LC
132	<i>Ip o m oe a ba tat tus</i>	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
133	<i>Ip o m</i>	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaal	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status	
	<i>oea sp.</i>																						
134	<i>Jacaranda mimosifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	INVASIVE
135	<i>Justicia exiguata</i>	.	.	.	.	.	.	.	.	1	.	1	.	1	.	.	.	.	.	.	.	.	LC
136	<i>Justicia matamensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
137	<i>Justicia schimperiana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
138	<i>Kyllinga</i>	.	1	1	.	2	.	.	1	.	1	1	.	.	1	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kase	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status	
	<i>alba</i>																						
139	<i>Kyllinga sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
140	<i>Lantana camara</i>	.	1	1	.	.	1	.	1	1	1	1	.	2	1	.	2	.	1	.	.	INVASIVE	
141	<i>Lantana trifolia</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
142	<i>Launaea na</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
143	<i>Leontopetalos</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	INVASIVE
144	<i>Leucas de</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>flexa</i>																					
145	<i>Ludwigia sp.</i>	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
146	<i>Manigiera indica</i>	.	1	.	.	.	.	.	.	.	.	1	1	1	.	1	.	2	1	.	.	LC
148	<i>Manihot esculenta</i>	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	1	.	.	.	LC
149	<i>Marthamisa lutea</i>	.	.	.	.	2	.	1	.	1	1	1	2	1	2	.	.	.	.	.	.	LC
150	<i>Meliazadirachta</i>	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	INVASIVE

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lwengo	Sheena	Sheena	Status
151	<i>Melinis repens</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
152	<i>Momordica foetida</i>	.	.	.	2	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
153	<i>Musa sp.</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
154	<i>Neonotonia wighii</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
155	<i>Ocimum gratissimum</i>	.	.	.	.	.	.	.	.	.	.	.	1	2	.	.	.	.	.	.	.	LC
156	<i>Opuntia fic</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaal	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>us-indica</i>																					
157	<i>Orthocypnone sp.</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
158	<i>Oxalis coniculata</i>	2	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
159	<i>Oxalis latifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	INVASIVE
160	<i>Oxygonum sinuatum</i>	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	.	LC
161	<i>Panicum maximum</i>	.	.	1	.	.	.	.	1	1	.	.	1	1	1	.	.	.	1	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>m</i>																					
162	<i>Parvoniasp.</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
163	<i>Paspalum scriboculatum</i>	.	2	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
164	<i>Paspalum sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	LC
165	<i>Paspalum noratum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	Exotic
166	<i>Pennisetum polystachion</i>	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
167	<i>Pennisetum purpurium</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
168	<i>Persicaria setosula</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
169	<i>Phoenix clinata</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	LC
170	<i>Phyllanthus Myrtifolius</i>	.	1	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
171	<i>Phyllanthus pseudone</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala road-Hoina	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	uri																					
172	<i>Phyllanthus</i> sp.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	LC
173	<i>Phytolacca dodonaea</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
174	<i>Pinus</i> sp.	.	1	.	.	2	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
175	<i>Plectranthus</i> sp.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
176	<i>Pseudarthria hookeri</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
177	<i>Psidium</i>	.	.	.	.	.	.	1	.	.	.	2	.	.	.	1	.	.	.	.	.	INVASIVE

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Shena	Shena	Status
	<i>mgajava</i>																					
178	<i>Psydax parviflora</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
179	<i>Rhynchosia sp.</i>	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	LC
180	<i>Rhynchosia viscosa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
181	<i>Ricinus communis</i>	.	1	.	.	.	.	1	1	.	.	1	1	.	.	.	.	.	.	.	.	INVASIVE
182	<i>Saccharum officinarum</i>	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaal	Kase	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status	
	<i>arum</i>																						
183	<i>Sansiveria dawei</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
184	<i>Sansiveria sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	LC
185	<i>Senna obtusifolia</i>	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
186	<i>Senna occidentalis</i>	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	LC
187	<i>Senna siamea</i>	.	1	.	.	.	.	.	.	2	.	1	1	2	.	.	1	.	1	.	.	.	INVASIVE
188	<i>Senna</i>	.	.	.	.	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>sp.</i>																					
189	<i>Sennaspectabilis</i>	.	.	.	.	.	.	.	1	.	.	.	1	1	.	.	.	.	.	.	.	LC
190	<i>Sebianasebiana</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
191	<i>Setaria sp.</i>	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
192	<i>Setaria sp. hacelata</i>	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
193	<i>Sidaacuta</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
194	<i>Sidacordifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
195	<i>Sida cu nn eif o lia</i>	.	.	.	.	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
196	<i>Sida ov ata</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
197	<i>Sida rho m bif o lia</i>	.	1	.	.	2	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
198	<i>Sida sp.</i>	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.	LC
199	<i>Solan eci o an gul at u m</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
200	<i>Solan u m ca m pyl ac an</i>	.	1	.	.	.	.	.	1	.	1	1	.	1	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>thum</i>																					
201	<i>Solanum incanum</i>	.	1	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	INVASIVE
202	<i>Solanum macrocarpon</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
203	<i>Solanum nigrum</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
204	<i>Solanum sp.</i>	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
205	<i>Spermacoceprinci</i>	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>i</i>																					
206	<i>Sporobolus africanus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	LC
207	<i>Sporobolus festivus</i>	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	LC
208	<i>Sporobolus pyramidalis</i>	.	1	.	.	.	.	1	1	.	.	.	.	.	1	.	.	.	.	.	1	LC
209	<i>Stachytarpheta indica</i>	.	.	.	2	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	.	INVASIVE

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
210	<i>Synodrallano diflora</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	LC
211	<i>Syzygium cuminii</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC
212	<i>Tabebuia serratifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
213	<i>Tectonagradsis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	INVASIVE
214	<i>Tephrosia pulila</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
215	<i>Terramnu</i>	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>slabialis</i>																					
216	<i>Teramnus repens</i>	.	.	.	.	2	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
217	<i>Terminalia catappa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	LC
218	<i>Terminalia ivorensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC
219	<i>Thvetiaperuviana</i>	.	.	.	.	.	.	.	1	.	1	.	1	.	.	.	.	.	.	.	.	INVASIVE
220	<i>Tribulus terrestris</i>	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	s																					
221	<i>Tri da x pr oc u m be ns</i>	.	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
222	<i>Tri da x sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
223	<i>Tri u mf ett a an nu a</i>	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
224	<i>Tri u mf ett a m ac ro ph yll a</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
225	<i>Tri u mf ett a rh</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>omboida</i>																					
226	<i>Urenaloba</i>	.	.	.	.	.	.	1	.	1	.	.	1	.	.	.	.	.	.	.	.	LC
227	<i>Vepri nobilis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
228	<i>Vernonia amygdalina</i>	.	.	.	.	.	.	1	.	.	.	.	1	1	.	.	.	.	.	.	.	LC
229	<i>Vernonia campanea</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	LC
230	<i>Vernonia sp.</i>	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbaramba	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
231	<i>Vitex trifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
232	<i>Zehneria scabra</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC

6c.

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Acacia polyacantha</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Acacia sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Acalypha bipartita</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Acanthus polystachus</i>	x	x	x	x	x	x	x	x	1	x	1	x	x	x
<i>Achyranthes aspera</i>	x	x	x	1	x	x	1	x	x	x	1	x	x	1
<i>Agave sp.</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Ageratum conyzoides</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	x
<i>Albizia coriaria</i>	x	x	x	x	x	x	1	x	x	x	1	x	x	x
<i>Allophyllus sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Alternanthera nodiflora</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Alternanthera pungens</i>	x	1	x	x	1	x	x	x	1	x	X	x	x	x
<i>Amaranthus dubius</i>	x	1	x	x	x	1	x	1	x	x	X	1	x	x
<i>Amaranthus graesizans</i>	x	x	x	x	x	x	x	1	x	x	1	x	x	x
<i>Amaranthus levidus</i>	x	x	1	x	x	x	1	x	x	x	1	x	x	1
<i>Amaranthus spinosus</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Artocarpus heterophyllus</i>	x	x	x	x	x	1	x	x	1	x	1	1	x	x
<i>Aspilia africana</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Asplenium</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Asystezia gangetica</i>	X	1	x	x	x	x	1	1	x	x	X	x	x	1
<i>Azadirachta indica</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Barleria ventricosa</i>	1	.	x	x	x	x	x	x	x	x	X	x	1	1
<i>Bidens pilosa</i>	X	1	1	x	x	x	1	1	1	x	X	x	x	1
<i>Boophone disticha</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Bouhinia variegata</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	x
<i>Brachiaria brizantha</i>	x	x	x	x	x	x	x	x	x	x	X	x	1	x
<i>Brachiaria decumbens</i>	x	x	x	1	x	x	x	x	x	x	X	x	1	1
<i>Canna lilly</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Capsicum frutescens</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	1

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Carica papaya</i>	x	1	x	x	x	x	x	1	x	x	X	x	x	x
<i>Cassia hirsuta</i>	x	1	x	x	x	x	x	x	x	x	X	x	x	x
<i>Cassia siamea</i>	x	x	x	1	x	x	x	x	x	x	X	x	x	x
<i>Casualina sp.</i>	x	1	x	x	x	1	x	1	x	x	X	1	x	x
<i>Centella asiatica</i>	1	.	x	1	x	x	x	1	1	x	1	x	1	1
<i>Chamaecrista sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Chloris gayana</i>	1	.	x	x	x	x	1	x	1	x	X	x	1	x
<i>Chloris pycnothrix</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Cissampelos mucronata</i>	x	x	x	x	x	1	x	1	x	x	1	1	x	1
<i>Cissus rotundifolia</i>	x	1	x	x	x	x	1	x	x	x	1	x	x	x
<i>Clerodendrum johnstonii</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Clerodendrum myricoides</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Commelina benghalensis</i>	x	x	x	x	1	x	1	1	x	x	X	x	1	1
<i>Commelina latifolia</i>	x	1	x	x	x	x	x	x	x	x	1	x	x	1
<i>Commelina sp.</i>	x	x	x	x	x	1	x	x	x	x	X	1	x	x
<i>Commeline benghalensis</i>	x	x	x	1	x	x	x	x	x	x	X	x	x	x
<i>Commiphora sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Conyza floribunda</i>	x	1	1	x	x	x	x	1	1	1	1	x	x	1
<i>Conyza sp.</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	x
<i>Conyza sumatrensis</i>	x	x	x	x	x	x	x	1	x	x	X	1	x	x
<i>Crassocephalum crepidioides</i>	x	1	x	x	x	x	x	x	x	x	X	x	x	1
<i>Crotalaria spinosus</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	x
<i>Cucurbita pepo</i>	x	x	x	x	1	1	x	x	x	x	X	1	x	x
<i>Cupressus sp.</i>	x	1	x	x	x	x	x	1	x	x	X	x	x	x
<i>Cynodon dactylon</i>	x	1	1	1	1	x	x	1	1	x	1	x	1	1
<i>Cyperus cyperoides</i>	x	1	x	x	x	x	x	x	x	x	1	x	x	x
<i>Cyperus denudatus</i>	x	x	1	x	x	x	x	x	x	x	X	x	x	x
<i>Cyperus distans</i>	x	x	x	x	1	x	x	1	x	x	X	1	x	x
<i>Cyperus papyrus</i>	x	x	x	x	1	x	x	x	x	x	X	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Cyphostemma adenocaula</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Desmodium salicifolium</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	1
<i>Desmodium sp.</i>	x	1	x	x	x	x	x	x	1	x	1	x	x	1
<i>Desmodium tortuosum</i>	x	x	x	1	x	x	x	1	x	x	X	1	x	x
<i>Desmodium triflorum</i>	x	x	x	x	1	x	x	1	x	x	X	1	1	1
<i>Dichondra repens</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Dichrocephala integrifolia</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Digitaria abyssinica</i>	x	x	x	1	x	x	x	x	x	x	X	1	x	x
<i>Digitaria longiflora</i>	1	.	x	x	1	1	1	1	x	x	X	1	1	1
<i>Digitaria velutina</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Diplocyclos palmatus</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Dyschoriste radicans</i>	x	1	x	x	x	x	x	1	1	x	1	x	x	1
<i>Dracaena fragrans</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	x
<i>Dyschoriste nagachana</i>	x	x	x	x	x	x	x	1	x	x	X	1	x	x
<i>Eleusin africana</i>	x	1	x	x	x	x	x	x	1	x	X	x	x	1
<i>Entada abyssinica</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Eragrostis racemosa</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	x
<i>Eragrostis sp.</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Eragrostis tremula</i>	x	1	x	x	x	x	x	x	x	x	X	x	x	1
<i>Erythrina abyssinica</i>	x	x	x	x	x	x	1	x	x	x	X	x	x	x
<i>Euphorbia heterophyllus</i>	x	x	x	x	x	x	1	1	x	x	1	x	x	1
<i>Euphorbia hirta</i>	x	x	x	x	x	1	x	x	x	x	1	1	1	1
<i>Ficus benjamina</i>	x	x	1	x	x	x	x	x	1	x	1	x	1	1
<i>Ficus natalensis</i>	x	x	x	x	x	1	x	1	x	x	X	1	x	1
<i>Ficus sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Galinsoga parviflora</i>	1	1	1	x	x	x	x	x	1	x	X	1	x	1
<i>Gomphrena celosioides</i>	x	1	x	x	1	x	x	1	x	x	1	x	1	x
<i>Grevillea robusta</i>	x	x	x	x	x	x	x	1	1	x	1	1	x	x
<i>Grewia sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Gynura scandens</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	x
<i>Haparchneschweinfurthii</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Hygrophylla sp.</i>	x	x	x	x	x	x	x	1	1	x	X	x	x	x
<i>Hyper rhenia filipendula</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Hyperthelia dissoluta</i>	x	x	x	x	x	x	x	x	x	x	X	x	1	x
<i>Indigofera arrecta</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	1
<i>Indigofera hirsuta</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Indigofera spicata</i>	x	1	1	x	x	x	1	1	x	x	X	x	1	x
<i>Ipomoea cairica</i>	x	x	1	x	x	x	x	x	x	x	X	x	x	x
<i>Ipomoea sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Jacaranda mimosifolia</i>	x	x	x	1	x	1	x	x	x	x	X	1	x	x
<i>Jasminum pauciflorum</i>	x	x	x	1	x	x	x	x	x	x	X	x	x	x
<i>Justicia exigua</i>	X	1	x	x	1	x	x	1	1	x	1	x	x	1
<i>Kyllinga alba</i>	1	.	x	x	x	1	x	1	x	x	X	1	x	1
<i>Kyllinga sp.</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Lantana camara</i>	x	1	x	x	x	x	1	1	1	x	1	x	1	1
<i>Leonotis nepetifolia</i>	x	x	x	x	x	x	x	x	1	x	X	x	x	1
<i>Lepistemon owariensis</i>	x	1	x	x	x	x	x	1	x	x	X	x	x	x
<i>Leucus martinicensis</i>	x	1	x	x	x	x	x	x	1	x	1	x	x	x
<i>Maesopsis eminii</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Mangifera indica</i>	x	x	1	x	x	1	x	1	1	x	1	1	x	1
<i>Manihot esculenta</i>	x	x	x	x	x	x	x	1	x	x	1	x	x	1
<i>Markhamia lutea</i>	x	x	x	x	x	1	x	1	1	1	X	x	x	1
<i>Marsdenia rubicunda</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Melinis repens</i>	x	x	x	x	1	x	x	x	x	x	X	x	x	x
<i>Milicia excelsa</i>	x	x	x	x	x	x	x	x	x	x	X	x	x	1
<i>Mimosa pigra</i>	x	1	x	x	x	x	x	x	x	x	X	x	x	x
<i>Mimosa pudica</i>	x	x	x	x	x	x	x	1	1	x	X	x	x	1
<i>Momordica foetida</i>	x	x	x	x	x	x	x	1	x	1	X	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Musa sp.</i>	x	x	x	x	x	1	x	x	x	x	X	x	x	x
<i>Ocimum americanum</i>	x	x	x	x	x	x	x	1	x	x	X	x	x	x
<i>Ocimum gratissimum</i>	x	x	x	x	x	x	x	1	x	x	1	x	x	1
<i>Oxalis coniculata</i>	1	.	x	x	x	x	x	1	x	x	1	x	x	x
<i>Oxalis latifolia</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Oxygonum sinuatum</i>	x	1	x	x	x	x	x	x	1	x	1	x	x	x
<i>Panicum maximum</i>	1	.	1	x	x	x	1	1	1	1	1	x	1	1
<i>Paspalum scrobiculatum</i>	x	1	1	x	1	x	x	x	x	x	x	x	x	x
<i>Paspalum sp.</i>	x	x	x	x	x	1	x	1	x	x	x	x	1	x
<i>Pavonias sp</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Persea americana</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Phyllanthus pseudoneuri</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Phyllanthus sp.</i>	x	x	1	x	x	x	x	1	x	x	x	x	x	1
<i>Phytolacca dodecandra</i>	x	x	x	x	x	x	1	x	1	x	1	x	x	x
<i>Pinus sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	1	1
<i>Psidium guajava</i>	x	1	x	x	x	x	x	x	1	x	x	x	x	x
<i>Syzygium cuminii</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Psydrax schimperianum</i>	x	x	x	1	x	x	x	x	x	x	x	x	x	x
<i>Pteris sp.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Rhynchosia minima</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Rhytginia beniensis</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Ricinus communis</i>	x	x	x	x	x	x	x	x	x	1	1	x	x	x
<i>Rubia cordifolia</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Sansvieria dawef</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Secamone africana</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Senna hirsuta</i>	x	x	x	x	x	x	x	1	1	x	x	x	x	1
<i>Senna siamea</i>	1	.	x	x	x	x	x	1	1	x	1	x	x	1
<i>Senna spectabilis</i>	x	x	x	x	x	1	x	x	x	x	x	x	x	x
<i>Setaria homonyma</i>	1	.	x	x	x	x	1	x	x	x	x	x	x	x

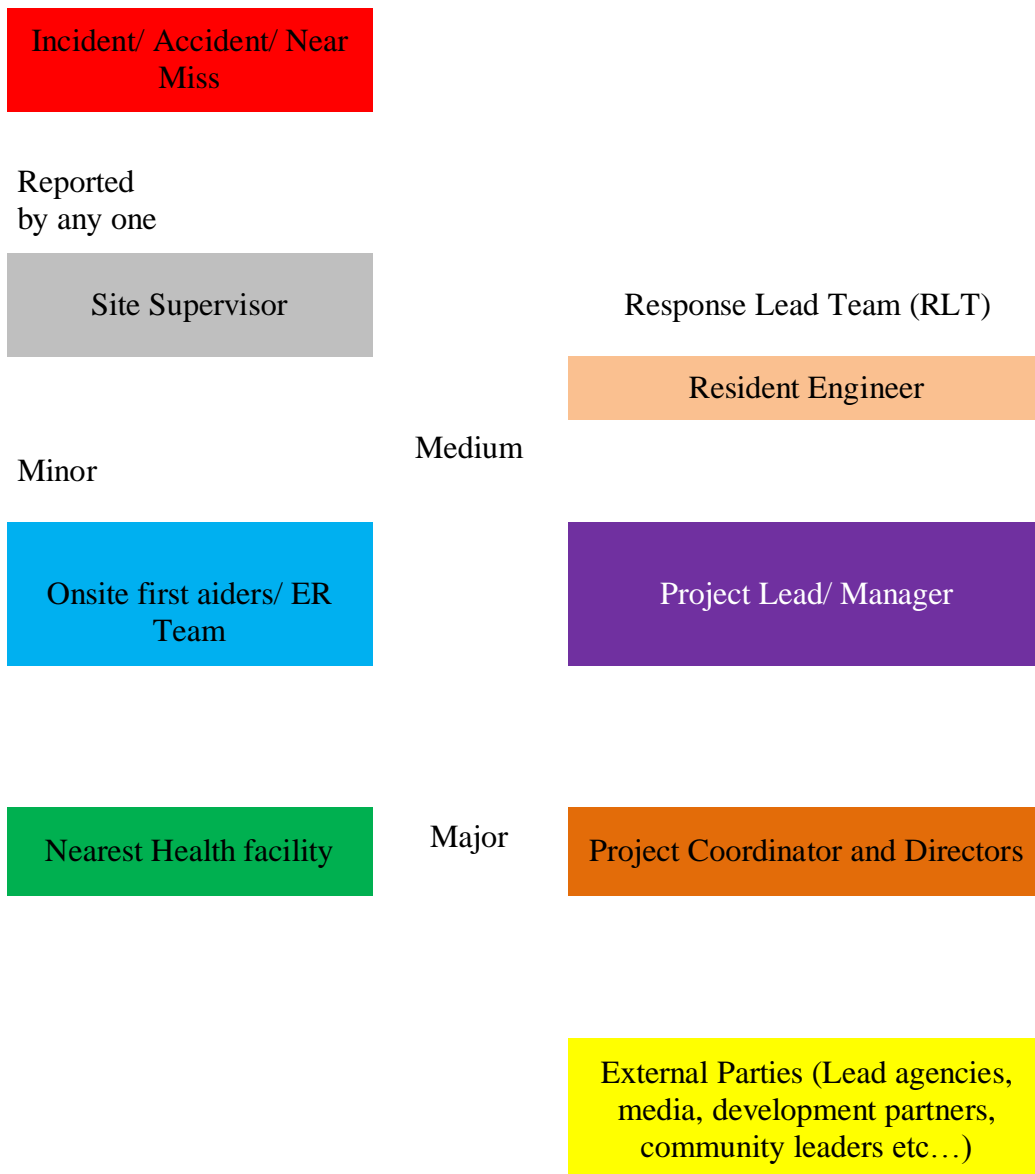
Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Setaria poiretiana</i>	x	x	x	x	x	x	x	x	1	x	1	x	x	x
<i>Setaria sphacelata</i>	x	x	x	x	x	x	x	x	x	x	x	x	1	x
<i>Sida acuta</i>	x	1	1	x	x	x	x	1	x	x	x	x	x	1
<i>Sida alba</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Sida cunneifolia</i>	x	x	x	x	x	x	x	1	x	x	1	x	x	x
<i>Sida ovata</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Sida rhombifolia</i>	x	1	x	x	1	1	x	1	x	x	1	x	x	x
<i>Solanecio angulatus</i>	x	x	1	x	x	x	x	x	x	x	1	x	x	1
<i>Solanum sp</i>	1	1	x	x	x	x	x	1	x	x	1	x	1	1
<i>Solanum incanum</i>	x	x	x	1	x	x	x	1	x	x	x	x	x	1
<i>Solanum nigrum</i>	x	x	x	x	x	x	x	x	1	x	1	x	x	1
<i>Solanum sp.</i>	x	x	x	x	x	x	x	x	x	1	x	x	x	x
<i>Sorghum arundinaceum</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Spermacoce princii</i>	x	x	x	x	1	x	x	x	x	x	x	x	x	x
<i>Sporobolus pyramidalis</i>	x	1	x	x	x	x	1	x	1	1	x	x	1	1
<i>Sporobolus rengii</i>	x	x	1	x	x	x	x	x	x	x	x	x	x	x
<i>Stachytarpheta indica</i>	x	1	x	x	x	x	x	x	1	x	x	x	x	x
<i>Synodrella nodiflora</i>	x	x	x	x	x	x	x	x	x	x	x	1	x	x
<i>Syzygiumcumini</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	1
<i>Tagetes minuta</i>	x	x	x	x	x	x	1	1	1	x	1	x	x	x
<i>Tephrosia pumila</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Teramnus labialis</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Teramnus repens</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Terminalia brownii</i>	1	.	x	x	x	x	x	x	x	x	x	x	1	x
<i>Thevetia peruviana</i>	1	.	x	x	x	1	x	x	x	x	1	x	x	1
<i>Tridax procumbens</i>	x	x	1	1	x	x	x	x	x	x	x	x	x	1
<i>Tridax sp.</i>	x	x	x	x	x	x	x	x	x	x	x	x	1	x
<i>Triumfetta annua</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Triumfetta rhomboidea</i>	x	x	x	x	x	x	x	1	1	x	x	x	x	1

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Urena lobata</i>	x	x	x	x	x	x	x	1	x	1	x	x	x	x
<i>Vernonia amygdalena</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Vernonia laciopus</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Wissadra rostrata</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Zornia pratensis</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x

Appendix 7: Emergency / Incident Response System



INCIDENT RESPONSE SYSTEM



Appendix 8: Stakeholder consultation records

#	Name	Position	Contact
	Wamani Ivan	In-charge Posta Mityana	0782757979
	Bbira Joseph	Officer Mityana District	0751929693
	C/ASP.Obbu Franco	Mubende Police	0700159270
	Katamba Lamson	IO Mubende	0700239956
	Mukasa Joseph	EO NIRA Mubende	0774555549
	Businge Peter	OA-Mubende	0705338134
	Col.w. Rubarema	DPA MRC	0772681318
	Asiimwe Raymond	A.P.O in Charge Mubende	0701416251
	Kiiza Elison	Administrator MWE	0751585333
	Pule Johnson	Team Leader	0772441677
	Harriet Atim	NFA Sector Manager	0772378290
	Ibrahim walusimbi	Area Manager NWSC Lira	0783484717/ 0751115861
	Martha Promise	TIP industries, URA building Lira	078339404
	Nakyanzi Sarah	Receptionist, UNBS Lira	0779345998
	Christine Lamon	Manager Lira Post Officer	0752620056
	Agenonga Charles	Nakasongola Police Station	0787098000
	Kiiza Godfrey	Luwero Police Station	0787609199
	Kamtimba beti	Health inspector Luwero	0774441160
	Asio hellen	Neighbour (Post Office)	0774575102
	Sejjemba Francis	Bodaboda rider	0779183269
	Ogwang Lawrence	Lab Tech Dokolo\ (Lab Manager)	0782418166
	Odeke Simon	Technical Supervisor NWSC-Luwero	Odekesimon26 @gmail
	Violah Namuwonge	Trainee	0702895411
	Benon Niyoyita	Eng. NWSC Luwero	0774564015

#	Name	Position	Contact
	Asiimwe Rosyln Grace	Accts Asst(for chief magistrate) Luwero	0772410649
	Draru Ambrose	Ag. Bank Manager BOU	0772758447
	Mwanje Alex	Station Head-URA Masaka	0717440693
	Kigozi Martin	Physical Planner Masaka Municipal Council	0700886879
	Nabadda Pauline	Environment Officer Masaka Municipal Council	0753310966
	Byamukama Alex	Asst.Post Officer Masaka	0772336121
	Mugoya Yudaya	Oc Kalisizo Police Station	0750308145
	Sp Musa Kayongo	DPC	0750559777/ 0782470222
	C/ASP Agoli Innocent	Oc Station	0754680466 0787651479
	Dabanja Geoffrey	DCDO	0772355182
	Obed Rekyeraho	Kiryadongo-Police Station	0774807831
	Akello Stella Maris	Admin Asst NDA Lira	0772575455
	Abur Josephine	Secretary Lira School of Nursing	0781282739
	Larwonyere Martin	District Prisons Commander Lira Luwum	0772893556
	Saverino Sserwada	Accts Asst IGG- Lira	0772868881
	Ezra Mucunguzi (ASP)	Deputy OC Lira	0775040571
	Otike Pabious	DNRU-Lira	0772453435
	Okello Tom Richard	SLO- Lira	0772645922
	Sp. Tubanone Joel	DPC Lira	0714667902
	AIP Bigirwa	OC Traffic Lira	0772439923
	Maate John Baluku	Sr. Immigration Officer	0773252358
	Sumuel Okello	DTTO- Dokolo	0774789239
	Okello Anthony	Otubo, HCIII Askari Kaberamaido	0785279962
	Dan Lukyamuzi	SO/PPDA	0791052463

#	Name	Position	Contact
	Patrick Katongole	Officer/PPDA	0772832039
	Stella lanyao	Adm-PPDA	0772437965
	Walter Ojok	Officer-PPDA	0774264074
	Simon Mugabe	PPDA	0783025726
	Lanyoro Paska Sheka	Immigration Officer	0773167852
	Allan Okello	RPC (Prisons) North	0772871167
	Oyumdu B Edward	SAS Kiriandongo	0785984349
	Serwyange .K. ALI	Askari Kitwara HCII	0777995642
	Ogwang Nicholas	for Regional Human Rights Officer- Gulu UHRC	0779009991
	Emmanuel Koni	Commercial Officer NWSC- Gulu	0772551978
	Alele Sarah	Regional Supervisor Posta- Gulu	0781446850
	ASP Ayiki Joseph	District Police Commander- Gulu	0714667893
	Akello Filder Mary	IMA/OPM- Gulu	0772760011
	Kakuru Ambrose	OPA/PPDA-Gulu	0777391328
	Onen Cosmas	Health Inspector/ Environment Focal Person-Gulu	0784230019
	Kobemu Gerald	Ag Oc Gulu Main Prison	0788219334
	Ojambo Albert	DITO-NIRA	0782050238
	Ojera Kennedy	DISO Gulu	0787899897
	Wambede Titus	Immigration Officer DCIC	0773327464
	Amuru Shaffi Aaron	Ministry of Justice & Constitutional Affairs -Gulu	0779300000
	Patrick Omia	Office of the DPP-Gulu (R.S.A)	0794332295
	Asiimwe Harriet	Election Asst. Kiryandongo	0782191911
	Lodad	Kiryandongo	
	Matovu Geoffrey	Regional Inspectorate Office Gulu	0782751532
	Omony Jimmy Aber	Gulu	0784778164

#	Name	Position	Contact
	Achila Lewiny .L.	Gulu	0755142737
	Lanyero Zahara	Bookshop owner along Jomu Kinyatta rd Gulu	0781737373
	Okello David	Business man (Shoe selling and Mobile Money) Gulu	0782088736
	Odongo Francis	LCI Awere Sub Ward Gulu	0772655972
	Oluba Bernard	Boda-boda Gulu	0777329417
	Ojuru sylesto	LIMU Gulu	0779388529
	Bamuteeze grace	ICT-Officer Police Gulu	0714668044/ 0784654998
	Ochen Tonny .W.	HOD-ICT-Lira	0773746210
	Talwana .B. Nathan	Principal Lira	0772374432
	Otim jimmy	Estates Officer Lira	0772001387
	Ediru john	Ass. Lecturer Electrical Lira	0777035669
	Obonyo geoffrey	Police Officer-Lira	0772166905
	Ecaa raphael	Gwokiri boda boda stage	0789215184
	Okello Geoffrey Ogwang	Chairman LCI Anywalozino (V)-Lira	0772957884/ 0752951884
	Okello Tom Joshua Olim	Sen. Accounts Asst- Lira	0772578824
	Asp Kule Jacob	DPC Nakasongola	0778578294
	Kuteesa Justine	Business growth manager-post bank Nakasongola	0776668000 Nakasongola
	Ivan Mwebaze	Credit officer Nakasongola	0783466241
	Oyara Paul	Asst manager credit post bank	0774983415
	Dungu Edward	Credit officer	0787474067
	Babirye Dorothe Evans	Chairperson CUWS	0772596018
	Kaggwa Robert	HPDU MDLG	0772575249
	Sam .O. Akankwasa	DISO Nakasongola	0392841920

#	Name	Position	Contact
	Sekitende Emmanuel	Asst. Engineering officer Nakasongola	0772975006
	Ntege Umar	Town Clerk Nakasongola	0772321266
	Kazibwe .G. William	Mayor Nakasongola T/C	0782810273
	Nakate Sarah	DIO/CTC	0782438396
	Nabwore .J.	Physical. Planner Nakasongola	0792419068
	Col. David Isimbwa	2IC AD DIV COMD UPDF	0782627045/ 0392701531
	Seruyange Robert	HMIS PP	0772990266
	Lugobe Samuel	SCO-Kakage H/C III	0782567213
	Sentongo Geofrey	Business man	0772461907
	Kusubira Godfrey	Boda boda	0773627045
	Kakembo Wilberforce	Boda boda	0774522698
	Kirabo Mathias	Boda boda	0787684798
	Sekandi Kenneth	Boda boda	0778705359
	Kayise George	Boda boda	0759122633
	Wandira Moses	Boda boda	0774878878
	Tom Sekakoni	Business man	0774543375
	Besigye Jimmy	Business man Business	0772897013
	Maanigamukama R	Town clerk Kiryandongo	0772622918
	Tumusiime Herbet	Physical planner Kiryandongo	0774493974
	Muganyiri Lydia	Senior Accs Asst Kiryandongo	0772868375
	Achola Jackline	Community Devt Officer Kiryandongo	0772246911
	Turyamwijuka Julius	Branch manager Gulu	0782317157
	Alimocan Margret	Pool stenographer Gulu	0785377201
	Mukongezi Evelyn	Physical planner Gulu	0774157328

#	Name	Position	Contact
	Jalwiny Sulimani	Town clerk Kumi MC	0772613634/ 0755613634
	Ainyo Grace	SCDO Kumi	0782815315
	Achom Mary Florence	Commercial Officer Kumi	0784898376
	Ikiring Jessica	PSWO Kumii	0776458282
	Sylvia		0778239152
	Mukobi Asanasio	Magistrate Grade I	0782533089
	Wasswa Harold	Deputy O/C Kumi Government Prisons	0782209118
	Otai Levi	Kumi Government Prison	0782802144
	Kamoga Hamza	District Physical Planner	0703366047
	Wambwa Dewes	C.D.O	0776596498
	Lwebangisa Winfred	Cleaner	0773231079
	Mugabi Allan	Resident	075215237
	Belinda Doreen	Ag. SLO Mukono	0776847004
	Namuyomba Josephine	Sec Dcdo Mukono	0755010492
	Grace Nabukela	C/P District Mukono	0788783503
	Mujuni William	DNRO Mukono	0772414509
	Kalyango Gerald	Boda rider	0774491498
	Muyinda Shaban	Boda rider	0753932998
	Sselyaz Geofrey	Boda rider	0706686635
	Ssekumba Isaac	Boda rider	0702974877
	S.K Mboga	Boda rider	0758445580
	Ojok Charles	Traffic Officer	0782413341
	Masengere George	Senior Ev't Officer	0772956502
	Namutosi Salama	Ag DPC-Buikwe	0714667824/ 0704711614
	Nalumansi Margret	LCI-Lugazi Police	0782500694

#	Name	Position	Contact
	Walusimbi Andrew	Senior Labour Officer-Jinja	0702616524
	Mugere Aramanzan	Cyclist at Muwumba Health Centre III	0781588362
	Sembera Ivan	Cyclist at Muwumba Health Centre III	0753091063
	Kyega Johnson	Cyclist at Muwumba Health Centre III	0752249707
	Kyangwa Ivan	DCDO	0772687015
	Gabula Habib	Boda	0775306179
	Lubaale Moses	Boda	0753023683
	Bazibu Robert	Boda	0754583689
	Tusubira Moses	Boda	0781436511
	Kazibo Isahaka	Boda	0779804857
	Musoke Nassan	Boda	0785950095
	Tibenda Allan	Boda	0777512161
	Vicky Kakaire	Municipal Environment Officer	0772386304
	Kyalisiima William	Health Inspector Central Division	0782652883
	Nabihamba .E.	Envt office	0776945046
	Buyinza Sula	Population Officer	0703873465
	Ato Willie	DVS Supervisor	0715144080
	Hyuha Joshua	Admin CSCO	0772061201
	Kenneth Atim	Principal Policy Analyst	0776404707
	Sempa Bernard	Physical planner	0701214763
	Balaba Edward	Environment Officer	0772449475
	Mugabi Andrew	PCAO	0774140174
	Najjuma Sarah	District environment officer	0774679653
	Wakabi Deo	ADWO/M	0781454396
	Omulongo Noah	P.M Kigulu Chiefdom	0771626377
	Ahebwa Grace	Iganga Chief Magistrates Court	0706731561
	Bwayo Edwin William	Iganga court	0702122281

#	Name	Position	Contact
	Asp Khirya Hassan	RPC	0753997556
	Sebandeke Herbert	Sen. Asst. Eng. Officer Roads	0757705110
	Mawanda Joseph	System Adm & Comp Tech	0755050683
	Zirabamuzale Christine	Joyce Principal Iganga School of Nursing & Midwifery	0772330494
	Ibrahim Saleh	Computer Instructor	070521773
	Muwanguzi Irene Flavia	Nursing Officer Iganga Hospital	0781567150
	Kiyemba Charles	Office Superintendent	0752635390
	Tugume Ezra	DPC Busia	0754920215
	Odwori Victor	Mail Handler Posta Uganda	0779020221
	Kateeba Godfrey	Town Clerk Busia Municipal Council	0772496926
	Oluka Peter	Physical Planner	0753543555
	Namuddu Latifah	Resident	
	Sarah Akwi	NWSC-Busia	0752426661
	Aoe Mary Everlyne	Dist Env't Officer-Tororo	0783810003
	Dr. Obbo Boniface	D.V.O- Tororo	0782628320
	Okaoe Rebecca	RSSA	0783334070
	Aroba Michael	Driver	0701900012
	Igooyi Aduwaba	Records	0794332282
	Emojong Alex	Cleaner	0783314179
	Ongu Pascal	Police officer	0774054466
	Sp Katunda David	DPC Tororo	0782394444
	Dr. Abel Kakuru	Project Manager IDRC Tororo District Hospital	0783545585
	Patrick Tumwebaze	IDRC- Research Lab. Manager	0750555737
	Onyango Jerome	District Labour Officer-Tororo	0772619787 0702619782
	Aketch Anna Patricia	Tororo court	0789754092 0703245592

#	Name	Position	Contact
	Sendagire Meddy	Tororo court	0788777402
	D/ASP Kinyozi .C. Abdallah	For DPC Bukedi	0787530632
	IP Khisa Milton	Regional ICT Officer Bukedi Police	0776999000 0711042014
	Letaru Gloria	Branch Manager NWSC-Tororo	0751120658 0786039771
	Edson Atwine	Station In-charge	0772990761
	Oketcho Jessy Jackson	Post Officer-Tororo	0777828576
	Sheila Apolot	Regional Head IG - Tororo	0772911787
	Onencan Saidi	Ag. Station Manager	0782072041
	Kakute Wilson	Boda Nabidongha C Iganga Town	0782514653
	Isabirye Moses	Boda Nabidongha C Iganga Town	0788490188
	Bangi Rebecca	Boda Nabidongha C Iganga Town	0788893006
	Wasalaine Moses	Boda Nabidongha C Iganga Town	0782977582
	Musenza Ahmed	Boda Nabidongha C Iganga Town	0705629157
	Solomon	Boda Nabidongha C Iganga Town	0704444737
	Buyinza Brian	Boda Nabidongha C Iganga Town	0705229133
	Abalo William	Registration Officer-URSB	0782607013
	Mukisa Eric	State Attorney	0772452140
	Dennis .P. Namalu	Records Officer Ministry of Justice Mbale	0782644931
	Samuel Akampurira	Auditor OAG Mbale	0701833872 0777878410
	Mwine Akim	Auditor OAG Mbale	0772648551
	Namuge Rose	Office Attendant DPP's Office-Mbale	0783674470
	Wataka Moses Wabusa	Office Cleaner-Mbale	0789123665
	Honesty Peterson	Systems Admin High Court Mbale	0702423571 0778535934

#	Name	Position	Contact
	Farouk Mpaeso	Police Officer	0700927340
	Kisambira Nulu	Senior Asst Town Clerk	0701244276
	Kaguga Faridah	IT Officer	0776335600
	Nakibuuka Irene Lydia	Physical planner	0782715545 0700275901
	Joseph Ssekya	Officer customs (UKPT)	0785784679
	Akiyo Michael Kasaija	Supervisor Customs Busia (URA)	0776771936
	John Kisitu	UNBS-Busia	0702270420
	Asp Kentaro Annah	OC Customs	0771851022
	Were Wilson	Immigration Officer	0752429300
	Kimmanga Micheal	MAAIF Busia	0782244906
	Nyanzi Davis	IT Officer NIRA-Mbale	0782108867
	Kakaire Mubarak	URA-Station Head Mbale	0717440287
	Makami Betty	Records Asst Mbale	0775273399
	Nyaribi Rhoda	Environment Officer	0772693722
	Masaba Johnson	Asst Engineering Officer	0782588556
	Nakibafu Fred	Physical Planner	0777912155
	Kabol Micheal	Accounts Asst	0784525050
	Orama Wilson	Post Officer	0774578851
	Asp Hadi Serko	OC Traffic Mbale	0772468886
	Steven Masiga	Coordinator Mak. University Mbale Centre	0782231577
	Namubiru Mariam	Magistrate Grade I Busia	0775072696
	Ngolobe Nathan	Boda stage Chief Magistrate court area Busia	0779824403
	Wabwire Bernard	Boda stage Chief Magistrate court area Busia	0786909758
	Makaga Robert	Boda stage Chief Magistrate court area Busia	0789343954

#	Name	Position	Contact
	Justus Bwire Abdul	Boda stage Chief Magistrate court area Busia	0779739950
	Nzimuli Emmanuel	District Physical Planner	0774642447
	Tayebwa James	Weigh Bridge Operator-UNRA	0702955131
	Awor Rhoda Semmy	Ag. In-charge/SNO	0772339520
	Orude Francis	Medical Records Asst	0772776106
	Omongot Alex	Engineering Assistant	0773955955
	Ayub A Kisubi	Town Clerk Bugiri	0702279072
	Mugala Martha	MCDO	0772313362
	Bukenya Jude	D/CAO	0782511427
	Wanyama G.M	DAS	0772832141
	Wafula George	PHRO	0772662961
	Hildah Apolot	NWSC	0751114635
	Ajilong Loyce	NWSC	0778824007
	Akol Vincent	CDO Bukedea	0772301153
	Elimu Emmanuel	DCDO	0772323651
	Stella Atim	Billing and Performance Analyst NWSC	0751111469
	Okotel Patrick	Manager	0782128872
	Ssonko George	Station Manager UNRA-Mbale	0775123216
	Ogwang Humphrey	Branch Supervisor	0772968802
	Kongai Harriet	Receptionist	0782965391
	Nsereko Ronald	RC/AR Bududa	0772389538
	Hasakya Annita	Mbale Reg. Blood bank	0782611554
	Jamada Chebej	Asst. Warden-UWA MENP	0776613553
	Namara Edson Micheal	Staff Surveyor Mbale-DLG	0782505715
	Moanja Baker	SCDO Mbale	0772881836
	Nakayenze Anna	Senior Environment Officer	0772555387

#	Name	Position	Contact
	Bamutura Jolly Robert	DPC/OC Mbale (M) Prison	0718495595 0772670849
	Mutseesa .A.	IT personnel	0700854766
	Emudog moses	Physical Planner Ag. DNRO Bukedea	0782068665
	Okalany .G. Kenneth	Ag. Tax Officer	0783075754
	Osomei Stephen	THI-BTC	0782104517
	Imem Deo	Kumi District Local Government	0779255335
	Aluga Berna	Sec Water	
	Asp Ojok Stephen	DPC Kumi	0782112216
	Nandutu Juliet	Maintenance	0781587710
	Kasada Abdu	Cleaner (Exterior)	0775657926
	Chiwuso Dennis	Boda-boda Mount Elgon Stage	0755795362
	Wokadala Francis	Boda-boda Mount Elgon Stage	0778901641
	Okalang Nimrod	Boda-boda Mount Elgon Stage	0774180709
	Ben Moses Orena	Mt Elgon Hotel	0774724346
	Joshua W	Mt Elgon Hotel	0773407240
	Sebuhinja Richard	Head, Inspectorate of Govt Mbale	0772317932
	Katende Muhamed	Masaba Wing boda boda stage	0773967072
	Kisyankungu Abdallah	Masaba Wing boda boda stage	0788956677
	Mudebo Enos	Masaba Wing boda boda stage	0778695949
	Okuda Mathew Okello	Principal Mbale School of Nursing and Midwifery	0774987212
	Magonzoua Amos	Resident of Bukedea	0771803638
	Osekany Moses	Resident of Bukedea	0787186800
	Amerikiro Caroline	Resident of Bukedea	0774693888
	Otim Moses	Resident of Bukedea	0773031182
	Okwi Julius	Car Driver Speed Three Stage Kumi	0774602265

#	Name	Position	Contact
	Okello Emma	Car Driver Speed Three Stage Kumi	0774696489
	Ibucha Gerald	Bukedea Health Centre Grade IV Boda Stage	0785957232
	Ongodia Patrick	Bukedea Health Centre Grade IV Boda Stage	0786524082
	Elungat Vincent	Bukedea Health Centre Grade IV Boda Stage	
	Alex Okirigi	DCDO Kumi	0782458282
	Samuel Opio	Boda Ongino Stage Kumi	
	Okwir Sam	Boda Ongino Stage Kumi	
	Johntee Anyide	Boda Ongino Stage Kumi	0783971802
	Alex Francis Otelu	Boda Ongino Stage Kumi	0776694056
	Anoku Richard	Taxi park/ stage Kumi	
	Anguria .S	Driver Kumi	0774121242
	Okwalinga Juma	Driver Kumi	0777601409
	Nabulime Sarah	Senior Hospital Administrator- Bugiri	0772389923
	Nabeta Noah	Technician Bugiri Hospital Bugiri	0750824003
	Kirunda Fahad	IT Officer Bugiri	0702974417
	Kauma Benadet	DEO Bugiri	0774142577
	Babirye Jane	SCDO Bugiri	0772660552
	Kengonzi Adrine	Assistant Library Officer Bugiri	0704301804
	Saturday Wilson	Officer Bugiri Hospital Police Post	0783518614
	Yolamu	Bugiri hospital	0784033554
	Kafuko Muhammadu	Bugiri	0754440483
	Balineine Moses	“	0754472794
	Obto Peter	District HQ Boda Stage	0783344006
	Ibra Igoma	District HQ Boda Stage	0786703580
	Gavamukulya Alex	District HQ Boda Stage	0781093513

#	Name	Position	Contact	
	Odo Geoffrey	District HQ Boda Stage	0772035127	
	Mr. Obulejo	Kibuuli Training School	0714435159	
	Joseph Tweheyo .B.	Ag. Water Production Manager	0752919828	
	Brian Wabajje	IT Assistant	0752919112	
	Paul B R	Building Inspector Makindye Division	0704609204	
	Bitamazire Patrick	Head of Stations URA Kampala South	0717440213	
	Edward Luande	URA Kampala South	0717442608	
	Hellen	Branch Manager NWSC Nakawa	0752919715	
	Charlene K	Courts of Judicature SAD Magistrate	0774262340	
	Kesi James T	CLO Kabalagala Police	0772988577	
	Akello Edith	B. Engineer NWSC Najjanankumbi	0752919686	
	D/ASP Sembera Isaac	OC CID Old Kampala Police	0700256867	
	D/AIP Kimutwa	OC Economic Department	0752621330	
	D/SGT Namukasa	Nakulabye Police Station	0782918879	
	ASP Ampurire Kenneth	OC Kawempe	0701086703	
	D/CPL Kisule .S.	OC Barracks Kawempe	0713044704	
	Allen Kyomugisha	Supervisor Domestic Services URA Bwaise	0706292408	
	Penninah Nabireeba	Engineer NWSC Kyengeru	0752916787	
	Mubangizi Charles	Intelligence Officer Mutundwe Police Station	0701751437	
	Mugenyi Shaban	Oc Mutundwe Police Station	0703606936	
	Kakembo S	CLO Uganda Police Ntinda	0782811179	
	Collins Mwijuki	Ag Exec Secretary National Women's Council Ntinda	0772957534	
	Othieno Daniel Kirya	Teacher School of the Deaf	0772980129	
	Christine Kajumba	Social Worker MGLSD (Children's Centre Naguru)	0776468486	

#	Name	Position	Contact
	Karemani Jamson	Chief Magistrate (Nakawa)	0772443838
	Namukasa Lillian	National Council for Disability Ntinda	0772692348
	Dorothy Nalule	Secretary National Youth Council Ntinda	0782763557
	Kyomugisha Mary	In-charge Naguru Remand (PWO)	0753646151 0772591791
	ASP Azira G	Ggaba Police	0718851212
	Wasswa Denis Katerega	Office Supervisor Mengo Court	0775529164
	Joy Badibye	Head Finance and Planning Dept-LDC	0772405933
	Prossy Mbabazi	E-service Uganda National Health Laboratory Services Old Butabika Rd	0772494618
	Businge .J. Mozey	In-charge Kiswa HC III Bugolobi	0794661124
	Herbert Kato	Electrical Engineer KCCA (Operation) Yard	0794660742
	Esther Nanyonga	Office of the Director of Public Prosecutions (DPP) - Naguru	0790917139
	Apollo Omoding	Branch Manager NWSC Bungga	0752919060
	Martin Wagabaza	Admin NSSF Bakuli	0783629901
	Mugisha Derrick Marvin	Data and Information Clerk NTRL	0783458097
	Raymond Kalyango	Eng. Bugolobi Sewage Treatment Plant	0704982098
	Process Ahabwe	Principal Engineer NWSC	0752919700
	Enid Kyomugisha Balaba	NSSF-Kireka Branch Supervisor	0772482707
	Kisawuzi Eliasa	Registrar Judicial Training Institute	0750862346
	Nabbanja jameo	EO Wakiso	0788346448 0702441732
	Nkurunziza Gragano	OC Wakiso	0701813165 0718851257
	Mambu Saul	NWSC- Wakiso	0752919403

#	Name	Position	Contact	
	Tayebwa Michael	OC Nansana	0701509735 0718851381	
	Alinda Evelyn	OC Nabweru	0718851386	
	Joseph Mulinde	Commercial Officer	0774100359	
	ASP Kakaire David	OC Traffic Najjera	0758583848 0782583848	
	Namulwanya Grace	Traffic Officer	0776285888	
	Asimwe Dorcus	Prisons	0703617081	
	Kiryia Steven	OC Matugga P/S	0701841854	
	Nabanoba Robinah	Secretary DPP Kira	0779178501	
	Kasasa Denis	Buwambo H/C IV	0772009130	
	Kiwanuka Agnes	CDO's Office Entebbe	0783089870 0702089870	
	Ocaya C	HRO DWRM	0774110639	
	Dr. Patience Rwamigisa	Commissioner MAAIF	0772457842	
	Kisakye Catherine	O/S Kira Chief Magistrate's Court	0782822194	
	Julius Kato Kavuma	BM-NWSC Matugga	0702212710	
	Maliyamungu Jamali	Accountant	0703820067	
	Mpoza Esau	SEO Wakiso	0782688709	
	Tom Mbanira	BM Nansana Water Office (NWSC) Wakiso	0752919214	
	Katwesigye Brenda	Entebbe UPPC- Wakiso	0786177332	
	Lwanga .M. Yunia	HM Entebbe S.S Wakiso	0752645693 0772647640	
	Kiyingi Timothy	Entebbe S.S Wakiso	0706750950	
	Lukwago Rajab	Admin/ Asst Sec UVRI Wakiso	0702511202	
	Kambawa Wamala Timothy	Network Admn UVRI Wakiso		

#	Name	Position	Contact	
	Muhumuza Celestine	Senior Labour Officer, Wakiso District	0774089323 0700299836	
	Ndagire Lillian	SCDO-Nansana Municipality Wakiso	0774024840	
	Nugawa Ritah	SDO's Office Wakiso	0779840584	
	Ajuna Doreen	Magistrate Wakiso	0772526112	
	Asalu Edward	Chief Warden Ruburizi	0772510988	
	Charles Lwanga	Parish Chief Ruburizi	0701716167	
	Kazoora Brodies Manuireki	Sub County Chairperson Ruburizi	0772865108 0706219185	
	Asimwe Annita	Front Desk Asst Ruburizi	0701618663	
	Agubanshangora Sylvester	District chairperson Ruburizi	0772412619	
	Mugizi Obed	ACAO Ruburizi	0782317811	
	C/ASP Odong Tobin	OC Station Rubirizi District Police	0705210153	
	Mwesigire Willy	Town Clerk Rubirizi T/C	0753545301 0772545301	
	James Obua	Branch Manager NWSC-Kyenjojo	0752929340 0751119525	
	Rwampunda Bruce	Senior Admin Kyenjojo Hospital	0702196196 0772556208	
	Kabahamya Annet	Court Clerk Kyenjojo	0771444940	
	Muhumuza Asuman	Mag-grade one- Kyenjojo	0757044949	
	SP Kawalya	DPC Kyenjojo	0772444385	
	ASP Ajo Ann		0754573307	
	SP Kibande Jonathan	District Prisons	0772926947	
	Juliet Akugizibwe	Senior Internal Auditor for Town Clerk	0771472706	
	Nyangoma Kezia Julius	SCDO Kyenjojo District	0701693251/ 0772693251	
	Musinguzi Jonan	District IT Officer NIRA-Kabarole	0782741899 0750180872	

#	Name	Position	Contact
	Kananura Kato Richard	Staff EC	0787255889
	Baluku Calvin	Community Development Officer-KMC	0774115569 0753430554
	Ndliwadda Margaret	Commercial & Customer Care Officer CCO	0703502877
	Tibara Rusia	Agg. Programme Officer-Ngeya FM UBC	0776201472
	Naijuka Charles Duncan	NIRA-EC-Office Kasese District Officer	0774252391
	ASP Kokole Omar	DPC Kasese Municipality	0775080195
	Luswata Tonny	Systems Admin	0774761103
	Opolot John	Area Manager NWSC	0751128839
	Awor Albina	Mubende Municipal Council Town Clerk	0772903133
	Nankabirwa Mary	Mubende Municipal Council Environment Officer	0777474076
	Kazibwe Samuel Paul	CDO Mubende	0772328563
	Kellen Kobusinge	Senior treasurer Kyegegwa	0782565375
	Twine E	Sub County Chief Kyegegwa	0787209696
	Kamazima Shivan	DMO-Kyegegwa	0774368977
	Opira Kenneth	Police Officer Kyegegwa	0772372630
	Nyakabwa Augustine	Probation Officer Kyegegwa	0772395429
	Kibikwamu Robert	Prisons Kyegegwa	0782634724
	Naluwoza Oliver	Sec RDC Kyegegwa	
	Lwamba Joseph	Court supervisor Kyegegwa	0700554600
	Charles Sseku	Area Manager NWSC Mityana	0705444807 0787717148
	Mulongo Jimmy	Shift Overseer NWSC- Mityana	0751128360 0787231258

#	Name	Position	Contact	
	Nakawuka Juliet	Deputy Town Clerk Mityana	0772456078	
	Akello Tabitha	SNO Kyegegwa HCIV	0783442509	
	Mutebi Michael Kabwama	C/Man Division A Entebbe Wakiso	0703601960 0778125258	/
	Tigo Malomu Edrisa	Publicity NRM Entebbe	0753805496	
	Alupo Doreen	Post Officer Entebbe Post Office	0704454337	
	Sandra Yiga Namatovu	Officer URA – Entebbe DT	0774336611	
	Lubwama Gyaviira	Post officer	0782311241	
	Kukunda Jancen	Immigration	0784714818	
	Akurut Ruth. C	Immigration	0781094537	
	Kusemererwa Mary	Pool Stenographer	0782960219	
	Nyandera Darlison	NFA Hoima	0781436635	
	Brenda Aleesi	RM NSSF Hoima	0701038439	
	Lahuma Mustafa	NIRA - Officer	0775714517	
	Kajumba Harriet	Regional Office Electoral Commission	0775970091	
	SP Odero Martin	Deputy commandant Police Training School Kabalye Masindi	0714667720	
	Asp zilamuke Loy	Ag DPC OC Traffic Masindi	0783587683	
	Kugonza. B. Christine	N/a	0782990137	
	Nyangoma Joseline	DNRO Hoima	0772628153	
	Luzumwa Nathan	CAO Hoima	0772868383	
	Atulinde Alfred	Deputy RIO Hoima	0782780977	
	Angara Ronald	I/C Duties Hoima	0772555748	
	Anguso David	O/S Hoima	0774599496	
	Kwesiga Khalifan	DITO – NIRA Masindi	0774219785	
	Lifua Paul	Relationship Manager Masindi	0777736442	
	Isingoma Godfrey	Masindi	0772871568	

#	Name	Position	Contact	
	Rodney Ngobi	Asst ICT – MZO Masindi	0704783260	
	Chaudry Kibirango	ICT	0703319914	
	Apio Grace		0782813891	
	Baguma Simon	Hospital Admin Masindi	0782225280	
	Dr. Balegomya George	Medical superintendent Masindi	0772650582	
	Yia ovua Thomas	Academic registrar Masindi	0772383391	
	Mr. Natwaruma Henry	Masindi (main)	0782576080	
	Albert Musinguzi	Ag Area Manager	0751125763 0785134583	/
	Susan Majugo	URA Station Head Hoima	0717442026	
	Bitamale. A. Isaac	SCDO – Hoima DLG	0782166885	
	Everce Ramuji	Admin. Assistant NDA	0465440688	
	Murusura Albert	Office Assistant	0789846590	
	Twesiime Gideon	Regional Representative – NMS Hoima	0702920137	
	Opio Pader	OC Hoima Prisons	0702547035	
	ASP Kapule. A	D/OC Msk Prisons Masaka	0779071299	
	Brenda Mirembe	NSSF Masaka Ag. Business manager	0752502796	
	Chris Endreonzi	Senior auditor Masaka OAG	0792346000	
	Kobusingye Viola	Systems Administrator Mpigi High Court	0706730690	
	Dr. Jubileb John Abwooli	Senior medical officer Mpigi HC IV	0772523054	
	Kakaire Godfrey	Senior Clinical Officer Buwama HC III	0772639608	
	Namugwanya Irene	Senior Clinical Officer Lukaya High	0782515111	
	Naume Kihembo	Accounts Assistant / Inventory NWSC	0702290598	
	Mugenyi Joseph	Area Manager NWSC – Masaka		
	Eric Akoki	Senior accountant Nwsc Masaka	0704146935 0791239204	/

#	Name	Position	Contact	
	Hillary Anziku Juruni	Deputy Head Inspectorate of Gov't Masaka	0752327935	
	Lwanga Francis	Prisons (O/C) Ntungamo	0700732156 0773459371	/
	Okure Samuel	Prisons Ndorwa	0787893613 0750059966	/
	Mwangwa Jones	Director ICT	0782733865	
	Asaba Augustine	BGM Post Bank Kabale	0703790567 0782723383	/
	Masiko C	Kalisizo hospital	0702815393	
	Nantege Josephine Phionah	For SCDO Kyotera Town Council	0780415241	
	Fred Kasigwa	Environment Officer	0784425001	
	Dennis Tusiime Rwatoro	Systems Administrator	0773251985	
	Musaazi Yusufu	Mail handler Post Office MSD	0702169808 0776622001	/
	Kimera Herbert	Assistant Manager Operations	0774426340 0705454200	/
	John Matovu	SPO Mpigi	0752695545	
	Ssewadda Patrick. T	Mpigi	0772595016	
	Sserumaga Farouk	E. O. Mpigi	0700396843	
	Nakawombe Harriet	E A Mpigi	0782548084 0752636913	/
	Kato Edward	E.O Mpigi	0752937955	
	Sarah Nakandi	SAS Buwama	0772355388	
	Muwanga G	LC III Chairman Buwama	0782837402	
	Rose Nakyejjwe	Deo Masaka	0704556781	
	Joseph Tusiime	WSS / TL	0772462267	
	Jjuuko Elias	DWO Masaka	0772899754	

#	Name	Position	Contact	
	Kidega Henry (ASP)	Officer in charge – Ug Prison Ssaza	0705998664 0783660069	/
	Nakawungu Mary	Registration Officer –Nira Masaka	0702290940	
	Dr. Freddie Mukasa Kibengo	Acting Station Head MRC – UVRI – Masaka	0772435251 0702435251	/
	Dr. Sylvia Kusemererwa	Scientist MRC / UVRI – Masaka	0782269100	
	Kisekka Janat	Vice Masaka DLG	0703151719	
	Sewante. M. Kaliphan	PAS – Masaka MLHUD Zonal Office	0772367093	
	Sharon Athieno	BM NWSC Kalisizo	0752916902	
	Atuhaire Moris	E.A Lyantonde	0774676751	
	Muhwezi Stephen	Physical planner Ntungamo MC	0774208686	
	Ankuzire Frank	Ag. Municipal Engineer Ntungamo MC	0775871565	
	Solomon Kobwemi	Business Manager NSSF	0704249115	
	Tumuheise Vicky	Election Assistant EC	0706962597	
	Christable Annah Atukunda	Deputy RIO Kabale	0775381030	
	Robert Ndumu	Accountant Kabale	0772400258	
	ASP Okumu Akerey	OC Station Rakai	0783328054	
	Kyeyune Soweed	DCDO	0774168080	
	Mwebembezi Levi	Business Growth Manager	0782674031	
	Mutamba Mabel	Deputy Returning Officer – EC - Ntungamo	0782679931	
	Mugizi Glory	District IT Officer NIRA – Ntungamo	0782617790	
	Ahimbisibwe Alfred	Environment Officer Kabale MC	0772328451	
	Bosco Bainamazima	Bank of Uganda - Kabale	0702475095	
	Byarugaba Louis	Rushoroza HC IV	0705725617	
	Twongho Moses	Mbarara Prison	0750737010	
	Alihi Peter SAP O/C	Mbarara Prison	0782504808	

#	Name	Position	Contact	
	Atukwatse Sarah	DDA – Mbarara	0705971446	
	Byamukama. P. K	DDA – Mbarara	0700272078	
	Byamunyo Andrew	DMO Mbarara	0772479318	
	Okola Isaac	District Environment Officer Dokolo	256783440481	
	Mutagambwa Drake	Ast. Officer in charge Nakasongola prison	0787991956 / 0700373141	
	Mwesige Peter	Branch Manager NWSC	0780210522	
	Nakiirya Esther	NWSC – Nakasongola	0784485393	
	Gateete Teopista	DNRO / Luwero	0772605165	
	Kayonga Scovia	Env't Officer / Luwero	0772020686	
	Floza Kobusingye	NWSC – Luweero	0751130152	
	Pontius Byamgaba	Director (MUBS)	0772333169	
	Besigye Sylvester	Guild president (MUBS)	0785656360	
	Kayumbu William	District Community Dev't Officer (DCDO)	0701949233	
	Namuyimba Patricia	Centre admin UMI – Mbarara	0772315912	
	Niwagaba David S	Senior Environment Officer Mbarara DLG	0775191747	
	Daniel Serunjogi	Deputy Regional Inspectorate Officer	0702022331	
	Nalukwago Sarah. Z	Electoral Assistant Mbarara	0780123612	
	Nkwasiibwe Brian	Enrolment Officer Mbarara NIRA	0703621672	
	Osede Patrick	Supervisor Mbarara region	0783967901 / 0751419402	
	Kisakye Lydia	Mail Runner Wobulenzi	0778447684	
	Mugarura Ronald	DPC Mpigi	0701924201 / 0714667810	
	Ivan Aheebwa	Post Officer Mpigi	0773143568	

#	Name	Position	Contact	
	Lucy Frances Amuten	CAO Mpigi	0772617898	
	Kasango john	OC Station	0700818778 0718509611	/
	Tumusiime Dinah	Physical Planner Buwama	0702853043	
	Max Ssempeera	COR NWSC Kabale	0704569774 0751118714	/
	Twinomuhangi George	NARO Mbarara CHR/AO	0702682835 0712682835	/
	Atkia Mike Angura	Auditor	0782499464	
	Musingwire Jeconious	DNRO / NEMA Mbarara	0772482352	
	Tuhame Cyric		0772669383	
	Mugisha. P. K	Sen. Acc. Asst	0703022999	
	Okurut Faustino	OC CID Uganda Police Dokolo	0718015644 0772883104	/
	Ojom Donny	Tech. Sup NWSC Dokolo	0782742900	
	Odwee Jasper	Plumber NWSC Dokolo	0789856648	
	Akello Judith	Police Officer OC Station	0787016644	
	Emou Patrick	I/C CID OtubOi Police Station Kaberamaido	0702309243	
	C/ASP Kanabahita Emmanuel	OC Nsambya Central Police Station	0774301117	
	Mika Baroch	Labour Officer KCCA Makindye Division	0794661264 0782620120	/
	Godfrey Oluka	Environment Officer – KCCA Rubaga Division	0782735365	
	ASP Obotol Patrick	Bosco O/C Station Kawaala	0713117985	
	Asiimwe Abel	Town Clerk	0794661245	
	ZaIna Musoke	Branch Manager, NWSC - Bwaise	0752979450	
	Oyet Julius	OHSO / HR	0772301707	

#	Name	Position	Contact	
	Chandiru Grace	OC CID Busega Market Police Station	0703562918	
	Kibiro Zakalia	O/C Lungujja Police Station	0782536277	
	Margret Odongo	UNRA, Hr Admin Training	0774137110	

Appendix 9: TORs approval



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

NEMA House
Plot 17,19 & 21, Jinja Road.
P.O.Box 22255, Kampala, UGANDA.
Tel: 256-414- 251064, 251065, 251068
342758, 342759, 342717
Fax: 256-414-257521 / 232680
E-mail: info@nemaug.org
Website: www.nemaug.org

NEMA/4.5

7th December, 2017

Mr. James Saaka
The Executive Officer,
NITA-UGANDA,
Palm Courts,
Plot 7A, Lugogo Bypass,
P.O BOX 33151,
KAMPALA-UGANDA.

RE: REVIEW OF THE SCOPING REPORT AND TERMS OF REFERENCE FOR UNDERTAKING ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED EXTENSION OF THE GOVERNMENT NETWORK (LAST MILE) TO MINISTRIES, DEPARTMENTS AND AGENCIES (MDAs), LOCAL GOVERNMENTS (LGs) AND OTHER TARGET USER GROUPS (TUGs).

This is in reference to the Terms of Reference (TOR) for carrying out the Environmental Impact Assessment (EIA) for the above mentioned proposed project, which you submitted to this Authority, on 21st November, 2017, for review and approval. This Authority has finalized the review and grants formal **APPROVAL** of the said Scoping Report and TORs.

In addition, you are advised to consider the aspects below during the conduct of the environmental impact study and the preparation of the EIA report.

- (i). Carry out comprehensive consultations with all the relevant key stakeholders including the Uganda Communication Commission, District Local Governments, Occupational Safety and Health Department (Ministry of Gender, Labour and Social Development), the Uganda National Roads Authority (UNRA), the local community in the project area; and the views of the stakeholders consulted should be well documented and appended to the EIA report.
- (ii). Ensure that a detailed description of project components and activities covering both the construction and operational phases of the project are provided, including the size of the workforce. The description should also include **details on the respective mode of installation of the fiber cables**. This will help in the assessment of impacts of the project.

- (iii). Provide detailed baseline information and data on the project area, as well as, a set of coloured photographs depicting the current status of the project site.
- (i). Provide clear and well labeled location and google maps that are coloured (preferably *each covering A-4 size paper*) that shows clear boundaries of the project site in relation to its environs.
- (ii). Conduct a geo-technical investigation study for the project site; and, append the results of the geo-technical investigation to the EIA report.
- (iii). Provide a clear and legible copy of the site lay-out plan (*preferably on A-3 sized paper*). **This should include the estimated distance covered by the optical cable in each of the districts.**
- (iv). Carry out a comprehensive evaluation of negative environmental impacts associated with the proposed project activities; and, propose mitigation measures to minimize the identified negative impacts.
- (v). Provide detailed mitigation and environmental management and monitoring plans that relate to the identified environmental impacts of the proposed project.
- (vi). Append to the EIA report authentic copies of land ownership and acquisition documents. **In this case consent from Uganda National Roads Authority for the use of the road reserves.**
- (vii). Consider any other critical environmental concerns that were not initially foreseen during the preparation of the Scoping Report and TOR, and include an evaluation of such concerns, in the EIA report.
- (viii). Include the total project (investment) cost, covering all aspects of the project components.

This is, therefore, to recommend that you proceed with carrying out the EIA for the above project. We look forward to your cooperation and receipt of comprehensive copies of EIA, for our further action.

Please note that the approval of the Scoping Report and TORs DOES NOT give you permission to start implementing any of the proposed project activities. This is not a Certificate of approval.



Aidan J. Asekenye
FOR: EXECUTIVE DIRECTOR

Appendix 10: Resolution of Parliament to Borrow Fu

nds for the Project from International Development Association



PARLIAMENT OF UGANDA OFFICE OF THE CLERK TO PARLIAMENT

Parliament House, P.O. Box 7178, Kampala Uganda.
Telephone: 0414-377000/377150/377152 Facsimile: 0414-346826 E-mail: clerk@parliament.go.ug
Plot Nos. 16 - 18 Parliament Avenue

In any correspondence **AB: 263/493/01**
this subject please quote No.

26th November 2015.

Hon. Minister of Finance,
Planning and Economic Development
KAMPALA

RESOLUTION OF PARLIAMENT

Please find attached herewith a Resolution of Parliament Authorizing Government to borrow up to SDR 54,400,000 (Special Drawing Rights Fifty Four Million Four Hundred Thousand) from the International Development Association (IDA) to support the Regional Communications Infrastructure Program (RCIP) Phase V.

This Resolution was passed on 25th November 2015.


Jane L. Kibirige (Mrs.)
CLERK TO PARLIAMENT

- c.c. Rt. Hon. Speaker of Parliament
- c.c. Rt. Hon. Deputy Speaker of Parliament
- c.c. Rt. Hon. Prime Minister/Leader of Government Business
- c.c. The Leader of the Opposition in Parliament
- c.c. The Government Chief Whip
- c.c. The Chief Opposition Whip
- c.c. Hon. Minister of Information, Communication and Technology
- c.c. Permanent Secretary, Ministry of Information, Communication and Technology



THE REPUBLIC OF UGANDA

RESOLUTION OF PARLIAMENT

TO AUTHORISE GOVERNMENT TO BORROW UP TO SDR 54.4 MILLION (US \$75.0 MILLION) FROM THE INTERNATIONAL DEVELOPMENT ASSOCIATION (IDA) TO SUPPORT THE REGIONAL COMMUNICATIONS INFRASTRUCTURE PROGRAM (RCIP) PHASE V

WHEREAS a Financing Agreement for Special Drawing Rights Fifty Four Million Four Hundred Thousand (SDR 54,400,000), is to be concluded between the International Development Association (IDA) of the World Bank Group, and the Government of the Republic of Uganda, for purposes of financing the Regional Communications Infrastructure Program (RCIP) Phase V,

AND WHEREAS under Article 159 (1) of the Constitution of the Republic of Uganda, Government is authorised to borrow money from any source, subject to other constitutional provisions,

AND WHEREAS under Article 159 (2) of the said Constitution, borrowing by Government has to be authorised by or under an Act of Parliament.

AND WHEREAS in line with the above stated Constitutional requirements, Government has laid before Parliament the terms and conditions of the stated loans/facilities for their approval and authorization;

NOW THEREFORE, be it resolved by Parliament that the Government is hereby authorised to secure the said financing of SDR 54,400,000 from the International Development Bank (IDA) of the World Bank Group for the purposes and upon the terms and conditions therein stated.

I certify that this resolution was passed by Parliament on **25th** Day of **November** 2015.

Jane L. Kibirige (Mrs.)
CLERK TO PARLIAMENT





CLERK TO PARLIAMENT





Appendix 11: General Site Descriptions - Project Area Photographic and Noise Presentations

The information provides guidance for future expansions within the districts to other beneficiaries. To ease monitoring efforts, noise levels for various sites were recorded during the assessment. The project implementation team shall mainly carry out manual works with limited motorized drilling for excavations under tarmac routes. Project teams shall be inducted on noise and related impacts with clear description of areas where this could be of high significance like at Health Centre facilities and offices. Given the manual nature of most of the works, no license to emit noise beyond permissible levels shall be required during project implementation. Sound machine maintenance shall be carried out for the borrowing machinery to reduce on project related noise emissions. Details on GPS coordinates, photographic registers and noise measurements that provide general guidance during project implementation are subsequently provided.

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Jinja 3/11/2017	Jinja LG Head quarters	N 00 ⁰ 25.238, E 033 ⁰ 12.304	54.9	Conversations, vehicles and motorbikes, birds and wind
	HQ-municipal	N 00 ⁰ 25.317, E 033 ⁰ 12.430	59.1	Conversations, vehicles and motorbikes, birds and wind
	DRS-Disaster Recover Site	N 00 ⁰ 25.182, E 033 ⁰ 12.422		
	To civil service college	N 00 ⁰ 25.106, E 033 ⁰ 12.655	44.8	Conversations, vehicles and motorbikes, birds, wind and machinery (used in ongoing heavy equipment usage training)
	Civil Service College	N 00 ⁰ 25.182, E 033 ⁰ 12.422	51.8	Machinery during training sessions, vehicles and motorbikes conversations and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>There was already a line by the main road from which connections shall be tapped. Most areas of interest are along Busoga Avenue to Kyagwe Road. The area visited mainly had a health centre, banking facilities, two boda-boda stages, hotels, residential area and a kiosk. With project expansion in plan, these shall however be moved to other MDAs within Jinja that have busier traffic. The ESIA looked at the aspect of traffic in detail and the controls shall be applied in these areas. Many exotic ornamental plants at the civil service college. The stretch between the DRS and the civil service college shall necessitate a new connection. Consideration should be made on aspects of the host environment or look at utilizing the newly installed lines by MTN. Excavations to be made from the existing line from the Main DLG Headquarters connecting to the Disaster Recovery Centre. The Civil Service College shall be connected from the Disaster Recovery Centre from GPS points N 000 25.106, E 330 12.655. There was an OFC connection for MTN near the facility. Utilizing this could reduce on NITA-U foot print in the area. Below is a pictorial register for a few selected points in this area:</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Photo taken from Muwumba HCIII directly facing the DLGHQs. Source: ESIA field photo</p>			 <p>Inside the Muwumba HCIII and the DCDO offices compound Source: ESIA field photo</p>
	 <p>Jinja DLGHQs. Source: ESIA field photo</p>			





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Route to Jinja Municipal Council. <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Data Recovery Centre. <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Team scouting route to the Civil Service College. <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Civil Service College-Notice the paved grounds. <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Iganga 31/10/2017	Iganga Municipal Council	N 00 ⁰ 36.498, E 033 ⁰ 28.754	54.42	Vehicles and motorbikes, birds, music and conversations
	Production & natural Resource departments.	N 00 ⁰ 36.440, E 033 ⁰ 28.834	53.4	Vehicles and motorbikes and conversations
	Busoga Kingdom/ Works Offices	N 00 ⁰ 35.344, E 033 ⁰ 88.935	51.2	Vehicles and motorbikes and birds
	Chief Magistrate's Office area	N 00 ⁰ 36.271, E 033 ⁰ 28.966	55.5	Vehicles and motorbikes, conversation, music (along Kazibwe road) and birds
	Busoga University	N 00 ⁰ 35.441, E 033 ⁰ 27.645	34.9	Birds and periodic vehicles and motorbikes movements
	Iganga School of Nursing and Midwifery	N 00 ⁰ 35.523, E 033 ⁰ 27.260	48.3	Birds and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Iganga Hospital	N 00 ⁰ 36.997, E 33 ⁰ 29.086	63.8	Birds, vehicles and motorbikes and conversations

Some areas like the Iganga Municipal Council have other ground cable le ESIA team as per marker posts. The area also has septic lines that shall need to be taken into consideration for any excavations around. There also a number of businesses that in the project area like kiosks, microfinance institutions, road vendors among others. Roads to be potentially impacted include Saza road, Kazibwe road, access route to Nawansinge Village from CMS, Tororo road among others. Provision for routing inside the that may need to be avoided during excavation works. The project may have to provide for routing inside the shared compound as opposed to continuing with the road reserve after supplying the Works offices. Site shall be accessed at the branch off from CMS to Iganga Girls School. Road reserves also serve as gardens with the land belong to both institutions and individuals. Project teams should ensure that local leadership and plants owners are informed about the activities prior to execution.

A number of sites are remotely situated call for consideration of resident cultures. A number of sites also lacked road reserves or had roadside gardens. Site along Tororo Road is a busy area with continuous traffic. Road reserve section towards the hospital has a number of roadside vendors that shall need prior communication.





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 <p>Chief Magistrate's Court Iganga</p>
				 <p>Uganda Police offices</p>



Works office area, notice the garden within the compound

Kiosks along Kazibwe road bordering the Chief Magistrate's court

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Busoga Kingdom - Kigulu Chiefdom office <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Environment Officer's Office area <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Current road reserve condition on routes from the Iganga Municipal Council to the works, Police and Chief Magistrate's court area <i>Source: Last Mile ESIA Field Photos 2017</i></p>			

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Iganga Municipal Council Head Office <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Road reserve section outside the Iganga Municipal Council Head Office <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Equipment parked awaiting servicing/ repair <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>A collapsed cable route marker at Iganga Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Iganga Hospital Area <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Kiosks outside Iganga Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Iganga School of Midwifery</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 Busoga University Office Block <i>Source: Last Mile ESIA Field Photos 2017</i>
Bugiri 1/11/2017	Bugiri Hospital	N 00 ⁰ 34.385, E 033 ⁰ 44.581	46.5	Conversations and vehicles and motorbikes
	DLG HQs	N 00 ⁰ 33.130, E 033 ⁰ 45.050	41.2	Conversations and birds
	Works Block	N 00 ⁰ 34.381, E 033 ⁰ 44.582	44.1	Conversations and birds
	Bugiri District Library	N 00 ⁰ 34.399, E 033 ⁰ 44.682	60.6	Conversation, vehicles and motorbikes and music from the neighborhood and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Municipal	N 00 ⁰ 33.891, E 033 ⁰ 45.287	62.9	Conversation, vehicles and motorbikes and music from the neighborhood and birds



Facilities in the area have a number of economic activities going on especially near the Town Centre. The hospital neighbors Ayeera pharmaceuticals 'U' ltd, number of kiosks and a boda boda stage outside the gate. There is also a rain gauge or weather station and a number of trees in the hospital compound, these areas should be avoided during excavation works. At the district offices, there are has halls, meeting places and a boda-boda stage. It is also in the same locality with the prisons and police. Excavations should be backfilled immediately and noise pollution minimized. Some points like the Municipal and the Library should be easy to connect given their proximity to the main road and no permanent structures in front of them. Below is a pictorial register for some of the facilities in Bugiri.



Bugiri District Public Library
 Source: Last Mile ESIA Field Photos 2017







Bugiri District LGHQs
 Source: Last Mile ESIA Field Photos 2017





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 Bugiri Municipal Council Offices <i>Source: Last Mile ESIA Field Photos 2017</i>
Busia 1/11/2017	One stop centre	N 00 27.937, E 034 05.901	56.7	Trucks, conversation and birds
	Chief Magistrates Office	N 00 ⁰ 27.822, E 034 04.842	39.4	Vehicles and motorbikes, conversation and birds
	Busia DLGHQ	N 000 27.709, E 0340 04.817	45.5	Vehicles and motorbikes, conversation and birds
	Municipal Council and NWSC	N 00 ⁰ 27.876, E 034 ⁰ 05.138	56.3	Vehicles and motorbikes, conversations and music
	Police	N 00 ⁰ 27.967, E 034 ⁰ 05.310	54.6	Vehicles and motorbikes, conversations and music



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	UNRA-weigh Bridge	N 00 ⁰ 31.464, E 033 ⁰ 57.987	63.1	Vehicles and motorbikes, conversations and birds

Project implementation teams shall need to consider traffic flows in the area. Aspects of road integrity should be provided for prior to excavation works given the number of heavy trucks that utilize this point and businesses in the area. Some of the access routes are not UNRA roads and therefore care should be taken during project implementation, a number of gardens and shops are present along these areas.

Some of the offices like the Municipal and NWSC offices are located along roads like Adongole road that have limited space for pedestrians. A couple of school going children were seen moving along such routes while a number of buildings and businesses are close to the road. Residents and local leaders should be informed and guidance sought prior to excavation works here and in all project areas with similar attributes. Traffic management shall be given utmost attention throughout the project areas. Main roads also have a number of stopping points for taxis and boda boda stages. Below is a pictorial register for some of the areas.





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Chief Magistrate's Office Busia <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Access route to Chief Magistrate's Office Busia. Notice the gardens along the road reserves <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Busia District LG Administrative Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Entrance to Busia NWSC and Busia Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>School children walking past Busia Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Typical example of potential access routes to the Municipal and NWSC offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Busia One Stop Centre <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 Busia Police location at the right hand of the junction <i>Source: Last Mile ESIA Field Photos 2017</i>
Tororo 1/11/2017	District LGHQs	N 00 ⁰ 41.290, E 034 ⁰ 11.324	47.8	Conversations and birds
	DEO/RDC area	N 00 ⁰ 41.291, E 034 ⁰ 11.424	49.0	Conversations, vehicles, motorbikes and birds
	Chief Magistrate	N 00 ⁰ 41.315, E 034 ⁰ 11.374	48.3	Conversations, vehicles, motorbikes and birds
	State Attorney	N 00 ⁰ 41.369, E 034 ⁰ 11.339	49.5	Conversations, vehicles, motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Tororo Police	N 00 ⁰ 41.389, E 034 ⁰ 11.341	50.3	Conversations, vehicles, motorbikes and birds
	RPC	N 00 ⁰ 41. 367, E 034 ⁰ 11.202	53.6	Conversations, vehicles, motorbikes and birds
	Veterinary office	N 000 41.379, E 0340 11.251	51.1	Conversations, vehicles, motorbikes and birds
	UNRA	N 00 ⁰ 41.416, E 034 ⁰ 11.277	52.6	Conversations, vehicles, motorbikes and birds
	Tororo Hospital	N 00 ⁰ 41.648, E 034 ⁰ 11.177	44.7	Conversations, vehicles, motorbikes and birds
	IGG-Busia	N 00 ⁰ 41.737, E 034 ⁰ 11.153	40.7	Conversations, vehicles, motorbikes and birds
	NWSC	N 00 ⁰ 41.416, E 034 ⁰ 11.277	52.4	Conversations, vehicles, motorbikes and birds

The District LGHQs offices in are located in the same locality with the DEO, RDC offices. Other offices in Tororo are also located along the same road networks especially Uhuru Drive which makes connection easy. However, offices like the IGG and facilities like Tororo Hospital are located further off this road. The Inspectorate of Government Offices are located in a residential area that seemed not to have known road reserves. Connection to this area shall need more attention and involvement of local leadership and other relevant government agencies. Below is a pictorial register for some of the sites.

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Tororo Hospital Source: Last Mile ESIA Field Photos 2017</p>			
	 <p>Resident State Attorney Offices Tororo Source: Last Mile ESIA Field Photos 2017</p>			




District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Tororo Central Police Station <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Inspectorate of Government Tororo Regional Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>The Uhuru Drive Road along which most of the offices are located. <i>Source: Last Mile ESIA Field Photos 2017</i></p>			

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Mbale 2/11/2017	DPP Office	N 01 ⁰ 03.856, E 034 ⁰ 12.099	40.4	Vehicles and motorbikes conversations and birds
	UWA-Mbale Mt Elgon National Park (MENP) Offices	N 01 ⁰ 04.033, E 034 ⁰ 11.585	53.4	Vehicles and motorbikes conversations and birds
	Inspectorate of Government	N 01 ⁰ 03.977, E 034 ⁰ 11.498	45.7	Vehicles and motorbikes conversations and birds
	High court Mbale	N 01 ⁰ 04.208, E 034 ⁰ 11.058	52.4	Vehicles and motorbikes, conversations and music
	NIRA	N 01 ⁰ 04.229, E 034 ⁰ 11.014	58.7	Vehicles and motorbikes, conversations and music
	Mbale Municipal	N 01 ⁰ 04252, N 034 ⁰ 10.983	50.6	Vehicles and motorbikes, conversations and music
	Mbale CPS	N 01 ⁰ 04.340, E 034 ⁰ 10.820	58.4	Vehicles and motorbikes, conversations and music





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Mbale Regional Referral Hospital	N 010 04.565, E 0340 10.596	58.3	Vehicles and motorbikes, conversations and music
	Mbale School of Nursing and Midwifery	N 01 ⁰ 04 747, E 034 ⁰ 10.392	44.9	Vehicles and motorbikes, conversations and birds
	Uganda prisons	N 01 ⁰ 04.333, E 034 ⁰ 09.473	39.3	Vehicles and motorbikes, conversations and birds
	E.C Mbale	N 01 ⁰ 04.417, E 034 ⁰ 10.209	43.6	Vehicles and motorbikes, conversations and music
	District administration	N 01 ⁰ 04.152, E 034 ⁰ 10.183	54.7	Vehicles and motorbikes, conversations and birds
	NWSC	N 01 ⁰ 04.37, E 034 ⁰ 10.793	50.8	Vehicles and motorbikes, conversations and birds
	MWE	N 010 04.114, E 0340 10.813	51.6	Vehicles and motorbikes, conversations and birds
	UNRA	N 01 ⁰ 04.180, E 034 ⁰ 10.841	58.3	Vehicles and motorbikes, conversations birds and music





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NSSF	N 01 ⁰ 04.243, E 034 ⁰ 10.915	51.8	Vehicles and motorbikes, conversations, birds and music
	UNBS	N 01 ⁰ 04.290, E 034 ⁰ 10.819	58.5	Vehicles and motorbikes, conversations and music
	BOU	N 01 ⁰ 04.23, E 034 ⁰ 10.785	61.4	Vehicles and motorbikes, conversations and music



The DPP's office is located at the furthest South west point amongst the offices to be connected along Bunghoko road. Excavations shall be carried out on the right hand side of the road as connections are made to various points including the IG's office, UWA Mbale (MENP office) which will be excavated on the right hand side as one heads to Mbale Town. This line shall stretch past Republic Street up to the School of Midwifery and on Palliisa Road. A number of branch-off excavations shall be carried out to cover BOU, UNRA, NWSC, Mbale Hospital, Mbale Municipal Council among others. Utilization of none-surface destructive approaches shall be vital if excavations are to be carried out due to the newly completed road networks in the district. A number of businesses are located along this road with shops, offices and boda boda stages. One major hotel (Mt Elgon Hotel) is also located along this stretch.



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>DPP Mbale offices. One of the furthest point to be connected <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Route to republic street <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Mt Elgon Hotel will potentially be disturbed. Trees to be avoided and timely backfilling carried out <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>UWA-Mbale offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Office of the inspectorate of Government <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>T- Junction that shall lead to URSB and Mbale High court <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Mbale NIRA offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Mbale Municipal Council view along Republic Street. <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Mbale Municipal Council Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Section of republic street with Police, MAK branch, Posta Uganda among others <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Turn-off Republic Street AT Uganda Police Mbale to BOU <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Mbale Regional Referral Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Mbale School of Nursing and Midwifery <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Inside Mbale School of Nursing and Midwifery <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Mbale NSSF Offices after turnoff from Republic street <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Route from NSSF to UNRA, MWE and NWSC</p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Mbale District Administration Office Block <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>BOU Mbale Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>
Bukedea 2/11/2017	DCDO's office	N 01 ⁰ 20.722 E 034 ⁰ 03.146	46.0	Conversations and birds
<p>Most of the offices are located in the same area branching off from GPS point N 01⁰ 20.418, E 034⁰ 03.110 at the main road junction. A pictorial register of the area is subsequently provided.</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Signposts to the area that houses all Bukedea District offices Source: Last Mile ESIA Field Photos 2017</p>				 <p>One of the District blocks Source: Last Mile ESIA Field Photos 2017</p>
Kumi 3/11/2017	Kumi District Administration Block	N 01 ⁰ 29.352, E 033 ⁰ 56.322	43.0	Conversations, distant vehicles and motorbikes and birds
	Municipal	N 01 ⁰ 29.258, E 033 ⁰ 56.312	44.6	Conversations, vehicles, motorbikes and birds
	Kumi Health Centre Grade IV	N 01 ⁰ 29.287, E 033 ⁰ 56.156	53.3	Conversations, vehicles, motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Police	N 01 ⁰ 29.261, E 033 ⁰ 56.080	58.3	Conversations, vehicles, motorbikes and birds
	NWSC	N 01 ⁰ 29.046, E 033 ⁰ 56.005	45.0	Conversations, vehicles, motorbikes and birds
	EC-Kumi	N 01 ⁰ 29.531, E 033 ⁰ 5. 472	48.1	Conversations, vehicles, motorbikes and birds
	Works	N 01 ⁰ 29.500, E 033 ⁰ 56.226	38.1	Conversations, vehicles, motorbikes and birds

Kumi District Administration Block area has a number of offices within its locality along Soroti road. At the junction accessing Kumi HCIV, there is a Kumi-Mbale taxi stage GPS coordinates N 01⁰ 29.334, E 033⁰ 56.210 that could be impacted by the project and a special hire stage a few meters away. This route shall provide connections to Kumi police, NWSC and the HCIV. A pictorial register for some of the sites in Kumi is subsequently provided.

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Kumi District Administration Block <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Kumi Municipal Council Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>The Kumi-Soroti Highway <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Branch off from the Kumi- Soroti Highway to Kumi HC IV <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 General outlook along access route to the Water office <i>Source: Last Mile ESIA Field Photos 2017</i>
Kiryandongo 7/11/2017	Electoral commission	N 01 ⁰ 52.523, E 032 ⁰ 03.651	51.2	Conversations, vehicles, motorbikes and birds
	Sub county Head quarter	N 01 ⁰ 46.197, E 032 ⁰ 06.886	42.2	Conversations, vehicles, motorbikes and birds
	State Attorney & Courts of Judicature along Gulu highway	N 01 ⁰ 52.652, E 032 ⁰ 03.709	56.3	Conversations, vehicles, motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Central Police Station	N 01 ⁰ 52.697, E 032 ⁰ 03.762	56.0	Conversations, vehicles, motorbikes and birds
	LGDHQs	N 010 52.678, E 0320 03.832	53.4	Conversations, vehicles, motorbikes and birds
	Kiryandongo General Hospital	N 01 ⁰ 52.717, E 032 ⁰ 03.739	60.4	Conversations, vehicles, motorbikes and birds
	Town Council & Resource Centre	N 01 ⁰ 53.121, E 032 ⁰ 03.747	40.7	Conversations, vehicles, motorbikes and birds
	Kiryandongo Technical Institute	N 01 ⁰ 52.863, E 032 ⁰ 03.913	58.2	Conversations, vehicles, motorbikes and birds
18/05/2018	Uganda Petroleum Institute Kigumba (UPIK)	N 01 ⁰ 48.588, E 031 ⁰ 58.373	41.9	Conversations, vehicles and motorbikes

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Uganda Cooperative College Kigumba	N 01 ⁰ 48.494, E 031 ⁰ 58.285	39.2	Conversations, vehicles and motorbikes

Most of the sites are located along Gulu road/ highway apart from the new municipal offices and the Sub County offices that are a distance. Sections of interest include the Silver wetland along the route to the Sub County Head Quarters which shall necessitate special attention during project implementation. Options of utilizing existing infrastructure if available could be of benefit to this area and areas with similar attributes in the project. Institutes like UPIK utilize iWAY Africa services for internet, NITA-U should look at the migration from third party service providers and ensure smooth transition for such institutes.



current office of the District Registrar
Source: Last Mile ESIA Field Photos 2017



Silver wetland, route to the Sub County Head Quarters
Source: Last Mile ESIA Field Photos 2017


District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Sub County Head Quarters <i>Source: Last Mile ESIA Field Photos 2017</i></p>				
 <p>Gulu Road along which most offices are located <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Kiryandongo General Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>
Gulu 8/11/2017	Gulu UHRC	N 01 ⁰ 52.867, E 033 ⁰ 03.908	45.4	Conversations, vehicles, motorbikes and birds





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Gulu hospital	N 02 ⁰ 46.591, E 032 ⁰ 17.939	58.6	Conversations, vehicles and motorbikes, music and birds
	Inspectorate of Gov't Gulu Regional Offices	N 02 ⁰ 46.176, E 032 ⁰ 18.609	47.6	Conversations, vehicles and motorbikes, and birds
	NFA-Gulu	N 02 ⁰ 46.382, E 032 ⁰ 18.276	40.5	Conversations, vehicles and motorbikes, and birds
	NWSC Gulu	N 02 ⁰ 46.430, E 032 ⁰ 17.853	60.2	Conversations, vehicles and motorbikes and music
	Posta Uganda	N 02 ⁰ 46.618, E 032 ⁰ 17.829	60.9	Conversations, vehicles and motorbikes and music
	Uganda Police Gulu	N 02 ⁰ 46.624, E 032 ⁰ 17.860	54.0	Conversations, vehicles and motorbikes and music
	Gulu General Referral Hospital	N 02 ⁰ 46.643, E 032 ⁰ 17.88	48.4	Conversations, vehicles and motorbikes and music





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Uganda Police Regional Quarters Resident State Attorney Gulu	N 02 ⁰ 46.724, E 032 ⁰ 17.818	56.0	Conversations, vehicles and motorbikes and music
	Electoral commission	N 02 ⁰ 46.799, E032 ⁰ 17.874	50.6	Conversations, vehicles and motorbikes and birds
	Prime Minister's Office	N 02 ⁰ 46.868, E 032 ⁰ 17.956	40.0	Conversations, vehicles and motorbikes and birds
	Ministry of Internal Affairs. Directorate of Citizenship & Immigration Control	N 02 ⁰ 46.911, E 032 ⁰ 17.956	45.0	Conversations, vehicles and motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Gulu Regional Blood Bank	N 02 ⁰ 46.828, E 032 ⁰ 17.781	54.8	Conversations, vehicles and motorbikes and birds
	RDC NIRA & DISO	N 02 ⁰ 46.790, E 032 ⁰ 17.780	47.2	Conversations, vehicles and motorbikes and birds
	Gulu Municipal council	N 02 ⁰ 46.748, E 032 ⁰ 17.741	54.1	Conversations, vehicles and motorbikes and birds
	Gulu District Head Quarters	N 02 ⁰ 46.644, E 032 ⁰ 17.784	57.8	Conversations, vehicles and motorbikes and birds
	BOU	N 020 46.623, E 0320 17.739	53.7	Conversations, vehicles and motorbikes and birds
	Regional Prisons Commander	N 02 ⁰ 46.618, E 032 ⁰ 17.740	53.6	Conversations, vehicles and motorbikes and birds



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>The Gulu UHRC commission is planning to shift to a new location next to Gulu Hospital (Gulu LGHQs former cemetery) which calls for temporary planning if these are to be connected and permanent connections to their new home.</p> <p>At the time of the ESIA, there were signs of recent excavations (Gulu Mathew Lukwiya Wards side) under another government project. With many established businesses in the area, project execution teams shall need to ensure that appropriate communication and coordination is carried out with all relevant stakeholders prior to excavation (whether poles or trenching). A number of offices like the Uganda Police Regional Head Quarters, Resident State Attorney, Uganda Blood Transfusion, NIRA, RDC's office among others are within the same locality, an aspect that shall ease connections. Lines within town shall have to consider road side activities like markets and vendors so as to limit business interruptions. Most activities shall take place along Upper Churchill Drive, Elizabeth Road, Lower Churchill road and Airfield road. A pictorial register for some of the sites is subsequently presented.</p>				





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Inspectorate of Government Offices Gulu <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>NFA Gulu, trees to be avoided <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>General outlook of some of the streets in Gulu Town <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>General outlook of some of the streets in Gulu Town <i>Source: Last Mile ESIA Field Photos 2017</i></p>





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>NWSC Gulu Source: Last Mile ESIA Field Photos 2017</p>				 <p>Route to NWSC offices Source: Last Mile ESIA Field Photos 2017</p>
 <p>Posta Gulu Source: Last Mile ESIA Field Photos 2017</p>				 <p>Gulu CPS Source: Last Mile ESIA Field Photos 2017</p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>General outlook of some of the streets in Gulu <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Gulu Regional Blood Bank <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Access route to BOU <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Access route to BOU and Gulu District Council Head Quarters <i>Source: Last Mile ESIA Field Photos 2017</i></p>





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Lira 9/11/2017	Uganda Technical College	N 02 ⁰ 13.808, E 032 ⁰ 53.727	49.3	Music, vehicles and motorbikes, slashing machinery, birds and conversations.
	DPP	N 02 ⁰ 14.018, E 032 ⁰ 53.661	46.4	Music, vehicles and motorbikes, slashing machinery, birds and conversations.
	UBC	N 02 ⁰ 15.814, E 032 ⁰ 52.285	43.8	Birds, wind and conversations.
	MWE + NWSC	N 02 ⁰ 14.408, E 02 ⁰ 53.483	58.8	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Lira Municipal council	N 02 ⁰ 14.866, E 032 ⁰ 54.004	48.0	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Lira DLGHQs	N 02 ⁰ 14.376, E 032 ⁰ 54.048	38.4	Vehicles and motorbikes, slashing machinery, birds and conversations.
	RDC Lira	N 02 ⁰ 14.904, E 032 ⁰ 54.086	43.7	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Police Lira	N 02 ⁰ 54.946, E 032 ⁰ 54.046	45.6	Vehicles and motorbikes, slashing machinery, birds and conversations.



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Lira Municipal Council Works offices	N 02 ⁰ 15.061, E 032 ⁰ 54.161	53.9	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Uganda Prisons Lira	N 02 ⁰ 15.236, E 032 ⁰ 54.022	40.4	Birds, wind and conversations.
	School of Nursing	N 02 ⁰ 15.184, E 032 ⁰ 54.117	40.6	Birds, wind and conversations.
 <p>Activities along the Uganda Technical College access point <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Lira Uganda Technical College <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p> UBC facility <i>Source: Last Mile ESIA Field Photos 2017</i> </p>			 <p> Access route to Lira UBC facility. Notice the gardens along the route and proximity to homesteads <i>Source: Last Mile ESIA Field Photos 2017</i> </p>
	 <p> General outlook of selected streets in Lira <i>Source: Last Mile ESIA Field Photos 2017</i> </p>			

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Poorly executed none RCIP backfilling works <i>Source: Last Mile ESIA Field Photos 2017</i></p>			
	 <p>Lira Chief Magistrate's Court <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Lira Municipal Council Main Office Block <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
	General outlook of some streets in Lira. Trees and shrubs should be avoided <i>Source: Last Mile ESIA Field Photos 2017</i>			Lira RDC's office <i>Source: Last Mile ESIA Field Photos 2017</i>
Dokolo 9/11/2017	Dokolo E.C	N 010 55.194, E 0330 10.041	41.2	Vehicles and motorbikes, conversations and distant music
	Dokolo Health Centre IV	N 01 ⁰ 54.997, E 033 ⁰ 10.439	51.7	Vehicles and motorbikes, conversations and distant music
	Dokolo Police	N 01 ⁰ 54.959, E 003 ⁰ 10.484	36.5	Conversations and distant music
	Dokolo RDC, NWSC, DLGHQs	N 01 ⁰ 54.860, E 033 ⁰ 10.469	36.5	Conversations, Air Conditioning units and distant music

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Branch off from the main road to the EC office can be made from N 01⁰ 55.147 ,E 033⁰ 10.017. Presence of gardens by the roadside and lack of road reserves was also noted in these areas. Most offices are in one enclosure which makes connectivity easy.</p>				
 <p>Access route to Dokolo EC offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>		 <p>Dokolo EC offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
 <p>General outlook of the main road in Dokolo <i>Source: Last Mile ESIA Field Photos 2017</i></p>		 <p>Dokolo HC IV <i>Source: Last Mile ESIA Field Photos 2017</i></p>		

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
9/11/2017 Kaberamaido	Otuboi Sub County	N 01 ⁰ 55.486 E 003 ⁰ 18.626	38.4	Vehicles and motorbikes, masts powering generator, conversations and distant music
	Otuboi Health Centre III	N 01 ⁰ 55.438 E 033 ⁰ 18.653	42.1	Vehicles and motorbikes, conversations and distant music
	Otuboi Police Station	N 01 ⁰ 55.484 E 033 ⁰ 18.692	44.0	Vehicles and motorbikes, conversations and distant music
<p>Otuboi Sub County that was visited mainly had all facilities within the same locality. The facilities of interest include the HCIII, Police station, and Sub Count offices. The area also has a community borehole and gardens that need to be taken into consideration during project implementation.</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 <p>Otuboi Police Station <i>Source: Last Mile ESIA Field Photos 2017</i></p>
				 <p>Otuboi Health Centre III <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Mukono 26/10/2017	Mukono Municipal Council	N 00 ⁰ 21.338, E 032 ⁰ 44.442	54.5	Vehicles and motorbikes, music and conversations

The main road point of connection (N 00⁰ 21.624, E 032⁰ 44.766) line shall provide for connections to the Municipal council and NSSF among other offices. There was already a line by the main road to the section of LGHQs from which connections shall be tapped to other LG offices in the area. There will therefore be minimal or no excavations along these lines. FDGs revealed that in the recent past, another entity had just excavated along the route from petro city. There are also plans to widen the road which the client should put into consideration. A pictorial register of the area is subsequently provided.



Access route to NSSF Mukono from the Petrocity Fuel station
Source: Last Mile ESIA Field Photos 2017



Part of the Mukono DLG offices to be connected
Source: Last Mile ESIA Field Photos 2017



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Lugazi 27/10/2017	Post office to Municipal, police & Kawolo Hospital	N 00 ⁰ 22.151, E 032 ⁰ 56.534	50.1	Vehicles and motorbikes and conversations
<p>One connection to post office. Connections in the area shall be fast given the proximity of the area visited during the study. The sites include Uganda Police, Kawolo Hospital and Lugazi Municipal Council. All three are within the same catchment making the connection easy with little or no disruptions on existing units like Kiosks within the Police station and finally to Kawolo Hospital.</p>				
Nakasongola 10/11/2017	Nakasongola HC IV	N 01 ⁰ 19.332, E 032 ⁰ 28.031	52.3	Vehicles and motorbikes, conversations and music
	Post office	N 01 ⁰ 18.850, E 032 ⁰ 27.922	59.1	Vehicles and motorbikes, conversations and music
	Nakasongola District Police HQs	N 01 ⁰ 18.804, E 032 ⁰ 27.907	53.0	Vehicles and motorbikes, conversations and music
	Post Bank	N 010 18.717, E 0320 27.907	59.7	Vehicles and motorbikes, conversations and music

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	District Commercial Office & Production Department	N 01 ⁰ 18.752, E 032 ⁰ 27.836	48.9	Vehicles and motorbikes and conversations
	Nakasongola Town Council	N 01 ⁰ 18.843, E 032 ⁰ 27.804	38.0	Vehicles and motorbikes and conversations
	RDC, DISO Nakasongola Head office	N 01 ⁰ 18.812, E 032 ⁰ 27.655	36.5	Vehicles and motorbikes and conversations
	Water office	N 010 18.783, E 0320 27.489	39.0	Vehicles and motorbikes and conversations
	Chief Magistrate's Court	N 010 18.762, E0320 27.453	38.8	Vehicles and motorbikes and conversations
	DPP	N 01 ⁰ 18.798, E 032 ⁰ 27.465	39.6	Vehicles and motorbikes and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Prisons	N 01 ⁰ 18.682, E 032 ⁰ 27.275	36.0	Vehicles and motorbikes and conversations
	EC & NIRA	N 01 ⁰ 19.050, E 032 ⁰ 27.874	38.9	Vehicles and motorbikes and conversations
	UBC	N 01 ⁰ 18.897, E 032 ⁰ 27.868	46.7	Vehicles and motorbikes, music and conversations





Main roads to be impacted include UBC road and Sasira road. Most works shall entail utilizing of below ground borrowing given the tarmaced state of most roads in the area. Utilization of poles or existing third party facilities can also be adopted. Poles should however look at the termites challenge in the area. There are a number of road side businesses that could be impacted by the project. Prior notice and timely backfilling of excavated sections or working at off peak hours should help reduce on business interruptions. Pottery was present at the LGHQs as further discussed in the culture and archaeological sections of this ESIS. Below is a pictorial register for selected points.



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Post Office Nakasongola <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Post Bank Nakasongola <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Status of the main access road and activities in the area <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Nakasongola HC IV <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Nakasongola TC Source: Last Mile ESIA Field Photos 2017</p>		 <p>Nakasongola DLGHQs Source: Last Mile ESIA Field Photos 2017</p>		
Luwero 10/11/2017	EC	N 00 ⁰ 50.528, E 032 ⁰ 29.395	46.4	Vehicles and motorbikes, music and conversations
	NWSC	N 00 ⁰ 50.496, E 032 ⁰ 29.551	49.7	Vehicles and motorbikes, music and conversations
	Luwero TC	N 00 ⁰ 50.601, E 032 ⁰ 29.677	46.1	Vehicles and motorbikes, music and conversations
	Luwero CPS	N 00 ⁰ 50.898, E 032 ⁰ 29.195	45.5	Vehicles and motorbikes, music and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	DPP	N 00 ⁰ 50.984, E 032 ⁰ 29.209	45.9	Vehicles and motorbikes, music and conversations
	Chief Magistrate's Court	N00 ⁰ 50.980, E032 ⁰ 29.234	41.1	Vehicles and motorbikes, music and conversations
	Turn off to Luwero CPS	N 000 50.907, E 0320 29.316	60.1	Vehicles and motorbikes, music and conversations
	Luwero HC IV	N 000 50.051, E 0320 29.94	58.9	Vehicles and motorbikes, music and conversations





Connection is from the highway NWSC point. Luwero Town Council is across the main road to the Plan international Road with a number of roadside gardens. Other sites like the EC are in areas with no road reserves, this needs to be put into consideration during project design and implementation. Most of the sites are easily accessible from the main road for example Post office Wobulenzi with limited roadside activity. Some sections however lack road reserves necessitating liaison with district and local leadership prior to project implementation. Below is a pictorial register showcasing some of the areas of interest:



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Luwero District HC IV <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Area showcasing the DPP and the Chief Magistrate's Court <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Luwero TC <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Roadside gardens to Luwero TC <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Luwero Police Station Source: Last Mile ESIA Field Photos 2017</p>		 <p>Post Office Wobulenzi Source: Last Mile ESIA Field Photos 2017</p>		
Mpigi 14/11/2017	Production department	N 00 ⁰ 50.049, E032 ⁰ 29.936	36.6	Conversations, birds, vehicles and motorbikes
	Magistrate +DPP	N 00 ⁰ 13.892, E 032 ⁰ 19.257	50.1	Conversations, birds, vehicles and motorbikes
	CPS + Post office	N 00 ⁰ 13.197, E 032 ⁰ 19.885	41.0	Conversations, birds, vehicles and motorbikes
	NIRA	N 00 ⁰ 13.278, E 032 ⁰ 19.650	58.8	Conversations, birds, vehicles and motorbikes

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Mpigi HC IV	N 00 ⁰ 13.530, E032 ⁰ 19.326	50.9	Conversations, birds, vehicles and motorbikes
	Buwama HCIII	N 000 03.675, E 0320 06.395	40.5	Conversations, birds, vehicles and motorbikes
	Buwama Sub County HQ	N 00 ⁰ 03.640, E 032 ⁰ 06.436	45.6	Conversations, birds, vehicles and motorbikes

There shall be limited or no plant removal as it will be mainly aerial. However, there could be pruning of trees in some of these areas. Offices like NIRA/ EC are planning to relocate to other buildings within along the same stretch. To get permanent offices, this might call for utilization of aerial poles or third party wireless facilities until the units. Connection to Buwama HC III and the Sub County Head Quarters shall necessitate road reserve utilization, liaison with UNRA and the district is vital since there are planned road works for that section.


District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Access route to the Mpigi Chief Magistrate's Court Source: Last Mile ESIA Field Photos 2017</p>			 <p>Mpigi DLGH as seen from the DEO office area Source: Last Mile ESIA Field Photos 2017</p>	
 <p>Office of the Resident State Attorney Mpigi Source: Last Mile ESIA Field Photos 2017</p>			 <p>Mpigi Police Station Source: Last Mile ESIA Field Photos 2017</p>	

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Kalungu 14/11/17	Lukaya TC	S00 ⁰ 09.307, E031 ⁰ 52.188	60.2	Aero planes, conversations, birds, vehicles and motorbikes
	Lukaya HC III	S00 ⁰ 08.701, E031 ⁰ 52.526	43.1	Conversations, birds, vehicles and motorbikes
 <p>Lukaya TC offices Source: Last Mile ESIA Field Photos 2017</p>		 <p>Lukaya HC III Source: Last Mile ESIA Field Photos 2017</p>		
<p>The route to Lukaya HC III has a number of households if the main access route it to be followed, there is however a short route across a drainage line if poles are erected to serve the purpose. Lukaya TC is along the highway, connection to the area shall therefore be easy.</p>				
	DEO	S00 ⁰ 18.883, E031 ⁰ 44.244	40.1	Birds, wind and conversations



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Uganda Prison-Saza Masaka	S00 ⁰ 18.893, E031 ⁰ 44.480	43.6	Conversations, motor cycles and motor vehicles
	NIRA	S00 ⁰ 19.597, E031 ⁰ 44.389	38.7	Conversations, birds, motor cycles and motor vehicles
	UVRI	S00 ⁰ 19.493, E 031 ⁰ 44.449	42.9	Conversations, birds, motor cycles and motor vehicles
	NWSC + IG	S00 ⁰ 20.791, E031 ⁰ 44.257	43.6	Conversations, motor cycles and motor vehicles
	NSSF + Posta Uganda	S00 ⁰ 20.708, E031 ⁰ 44.271	53.7	Conversations, motor cycles and motor vehicles
	Lands	S00 ⁰ 20.518, E031 ⁰ 44.090	50.4	Conversations, motor cycles and motor vehicles
	Prisons	S00 ⁰ 20.687, E031 ⁰ 44.083	43.6	Conversations, motor cycles and motor vehicles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Office of the Auditor General	S00 ⁰ 20.587, E031 ⁰ 44.116	43.0	Conversations, motor cycles and motor vehicles

Masaka District Admin HDQs to be moved to Kizungu where the LC5 seats. The DLHQs are located on Buganda Kingdom land. This area hosts offices for the DEO, MWE, District Water Office among others. Access to some areas like the Masaka Saza prison have no road reserves. However, connection to the Saza prison can be made from the main road at GPS points S00⁰ 18.878, E031⁰ 44.615 along the Kampala Mbarara Highway. Consideration for compensation and communication to landowners is therefore vital in this area and other project areas with similar attributes. The stretch from the BOU area (S00⁰ 20.251, E031⁰ 44.370) to the Courts of Judicature (S00⁰ 20.439, E031⁰ 44.458) houses a number of MDAs. Care should be taken during project implementation given the number of businesses and real estate along this route. Land lord for NIRA is also the owner of the house below, one pole could be in the lower area along Lutiko road to connect to NIRA and the virus research to reduce on the foot print. This stretch along Broad way has a number of offices that shall be connected including but not limited to URA, Police, prisons, Auditor general's office among others. Roads that shall be impacted include Broad way, Lutiko Road, Kampala road, Victoria road and Edward Avenue. A photographic register is subsequently presented.





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>View of the Masaka DEO office <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Entrance the Masaka DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Boda Boda stage at one of the T-junctions to Masaka DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Entrance the Masaka DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>NSSF and Post Bank Masaka <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Office of the Auditor General Masaka <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Nearest access point to Saza Prison from the Mbarara Highway <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Saza Prison-Masaka <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
<p>Beginning of stretch with most offices in Masaka (BOU and URA areas) <i>Source: Last Mile ESIA Field Photos 2017</i></p>		<p>End of stretch at Courts of Judicature <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Kalisizo & Kyotera	Kalisizo Hospital	S00 ⁰ 32.133, E031 ⁰ 37.338	57.7	Conversations, birds, motor cycles and motor vehicles
	Kalisizo police	S00 ⁰ 32.417, E031 ⁰ 37.212	50.4	Conversations, motor cycles and motor vehicles
	Kalisizo court	S00 ⁰ 32.317, E031 ⁰ 37.219	50.5	Conversations, motor cycles and motor vehicles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC+ Town Council office	S00 ⁰ 32.206, E031 ⁰ 37.476	39.9	Conversations, motor cycles and motor vehicles
	Kyotera Police	S00 ⁰ 37.974, E031 ⁰ 32.524	54.1	Conversations, motor cycles and motor vehicles
	Kyotera NWSC & TC	S00 ⁰ 38.192, E031 ⁰ 32.476	49.8	Conversations, motor cycles and motor vehicles

Routes to be impacted include Bulinda main, Kalisizo TC road. In Kalisizo, the longest stretch is from Hospital to the Police Station. Excavations shall have minimal impact since most activities along the road reserves could easily be moved temporarily. A photographic register for the area is subsequently provided.

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kalisizo Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Kalisizo Police station <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Kalisizo Town Council offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Kalisizo NWSC <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kyotera Police <i>Source: Last Mile ESIA Field Photos 2017</i></p>		 <p>Kyotera NWSC <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Wakiso 30/11/17	Wakiso District HQs	N01 ⁰ 25.966, E031 ⁰ 21.082	46.6	Conversations, birds and motor vehicles and motorcycles
	Police and Wakiso Chief Magistrate's Court and DPP	N00 ⁰ 23.878, E032 ⁰ 28.106	50.6	Conversations, birds and motor vehicles and motorcycles





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Wakiso TC	N00 ⁰ 23.576, E03 ⁰ 27.730	41.9	Conversations and motor vehicles and motorcycles
	Busiro HCIV	N00 ⁰ 23.848, E032 ⁰ 28.676	55.9	Conversations and motor vehicles and motorcycles
	DISO, URA Nansana Branch	N00 ⁰ 21.692, E032 ⁰ 31.836	61.9	Conversations and motor vehicles and motorcycles
	Nansana TC + Nansana Police	N00 ⁰ 21.844, E032 ⁰ 31.719	61.7	Conversations and motor vehicles and motorcycles
	NWSC	N00 ⁰ 21.231, E032 ⁰ 32.150	59.5	Conversations and motor vehicles and motorcycles
	Nabweru Chief Magistrate's Court	N00 ⁰ 21.384, E032 ⁰ 32.715	40.6	Conversations and motor vehicles and motorcycles
	Nansana Division Office	N00 ⁰ 21.473, E032 ⁰ 32.742	45.5	Conversations and motor vehicles and motorcycles





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Entebbe Municipal Library	N00 ⁰ 21.531, E032 ⁰ 32.694	60.9	Conversations and motor vehicles and motorcycles
	Posta	N00 ⁰ 03.585, E032 ⁰ 28.422	47.5	Conversations and motor vehicles and motorcycles
	DWRM-Entebbe	N00 ⁰ 02.969, E032 ⁰ 28.281	40.8	Conversations and motor vehicles and motorcycles
	Along	N00 ⁰ 02.964, E032 ⁰ 28.279	N/A	Conversations and motor vehicles and motorcycles
	Directorate of Agricultural Extension Services	N00 ⁰ 03.520, E032 ⁰ 28.348	53.5	Conversations and motor vehicles and motorcycles
	URA-Entebbe	N00 ⁰ 03.313, E032 ⁰ 27.862	54.1	Conversations and motor vehicles and motorcycles
	UPPC-Entebbe	N00 ⁰ 03.381, E032 ⁰ 27.992	50.2	Conversations and motor vehicles and motorcycles



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	UVRI	N00 ⁰ 04.524, E032 ⁰ 27.449	51.5	Conversations and motor vehicles and motorcycles
	Entebbe S.S	N00 ⁰ 04.390, E032 ⁰ 28.698	49.3	Conversations and motor vehicles and motorcycles
	NWSC (Kyaliwajala)	N00 ⁰ 23.187, E032 ⁰ 38.636	58.5	Conversations and motor vehicles and motorcycles
	DPP (Kira)	N00 ⁰ 23.641, E032 ⁰ 38.497	42.6	Conversations and motor vehicles and motorcycles
	Kira Court	N00 ⁰ 23.598, E032 ⁰ 38.470	50.6	Conversations and motor vehicles and motorcycles
	Police Station Kira	N00 ⁰ 23.582, E032 ⁰ 38.446	60.6	Conversations and motor vehicles and motorcycles
	Buwambo Prisons	N00 ⁰ 30.029, E032 ⁰ 32.286	39.4	Conversations and motor vehicles and motorcycles
	Buwambo HC	N00 ⁰ 30.087, E032 ⁰ 32.769	50.6	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Buwambo Police Station	N00 ⁰ 30.096, E032 ⁰ 32.776	58.4	Conversations and motor vehicles and motorcycles
	Matugga police	N00 ⁰ 27.499, E032 ⁰ 31.585	53.3	Conversations and motor vehicles and motorcycles
	NWSC & Magistrate's Court Matugga	N00 ⁰ 27.759, E032 ⁰ 31.553	59.6	Conversations and motor vehicles and motorcycles

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Access to the Division to Nabweru HCIII and court shall be at the Nabweru access road-turn off from the main road at GPS coordinates N00⁰ 21.532, E032⁰ 32.696. Routes to be impacted include Mpigi road, K’la –Airport route, Hoima road, Nabweru court road and Mpunga road. Wakiso District is vast with a lot of road side businesses in the area. Care should be taken during project implementation to provide early communication to impacted businesses and have excavated sections appropriately backfilled and restored. Wakiso District had the largest distribution of sites during the study. Excavation works along roads in Wakiso shall have to be undertaken with liaison with UNRA and DLGs since a lot of road works are either being carried out or are ongoing in the district. Traffic management should be given utmost attention given the vast area and number of traffic seen during the ESIA. A number of routes in Wakiso also lacked road reserves, appropriate coordination with local leaders with consideration of host communities’ views shall be vital in project execution. Below is a photographic register of some selected areas.</p>				

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>UVRI Entebbe Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Entebbe Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>	
 <p>Uganda Printing and Publishing Corporation <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>URA Entebbe <i>Source: Last Mile ESIA Field Photos 2017</i></p>	

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
	 <p>DWRM Entebbe <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Entebbe Public Library <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Nabweru Magistrate's Court <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Nansana Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Wakiso Police Division Head Quarters Source: Last Mile ESIA Field Photos 2017</p>				 <p>Wakiso HC IV Source: Last Mile ESIA Field Photos 2017</p>
Kampala 13/12/2017	Luzira Prisons Head Quarters	N 00 ⁰ 17.922, E 032 ⁰ 38.796	60.4	Conversations, motor vehicles and motorcycles, birds and wind
	Butabika School of Nursing	N 00 ⁰ 19.276, E 032 ⁰ 39.320	38.6	Conversations, motor vehicles and motorcycles, birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Kitintale Police Station	N 00 ⁰ 18.541, E 032 ⁰ 38.361	60.8	Conversations and motor vehicles and motorcycles
	NWSC Kitintale	N 00 ⁰ 18.753, E 032 ⁰ 38.183	59.8	Conversations and motor vehicles and motorcycles
	Kiswa Health Centre, Bugolobi	N 00 ⁰ 19.263, E 032 ⁰ 37.042	57.5	Conversations and motor vehicles and motorcycles
	NFA Bugolobi	N 00 ⁰ 19.280, E 032 ⁰ 36.883	51.7	Conversations and motor vehicles and motorcycles
	NSSF Bugolobi	N 00 ⁰ 19.260, E 032 ⁰ 36.750	65.3	Conversations and motor vehicles and motorcycles
	NWSC Treatment Plant	N 00 ⁰ 19.125, E 032 ⁰ 36.354	55.9	Conversations and motor vehicles and motorcycles
	New Vision	N 00 ⁰ 19.362, E 032 ⁰ 36.218	54.3	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	UETCL	N 00 ⁰ 19.421, E 032 ⁰ 36.385	56.7	Conversations and motor vehicles and motorcycles
	NWSC City Branch	N 00 ⁰ 19.963, E 032 ⁰ 36.874	66.6	Conversations and motor vehicles and motorcycles
	KCCA Workshop	N 00 ⁰ 18.928, E 032 ⁰ 35.727	65.4	Conversations and motor vehicles and motorcycles
	UNRA	N 00 ⁰ 18.999, E 032 ⁰ 35.930	56.2	Conversations and motor vehicles and motorcycles
	Kira Police Station Jinja, Road	N 00 ⁰ 19.378, E 032 ⁰ 36.063	60.5	Conversations and motor vehicles and motorcycles
	Mbuya Military Barracks	N 00 ⁰ 19.640, E 032 ⁰ 37.375	58.7	Conversations and motor vehicles and motorcycles
	Ntinda Police Station	N 00 ⁰ 21.036, E 032 ⁰ 36.965	55.6	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	National Council For Disability	N 00 ⁰ 20.964, E 032 ⁰ 37.145	40.3	Conversations and motor vehicles and motorcycles
	School of the Deaf	N 00 ⁰ 21.151, E 032 ⁰ 36.935	54.1	Conversations and motor vehicles and motorcycles
	DPP Naguru	N 00 ⁰ 20.815, E 032 ⁰ 36.672	55.3	Conversations and motor vehicles and motorcycles
	UHRC Central Regional Office	N 00 ⁰ 20.123, E 032 ⁰ 36.606	64.2	Conversations and motor vehicles and motorcycles
	Court of Judicature	N 00 ⁰ 20.600, E 032 ⁰ 36.675	50.9	Conversations and motor vehicles and motorcycles
	MGLSD, Naguru	N 00 ⁰ 20.043, E 032 ⁰ 36.517	53.2	Conversations and motor vehicles and motorcycles
	Naguru Remand Home	N 00 ⁰ 19.871, E 032 ⁰ 36.342	63.5	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NIRA Nakawa	N 00 ⁰ 19.896, E 032 ⁰ 36.600	55.7	Conversations and motor vehicles and motorcycles
	DPP, Naguru	N 00 ⁰ 20.815, E 032 ⁰ 36.672	55.3	Conversations and motor vehicles and motorcycles
	Uganda Police Kibuli	N 00 ⁰ 20.017, E032 ⁰ 36.081	54.3	Conversations and motor vehicles and motorcycles
	Uganda Police Nsambya	N00 ⁰ 18.529, E032 ⁰ 35.416	60.1	Conversations and motor vehicles and motorcycles
	NWSC Kansanga	N00 ⁰ 17.831, E032 ⁰ 36.270	56.7	Conversations and motor vehicles and motorcycles
	NWSC VSDF	N00 ⁰ 15.260, E032 ⁰ 37.977	53.2	Conversations and motor vehicles and motorcycles
	LDC	N00 ⁰ 19.539, E032 ⁰ 34.134	56.5	Conversations and motor vehicles and motorcycles
	URA Old Kampala	N00 ⁰ 18.889, E032 ⁰ 34.062	60.4	Conversations, music, mosque and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Kawempe General Hospital	N00 ⁰ 21.727, E032 ⁰ 33.677	65.3	Conversations, music and motor vehicles and motorcycles

With Kampala being the Capital City, there is a lot of traffic and businesses that often take place along road reserves. Number of sites are also paved, an aspect calls for proper excavation and backfilling of impacted areas. A number of roads have also been constructed repaired or are under construction, excavation Kampala shall need constant liaison with other stakeholders with ground services.



Police Station Kitintale and its surrounding road reserves
 Source: Last Mile ESIA Field Photos 2017



National Water and Sewerage Corporation, Kitintale
 Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>National Forestry Authority, Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Kiswa health centre, Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>NSSF offices, Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>NWSC Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
				
				

KCCA (Workshop)
Source: Last Mile ESIA Field Photos 2017

National Council for Disability offices
Source: Last Mile ESIA Field Photos 2017

UHRC Central Regional Office
Source: Last Mile ESIA Field Photos 2017

Naguru Remand Children's Home
Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Rakai	Rakai Hospital	S 00°42.088, E 031°24.752	33.6	Conversations and distant motor vehicles and motorcycles
	Police Station	S 00°42.056, E 031°24.294	34.1	Conversations and distant motor vehicles and motorcycles
	DLGHQs	S 00°42.373, E 031°24.204	46.9	Conversations and distant motor vehicles and motorcycles

With no connection in the district, utilization of third party facilities may help reduce on excavation works and also save on time in connecting Rakai District. Connections for the District Registrar and Town Council are within the same area making it easy for project implementation. A photographic register of some of the sites is subsequently provided:



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Mityana	Mityana DPP & Police-locations New	N00 ⁰ 27.760, E 032 ⁰ 31.552	54.1	Birds, vehicles, motorbikes and conversations
	Chief Magistrates Court	N 00 ⁰ 24.796, E032 ⁰ 3.582	48.1	Birds, vehicles, motorbikes and conversations
	URA	N 00 ⁰ 23.974, E032 ⁰ 02.577	67.9	Birds, vehicles, music, motorbikes and conversations
	Posta Mityana	N 00 ⁰ 24.992, E032 ⁰ 02.438	55.4	Birds, vehicles, motorbikes and conversations
	Mityana Hospital	N 00 ⁰ 23.787, E032 ⁰ 02.615	61.8	Birds, vehicles, motorbikes and conversations
	Prisons	N 00 ⁰ 23.269, E032 ⁰ 02.447	47.1	Birds, motorbikes and conversations
	Municipal Council	N 00 ⁰ 23.356, E032 ⁰ 02.433	54.2	Birds, vehicles, motorbikes and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC	N 00 ⁰ 23.357, E032 ⁰ 02.426	56.1	Birds, vehicles, motorbikes and conversations

Some of the offices like URA, Posta Uganda are on one stretch making connectivity easy. However, there are a number of businesses stretching to the road reserve as one moves closer to URA offices. Police in this district is also planning to shift to new offices, the planning team should look into this to provide the best connection options.





Post Office

Source: Last Mile ESIA Field Photos 2017



RDC Office Mityana

Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Road network in Mityana Source: Last Mile ESIA Field Photos 2017</p>				
District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Masindi 21/11/2017	Prisons	N01 ⁰ 40.875, E031 ⁰ 43.533	55.3	Conversations, birds, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Police Training School-Kabalye	N01 ⁰ 44.381, E031 ⁰ 42.648	47.6	Conversations, motor vehicles and motorcycles, birds and wind
	Masindi Police Station	N01 ⁰ 41.663, E031 ⁰ 42.655	54.8	Conversations, motor vehicles and motorcycles, birds and wind
	UTC Kyema	N01 ⁰ 43.207, E031 ⁰ 44.055	40.6	Conversations, motor vehicles and motorcycles, birds and wind
	Masindi Hospital	N01 ⁰ 41.054, E031 ⁰ 43.009	46.3	Conversations, motor vehicles and motorcycles
	Post Bank	N01 ⁰ 41.917, E031 ⁰ 43.375	62.3	Conversations, music, motor vehicles and motorcycles
	Bwijanga HC IV	N01 ⁰ 41.917, E031 ⁰ 43.375	46.7	Conversations, motor vehicles and motorcycles
17/05/2018	UWA Masindi Gate	N01 ⁰ 51.221, E031 ⁰ 42.590	45.8	Conversations, motor vehicles and motorcycles

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
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There are a number of sites that fall within the stretch from the junction to the Police Training School and Prisons including but not limited to Uganda Police, NSSF, EC, URA, Masindi Municipal Council and DPP. There are also a number of road side gardens (especially along route to hospital and police training school) that shall need to be put into consideration while stretches like the one to the Police Training School lack road reserves. Main routes that could be impacted include Kasarabwire road and Kampala road. A photographic register for some of the sites is subsequently presented:



Bwijanga HC IV
Source: Last Mile ESIA Field Photos 2017



Masindi Police Station
Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Police training School Kabalye Source: Last Mile ESIA Field Photos 2017</p>			
	 <p>Kampala road status (has most of the offices to be connected) Source: Last Mile ESIA Field Photos 2017</p>			





District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
	 <p>UTC Kyema Source: Last Mile ESIA Field Photos 2017</p>			 <p>Masindi Hospital Source: Last Mile ESIA Field Photos 2017</p>
	 <p>Post Office Masindi Source: Last Mile ESIA Field Photos 2017</p>			 <p>Masindi Post Bank Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Buliisa 17/05/2018	DLGHQs	N 01 ⁰ 14.954, E 030 ⁰ 45.149	41.2	Conversations, birds, motor vehicles and motorcycles
	UWA Mubako	N 02 ⁰ 15.520, E 031 ⁰ 32.482	47.9	Conversations, birds and motorcycles
	UWA Bugungu Gate	N 02 ⁰ 11.229, E 031 ⁰ 31.983	46.1	Conversations, birds and motor vehicles
<p>Connections to Buliisa and UWA in Murchison Falls National Park should majorly consider utilizing the pipeline fibre cable given the over 100km from Hoima to Buliisa and trenching of the line inside the protected area to check on potential destruction by wildlife. Environmental and social risks may be higher for some target beneficiaries located away from the local government. RDC is located in town. EC is across the road. Buliisa HC IV and Bugoigo HC IV are also far. The project team should be this into consideration during design and implementation.</p>				
Hoima 21/11/2017	DLGHQs	N 01 ⁰ 24.299, E 031 ⁰ 19.974	49.6	Conversations, birds, motor vehicles and motorcycles
	Post Bank	N 01 ⁰ 25.783, E 031 ⁰ 20.970	60.1	Conversations, motor vehicles and motorcycles



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC and Municipal	N 01 ⁰ 25.758, E 031 ⁰ 21.415	55.5	Conversations, birds, motor vehicles and motorcycles
	Posta Uganda	N 01 ⁰ 25.664, E 031 ⁰ 21.400	55.1	Conversations, birds, motor vehicles and motorcycles
	NDA	N 01 ⁰ 25.992, E 031 ⁰ 21.063	56.4	Conversations, birds, motor vehicles and motorcycles
	IOG	N 01 ⁰ 25.461, E 031 ⁰ 21.256	52.2	Conversations, birds, motor vehicles and motorcycles
	Hoima CPS	N 01 ⁰ 25.460, E 031 ⁰ 21.256	55.6	Conversations, birds, motor vehicles and motorcycles
	Chief Magistrates Court	N 01 ⁰ 25.671, E 031 ⁰ 21.346	45.6	Conversations and birds
	NSSF	N 01 ⁰ 25.674, E 031 ⁰ 21.521	59.5	Conversations, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	EC	N 01 ⁰ 25.398, E 031 ⁰ 21.301	57.7	Conversations, birds, motor vehicles and motorcycles
	URA	N 01 ⁰ 25.965, E 031 ⁰ 21.075	59.7	Conversations, motor vehicles, birds and motorcycles
16/05/2018	Kabaale Airport area	N 01 ⁰ 26.337, E 031 ⁰ 04.588	44.3	Conversations, motor vehicles and birds
	Bugoma CPF area	N 01 ⁰ 14.955, E 031 ⁰ 45.149	42.8	Conversations, motor vehicles, birds and motorcycles

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Main routes that could be potentially impacted include Kampala road, Fortportal road, Orphanage road, Main street and Kijungu road. The project execution team shall need to work closely with UNRA and other relevant stakeholders prior to excavations. A number of roads were either under construction or had been completed. There are primary schools and the Boma grounds that are often utilized by school children. A pictorial register is subsequently presented. The Kabaale Airport area as part of the industrial park had a separate ESIA carried out. Being a former settlement for refugees from Congo, twenty grave sites are in the site. Some have been compensated but the beneficiaries disappeared without transferring their graves. More graves continue to be discovered. In the course of trenching the OFC such chance finds may be found. The chance finds procedure should be prepared and a duct should be used in the industrial park to reduce the risk of chance finds. Noise levels at the airport are expected to increase during the operation phase given the anticipated number of aircrafts that shall utilize the airport. This connection to the Bugoma CPF shall provide future connection to facilities in the camps in the Kingfisher area in its neighborhood. One of the most viable options to reduce on the project footprint is to utilize the pipeline optical fibre cable tapped at points close to existing NBI in Hoima, Mutukula or Rakai.</p>				

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Hoima DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Post Bank Hoima <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Inspectorate of Government Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Hoima CPS <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Hoima Post Office Source: Last Mile ESIA Field Photos 2017</p>			 <p>Chief Magistrates Court Source: Last Mile ESIA Field Photos 2017</p>
	 <p>Hoima NMS Source: Last Mile ESIA Field Photos 2017</p>			 <p>Regional EC Office-Albertine Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
<p>Hoima NWSC Source: Last Mile ESIA Field Photos 2017</p>				 <p>Office of the RDC Hoima Source: Last Mile ESIA Field Photos 2017</p>
Lyantonde 15/11/2017	Lyantonde Hospital	S00 ⁰ 23.614, E031 ⁰ 09.174	55.9	Conversations, motor vehicles and motorcycles
	NIRA	S00 ⁰ 24.284, E031 ⁰ 09.386	44.7	Conversations, motor vehicles and motorcycles
	DPP Lyantonde	S00 ⁰ 24.39, E031 ⁰ 09.500	49.4	Conversations, motor vehicles and motorcycles
<p>The longest connect shall be on the stretch between Lyantonde LDGHQs and Lyantonde Hospital followed by the connection to the DPP that goes through various settlements or businesses. Connections to NIRA and EC shall be the short given their location along Masaka road. Roads to be impacted include Masaka Road, Lyantonde-Kaliro road.</p>				

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Stretch from Lyantonde Hospital to Lyantonde District LGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Stretch from Lyantonde District LGHQs to Lyantonde Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>DPP office Lyantonde <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>EC& NIRA offices Lyantonde <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Ntungamo 16/11/17	EC & NIRA	S00 ⁰ 52.020, E030 ⁰ 16.185	58.5	Conversations and motor vehicles and motorcycles
	Post Bank	S00 ⁰ 52.104, E030 ⁰ 16.149	63.8	Conversations and motor vehicles and motorcycles
	Prison & DPP	S00 ⁰ 52.261, E03 ⁰ 15.723	42	Conversations and motor vehicles and motorcycles

With most of the areas tarmaced in the town centre, utilization of poles or existing infrastructure may help reduce on the environmental footprint. Drilling/ borrowing below tarmac for sections where the lines cross roads should be done. Below is a pictorial register for some of the selected sites.



Post Bank Ntungamo

Source: Last Mile ESIA Field Photos 2017



Uganda Prisons , Nutngamo

Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Kabale 16/11/17	NTC +UTC	S00 ⁰ 52.259, E03 ⁰ 15.722	41	Conversations, birds and motor vehicles and motorcycles
	Prisons	S01 ⁰ 16.224, E029 ⁰ 59.172	47.1	Conversations, motorcycles and birds
	Kabale University	S01 ⁰ 16.278, E029 ⁰ 59.274	55.2	Conversations and motor vehicles and motorcycles
	NSSF	S010 15.339, E0290 59.978	43	Conversations and motor vehicles and motorcycles
	EC	S01 ⁰ 15.339, E029 ⁰ 59.976	38.2	Conversations and motor vehicles and motorcycles
	IGG	S01 ⁰ 15.395, E029 ⁰ 59.707	46.1	Conversations and motor vehicles and motorcycles
	DPP	S01 ⁰ 14.868, E029 ⁰ 59.550	54.5	Conversations and motor vehicles and motorcycles
	Rushoroza HCIV	S01 ⁰ 17.345, E029 ⁰ 59.795	47.4	Conversations and motor vehicles and motorcycles
	NARO	S01 ⁰ 14.781, E029 ⁰ 59.506	50.7	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
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A number of offices shall be moving to Kikungiri hill where the High Court is located. This therefore calls for utilization of more flexible approaches to these connections like poles since these can easily be relocated. Roads to be potentially impacted include Bunigo road, Mbarara road, Kisoro road and sections off Katuna road. Most connections shall be along Mbarara road for offices like BOU, Posta, Post Bank, NSSF among others. A pictorial register for some of the sites is subsequently presented.



National Teachers College Kabale
 Source: Last Mile ESIA Field Photos 2017



Route to National Teachers College Kabale. Notice the paved ground
 Source: Last Mile ESIA Field Photos 2017

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Kabale University main entrance <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Rushoroza HCIV <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>General outlook of the street to provide most distributions <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>DPP Kabale <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>NIRA Kabale Source: Last Mile ESIA Field Photos 2017</p>		 <p>Noitce roadside garden along NIRA access route Source: Last Mile ESIA Field Photos 2017</p>		
Mbarara 17/11/17	NARO Turn off	S00 ⁰ 36.064, E030 ⁰ 36.873	39.9	Conversations, birds, motor vehicles and motorcycles
	NARO office area	S00 ⁰ 36.168, E030 ⁰ 36.632	35.1	Conversations, birds, motor vehicles and motorcycles
	MUBS, UMI + NEMA	S00 ⁰ 36.590, E030 ⁰ 38 579	46.1	Conversations, birds, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Near Boma grounds	S00 ⁰ 36.365, E030 ⁰ 39.240	38.2	Conversations, birds, motor vehicles and motorcycles
	EC and NIRA	S00 ⁰ 36.358, E03 ⁰ 39.233	39.4	Conversations, birds, motor vehicles and motorcycles
	NWSC	S00 ⁰ 37.082, E030 ⁰ 38.722	58.9	Conversations, birds, motor vehicles and motorcycles
	Nyamitanga Technical Institute	S00 ⁰ 37.234, E03 ⁰ 30.719	52.7	Conversations, birds, motor vehicles and motorcycles
	Prisons	S00 ⁰ 36.933, E03 ⁰ 39.657	52.6	Conversations, motor vehicles and motorcycles
	Post bank-Post office	S00 ⁰ 36.498, E03 ⁰ 39.645	66.5	Conversations, birds, motor vehicles and motorcycles
	Uganda blood transfusion	S00 ⁰ 36.788, E030 ⁰ 38.671	43.5	Conversations, birds, motor vehicles and motorcycles

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
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Universities in this area just like in all other areas visited during the study already utilize another system, an aspect that the client shall need to put into consideration. There are plans to modernize Kamukuzi under the MLHUD which shall see a number of units constructed in the area. This development could also see some of the potential users from UMI and MUBS joining the local government as they have also been allocated land in that area. , NITA-U shall ensure that this if put on the radar for future connections. Roads to be potentially impacted include Kabale road, Bushenyi road, High Street, Isingiro road and Kakyeka road. Below is a pictorial register for selected sites:





Mbarara Hospital Blood Bank
Source: Last Mile ESIA Field Photos 2017



General High Street outlook (providing most connections)
Source: Last Mile ESIA Field Photos 2017

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Mbarara Post Office <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Route to Uganda Prisons Mbarara <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>NWSC Mbarara <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Inspectorate of Government Mbarara <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>DLGHQs, MUBS and UMI area Source: Last Mile ESIA Field Photos 2017</p>		 <p>NARO Mbarara Entrance Source: Last Mile ESIA Field Photos 2017</p>		
Kyenjojo 07/12/2017	NWSC	N 00 ⁰ 36.799, E 030 ⁰ 38.494	51.3	Conversations, motor vehicles and motorcycles, birds and wind
	General Hospital	N 00 ⁰ 36.833, E 030 ⁰ 38.404	53.4	Conversations, motor vehicles and motorcycles, birds and wind
	District Headquarters	N 00 ⁰ 37.028, E 030 ⁰ 38.292	42.8	Conversations, motor vehicles and motorcycles, birds and wind
	DPP& Court	N 00 ⁰ 37.044, E 030 ⁰ 38.340	38.1	Conversations, motor vehicles and motorcycles, birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Police Station	N 00 ⁰ 36.755, E 030 ⁰ 38.548	50.9	Conversations, motor vehicles and motorcycles, birds and wind
	Prison & Town Council	N 00 ⁰ 35.592, E 032 ⁰ 38.552	55.4	Conversations, motor vehicles and motorcycles, birds and wind



At a number of points like the main gate of this hospital, there are boda-boda stages and businesses that could be impacted by the project. Routes to be impacted include Fort Portal highway and Kamwenge road. A photographic register for selected sites is subsequently provided:



NWSC
Source: Last Mile ESIA Field Photos 2017









Kyenjojo General Hospital
Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Local Government Offices Source: Last Mile ESIA Field Photos 2017</p>		 <p>Court Source: Last Mile ESIA Field Photos 2017</p>		
Kyegegwa	Town council	N 002 ⁰ 28.924, E 031 ⁰ 03.527	46.1	Conversation, birds and occasionally distant vehicles and motor cycles
	District Registrar's Office	N 00 ⁰ 28.650, E 031 ⁰ 03.103	40.0	Conversation and birds
	Central Police Station	N 00 ⁰ 28.892, E 031 ⁰ 03.458	53.6	Conversation and motor vehicles and motor cycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Local Government Office	N 00 ⁰ 29.316, E 031 ⁰ 03.734	40.8	Conversation and birds
	Prison	N 00 ⁰ 29.416, E 031 ⁰ 03.683	40.0	Conversation, wind and birds
	Kyegegwa Court	N 00 ⁰ 29.003, E 031 ⁰ 03.589	53.6	Conversation, vehicles and motor cycles
	HC IV	N 00 ⁰ 29.044, E 031 ⁰ 03.207	52.3	Conversation, vehicles and motor cycles
	RDC	N 00 ⁰ 29.242, E 031 ⁰ 03.776	42.0	Conversation, birds and occasionally distant vehicles and motor cycles

Main roads to be impacted include the Fort Portal highway while some offices seemed located in temporary units and could be relocated in the near future. This needs to be put into consideration during the project implementation phase A photographic register is subsequently provided:

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kyegegwa Town Council Source: Last Mile ESIA Field Photos 2017</p>				 <p>Registrar offices Kyegegwa district Source: Last Mile ESIA Field Photos 2017</p>
 <p>Kyegegwa Central Police Station Source: Last Mile ESIA Field Photos 2017</p>				 <p>Kyegegwa District Local government offices Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
				
	Kyegegwa prison			
	<i>Source: Last Mile ESIA Field Photos 2017</i>			
	Kyegegwa Health Centre IV			
	<i>Source: Last Mile ESIA Field Photos 2017</i>			
Kagadi	District Registry	N 00 ⁰ 56.174, E 030 ⁰ 48.740	52.6	Conversations, Conversations, birds, motor vehicles and motorcycles , birds and wind
Kasese 07/12/2017	Municipal Council	N 00 ⁰ 10.796, E 030 ⁰ 04.567	42.3	Conversations, motor vehicles, motorcycles, birds and wind
	NWSC	N 00 ⁰ 10.748, E 030 ⁰ 04.599	49.9	Conversations, motor vehicles, motorcycles, birds and wind
	District Registrar	N 00 ⁰ 10.105, E 030 ⁰ 04.739	57.5	Conversations, motor vehicles, motorcycles, birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Divisional Police Head Quarters	N 00 ⁰ 10.497, E 030 ⁰ 04.927	57.0	Conversations, motor vehicles, motorcycles, birds and wind



Routes to be impacted include Rwenzori road near the Municipal Council, Ermine Persha road and some road networks in Kasese Town. A pictorial register is subsequently presented.





Kasese Municipal Council
 Source: Last Mile ESIA Field Photos 2017





National Water Kasese Area
 Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
<p>UBC Ngeya FM Kasese Source: Last Mile ESIA Field Photos 2017</p>		<p>Office of the District Registrar Kasese Source: Last Mile ESIA Field Photos 2017</p>		
Rubirizi 08/12/2017	UWA	S 00 ⁰ 08.924, E 030 ⁰ 03.807	45.7	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Sub County	S 00 ⁰ 08.123, E 030 ⁰ 03.360	42.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Kichamba Sub County	S 00 ⁰ 14.545, E 030 ⁰ 05.587	51.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC	S 00 ⁰ 15.829, E 030 ⁰ 06.405	56.2	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	RDC and LG officers	S 00 ⁰ 16.366, E 030 ⁰ 06.443	48.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	District Head Quarters	S 00 ⁰ 17.449, E 030 ⁰ 06.312		Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Town Council & Court	S00 ⁰ 17.325, E 030 ⁰ 06.321	40.4	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
<p>Main roads to be impacted include the Fort Portal highway while some offices seemed located in temporary units and could be relocated in the near future. This needs to be put into consideration during the project implementation phase A photographic register is subsequently provided:</p>				



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>UWA offices Rubirizi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Wildlife along a road in Rubirizi <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Katunguru Sub County offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Rubirizi District Town Council and court <i>Source: Last Mile ESIA Field Photos 2017</i></p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Sheema	DLGHQs	S 00°24.231, E031°27.690	41.1	Motor vehicles, wind, conversations, birds, animals
Offices for NIRA and the RDC are found within the same area in Kibingo Village, Nyakashambya Ward, Sheema Central Division. A photographic register is subsequently provided:				
				
Offices within the Sheema DLGHQs locality <i>Source: Last Mile ESIA Field Photos 2018</i>				
Lwengo	DLGHQ	S 00°24.231, E 031°27.690	46.9	Conversations, birds, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Connection to this area shall be from the existing line at the RDCs office. Lwengo also has two main landlords one of whom gave the District land. These landlords should be consulted together with the district leadership prior to project implementation. With consideration of the fact that it is a new district, there should consideration of peoples crops as proper demarcation of roads is yet to be fully effected. NITA-U should ensure that aspects of valuation and compensation should be looked into with support from sister agencies responsible for this.</p>				
Mubende 05/12/2017	NWSC	N 00 ⁰ 33.671, E 031 ⁰ 23.506	44.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	RDC, Court DPP High and	N 00 ⁰ 33.747, E 031 ⁰ 23.418	45.2	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Municipal Council	N 00 ⁰ 33.639, E 031 ⁰ 23.484	53.6	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Regional Hospital	N 00 ⁰ 34.113, E 031 ⁰ 23.602	51.0	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Works Offices	N 00 ⁰ 35.180, E 031 ⁰ 23.672	46.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Prison Kaweeri	N 00 ⁰ 35.086, E 031 ⁰ 23.649	33.8	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	District Head Quarters	N 00 ⁰ 34.280, E 031 ⁰ 23.551	44.9	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind

Sites in Mubende also have a number of businesses in their proximity like retails shops, Chapati bakers, bodaboda stage and store for cereals like maize and rice. There are also a number of schools like the Kaweeri Model Primary School. Roads that could be potentially impacted include Kakumiro road and Kiwalabye road. The photographic register for some selected sites in subsequently presented:

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Municipal Council Source: Last Mile ESIA Field Photos 2017</p>				 <p>Mubende Regional Referral Hospital Source: Last Mile ESIA Field Photos 2017</p>

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kweeri Prison Mubende <i>Source: Last Mile ESIA Field Photos 2017</i></p>		 <p>Mubende district headquarters <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Kabarore	Regional Electoral Office	N 00° 39.133, E 030°16.548	38.6	Birds and conversations

Appendix 12: Waste Management Plan

Appendix 12: Waste Management Plan



**NATIONAL INFORMATION TECHNOLOGY AUTHORITY
WASTE MANAGEMENT PLAN**

October 2017

Action Parties	Designation	Signature
Prepared		

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DOCUMENT NUMBER: NITA-U/2017/PLN_01		

Revision Control

Revision:	Para /Sect	Change Description

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The above section must be fully completed at each revision upon document approval. It should provide details on pages revised, date of the revision and paragraph with clear indication approval of known authority.

TABLE OF CONTENTS

ACKNOWLEDGEMENT	II
LIST OF ABBREVIATIONS.....	X
EXECUTIVE SUMMARY	XIII
CHAPTER ONE	1
1.0. Introduction.....	1
1.1 Objectives for the Environmental and Social Impact Study	2
1.2. Purpose and scope of environmental impact assessment.....	2
1.3. ESIA study team and responsibilities.....	3
1.3.1 Limitations	4
1.4. Methodology	4
1.5. Structure of the Report.....	5
The Environmental and Social Impact Statement [ESIS] covers the following key aspects:	5
CHAPTER TWO.....	7
2.0 Institutional, Policy, Legislation and Regulatory Considerations	7
2.1 Institutional Framework.....	7
2.1.1. The National Environment Management Authority (NEMA).....	7
2.1.2. Ministry of Information, Communication and Technology [MoICT] and National Guidance	7
2.1.3 The National Information Technology Authority-Uganda (NITA-U)	8
2.1.4 The Uganda National Bureau of Standards (UNBS).....	8

2.1.5. Ministry of Gender, Labour and Social Development (MoGLSD)	8
2.1.6. Ministry of Tourism, Wildlife and Antiquities	8
2.1.7. Ministry of Trade, Tourism and Industry (MTTI).....	9
2.1.8. Kampala Capital City Authority (KCCA)	9
2.1.9. Local Government Administration Structures	9
2.1.10 National Forestry Authority, NFA	10
2.1.11 Uganda Wildlife Authority (UWA)	10
2.1.12 Ministry of Water and Environment	10
2.2. Policy Framework	11
2.2.1. The National Environment Management Policy, 1994.....	11
2.2.2 Information Management Services Policy Draft V.8 2011	11
2.2.3 Electronic Waste (E-Waste) Management Policy, 2012.....	11
2.2.4 National ICT Policy, 2012.....	12
2.2.5 Telecommunications Policy, 1996.....	12
2.2.6 The National Culture Policy, 2006.....	12
2.2.7 The National Land Use Policy, 2007	13
2.2.8 Wetlands Policy, 1995	13
2.2.9 National Water Policy, 1999	13
2.2.10 Wildlife Policy, 1999	13
2.2.11 National Gender Policy, 1997.....	14
2.2.12 HIV/AIDS Policy, 1992	14
2.2.13 National Development Plan (NDP), 2010	14
2.2.14 Uganda’s Vision, 2040.....	15
2.2.15 National Policy on Disability in Uganda, 2006.....	15
2.2.16 World Bank Safeguards Policies.....	15
2.2.17 Museums and Monuments Policy (2015)	16
2.2.18 Uganda National Culture Policy 2006.....	16
2.3 Legal Framework	17
2.3.1 Constitution of the Republic of Uganda, 1995.....	17
2.3.2 The Electronic Signatures Act, 2011.....	17
2.3.3 Computer Misuse Act, 2010.....	17
2.3.4 The Electronic Transaction Act 2011.....	18

2.3.5 Copyright and Neighboring Rights Act, 2006	18
2.3.6 National Environment (Wetlands, River Banks and Lakeshores management) Regulations, 2000	18
2.3.7 National Environment (Hilly and Mountainous Areas management) Regulations, 2000	18
2.3.8 National Environment (Minimum Standards for Management of Soil Quality) Regulations, 2001	19
2.3.9 Environment (Noise Standards and Control) Regulations, 2003.....	19
2.3.10 National Environment (Waste Management) Regulations, 1999	19
2.3.11 National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, 1999	19
2.3.12 Draft National Air Quality Standards, 2013	20
2.3.13 Occupational Health and Safety Act, 2006.....	20
2.3.14 Uganda Wildlife Act, 2000.....	20
2.3.15 The Physical Planning Act, 2011	20
2.3.16 Public Health Act, 1935	21
2.3.16 Employment Act, 2006	21
2.3.17 Workers' Compensation Act, 2000.....	21
2.3.18 Local Governments Act, 2015	22
2.3.19 Petroleum Supply Act, 2003.....	22
2.3.20 Road Act, Cap 358.....	22
2.3.21 Historical Monuments Act Cap 46, 1967 amended in a Decree in 1977	22
2.3.22 The National Environment Act, Cap 153	23
2.3.23 The National Environment (Audit) Regulations, 2006.....	23
2.3.24 The National Environment (Environment Impact Assessment) Regulations, 1998	23
2.3.25 World Bank Group General EHS Guidelines	24
2.3.26 International Agreements/ Conventions	24
Table 2.1: International Agreements	24
CHAPTER THREE	25
3.0. Environmental baseline conditions	25
3.1. Location	25
3.1.1 Ownership	25
3.2. Biophysical Environment.....	26
3.2.1. Morphology, Relief and Drainage.....	26
3.2.2. Climate.....	26

Figure 3.1: The homogeneous climatological rainfall zones of Uganda, after Basalirwa (1995)	27
Table 3.1: The Regions and Stations used	27
3.2.2.1 Rainfall Characteristics in Central Region.....	28
Figure 3.2a: Makerere mean mon. R/F 1991-2010	28
Figure 3.2b: Makerere mean mon. Max Temps 1991-2010.....	29
Figure 3.2c: Makerere mean mon. min 1991-2010.....	29
3.2.2.2 Rainfall Characteristics in the Eastern Region.....	29
Mean monthly Temperature characteristics in the Eastern Region.....	30
Figure 3.3b: Buginyanya mean mon. Min. and Max. Temperature 1980 -2010	30
3.2.2.3 Rainfall Characteristics of the Western Region	31
Figure 3.4b: Mbarara Mean mon Max. Temps 1981 - 2013	31
Figure 3.4c: Makerere mean mon.Min. Temps 1981 -2013.....	32
3.2.2.3 Rainfall Characteristics of the Northern Region	32
Figure 3.5a: Gulu Mean monthly rainfall 1990-1912	32
Figure 3.5b: Gulu mean monthly Max. Temps 1990 - 2012.....	33
Figure 3.5c: Gulu mean monthly Min. Temp 1990 - 2012	34
3.2.3. Geology and Soils.....	34
Figure 3.6a: Geological outline of Uganda. WNB = West Nile Block, NUT = North Uganda Terrane, WTT = West Tanzania Terrane and LVT = Lake Victoria Terrane. RW = Rwenzori Terrane	35
3.2.3.1 Lake Victoria Terrane	35
Figure 3.6b: Distribution of Iganga Suite granitoid members.....	36
3.2.3.2 West Tanzania Terrane.....	36
Figure 3.6c: Geological map of the West Tanzania Terrane with TTG gneisses, Tororo Suite and Kampala Suite.	37
3.2.3.3 Tororo Suite	37

Figure 3.6d: Geology of Tororo district showing the Tororo Suite	38
3.2.3.4 Kampala Suite	38
3.2.3.5 Rwenzori Fold Belt.....	39
3.2.3.6 North Uganda Terrane.....	40
3.2.4.1 Vegetation Cover for the Eastern-Northern Routes.....	41
Figure 3.7: Species distribution in their respective life form in the Eastern-Northern Routes Vegetation cover	43
3.2.4.2 Vegetation Cover for the Western- Southern Routes	44
Figure 3.8: Species distribution in their respective life form	44
Figure 3.9: Proportionality and species status from all the sampled towns	45
3.2.4.3 Vegetation Cover for the Central Routes.....	45
Figure 3.10: Proportionality and species status from all the Districts....	46
3.2.5. Fauna	46
3.2.5. Noise generation.....	46
3.3. Socio-Economic Environment.....	47
3.3.1. Population	47
3.3.2. Urbanization.....	47
3.3.3. Safe water and sanitation.....	47
3.3.4. Project Environmental and Social Setting	48
3.3.4.1 Archaeology and Cultural heritage.....	48
Ethnographic inquiries (interviews).....	49
Archaeological survey	49
Plate 3.1: Systematic archaeological survey	50
Kiryandongo Archaeological site 1	50
Plate 3.2: String knotted roulette potsherds.	51
Kiryandongo Archaeological site 2.	51
Plate 3.3: Mammilated wavy line roulette decoration.....	51

Gulu Archaeological site 1	51
Plate 3.4: Potsherds of knotted, curved wood roulette and bones	52
Nakasongola Archaeological site 1	52
Plate 3.5: A bone in situ and curved wood Roulette decorated pottery..	52
3.3.4.2 Living Culture	52
Gulu mass grave/ cemetery.....	53
Plate 3.6: The new Uganda Human Rights Commission Block.....	53
3.3.4.3 Assessment of Impact	53
3.3.4.4 Strengths and Opportunities of the project	54
3.3.4.5 Weaknesses and Threats.....	54
3.3.4.6 Project Area Photographic and Noise Presentations.....	55
3.3.4.8 ICT access.....	55
CHAPTER FOUR	56
4.0. Project Description	56
Project Components and sub components.....	56
4.1.1. Objectives and justification for the project.....	57
4.2. General Description.....	58
4.3. Site Preparation	58
4.3.1. Construction Works	58
4.3.2. Expected Implementation Materials.....	58
4.4. Operation phase.....	59
4.4.1. Description of the Operational Works/ Phase	59
4.5. Waste Management Facilities.....	59
4.6 Decommissioning phase	59
4.7. Roles and Responsibilities	60
4.7.1. The Role of NEMA and Lead Agencies.....	60
4.7.2. The Role of Ministry of Gender, Labour and Social Development.....	60
4.7.3. The Role of Local Government	60
4.7.4. The Role of the Developer	61

4.7.5. The Role of the contractor.....	61
4.7.6. The Role of the Ministry of ICT and National Guidance	62
4.7.7. The Local Communities	62
4.7.8. The Monitoring Team	62
Reporting Arrangements.....	63
4.7.9 Grievance Resettlement Mechanism.....	63
4.7.10. Contractors	64
4.8. Emergency Response.....	64
CHAPTER FIVE.....	65
5.0. Analysis of project alternatives	65
5.1 Technology Alternatives	65
5.2. A different location.....	65
5.3. The “No Go” Alternative.....	65
5.4. Alternative FOC Designs	66
CHAPTER SIX.....	67
STAKEHOLDER/ PUBLIC CONSULTATIONS.....	67
6.1. Public consultations.....	67
Table 6.1: Stakeholders’ views during public consultation.....	67
CHAPTER SEVEN.....	77
7.0. Evaluation of Environmental, Social, Health and Safety Impacts.....	77
7.1 Prediction and Analysis of Impacts	77
Table 7.1: Impact Assessment Criteria	77
7.2 Construction Phase	78
7.2.1 Potential Positive Impacts	78
Job Opportunities.....	78
Table 7.2: Impact Assessment for Job Opportunities	79
Plate 7.1: Fruit Stalls in Kaberamaido and Water Bought by the ESIA Field Team in the Car	79
Optimisation	79

Table 7.3: Impact Assessment for Income Opportunities	80
7.2.2 Potential Negative Impacts.....	80
Plate 7.2: BodaBodas, Chapatti Makers and a Shoe Trader Disrupted by OFC like Trenching Works at the UH Makerere University Gate	Error! Bookmark not defined.
Table 7.4: Impact Assessment for the Livelihood Risk .	Error! Bookmark not defined.
Plate 7. 3: Contractor Blocks Access to a Hardware Shop with Debris in Matugga	Error! Bookmark not defined.
Table 7.5: Impact Assessment for Business Losses.....	Error! Bookmark not defined.
Plate7. 4: Mobility Disrupted by OFC Trenching Works at the UH Makerere University Gate	Error! Bookmark not defined.
Table 7.6: Impact Assessment for the Mobility Disruption	Error! Bookmark not defined.
Table 7.7: Impact Assessment for Child Labour and Exploitation	81
Table 7.8: Impact Assessment for Prostitution, Multi-Sexual Partners and Social Disorders	82
Table 7.9: Impact Assessment for Increased Crime Incidence	83
Plate 7.5: Achilo Corner Primary School at Lwala-Kaberaido 15 Km Stretch to be trenched	83
Table 7.10: Impact Assessment for Sexual offences.....	84
Table 7.11: Impact Assessment for Airborne diseases.....	84
Table 7.12: Impact Assessment for Slips, Trips and Falls	85
Table 7.13: Impact Assessment for Traffic Accidents and Flow Disruptions	86
7.14: Impact Assessment for Morale Degeneration.....	86
Plate7. 6: A Grave Marked in one of the Karamoja Roads for illustration of Chance Finds	87
Table 7.15: Impact Assessment for the Physical and Cultural Resources (PCRs).....	88
Alteration of Visual and Aesthetic Quality of Sites	Error! Bookmark not defined.
Plate7. 7: Footprint of OFC Trenching Work at Mega FM (Gulu) and the Makerere University UH Gate Respectively	Error!
Bookmark not defined.	
Table 7.16: Impact Assessment for the Physical and Cultural Resources (PCRs)	Error! Bookmark not defined.
Disruption of Access to Utilities and Infrastructure	Error! Bookmark not defined.
Table 7.17: Impact Assessment for Public Facilities	Error! Bookmark not defined.

Plate 7.9: Typical poor PPE culture in Uganda during excavations, Last Mile to avoid such cultures during project implementation	88
Table 7.18: Impact Assessment for WRULDs	89
7.3 Operations Phase	89
Plate 7.10: A Functional OFC Sub-Station at Mega FM in Gulu	89
Table 7.19: Impact Assessment on Access to Public Services and Information	90
Table 7.20: Impact Assessment on Loss of Market Opportunities by Internet Cafes....	91
Table 7.21: Impact Assessment of the Burden of Disease	91
Table 7.21: Impact Assessment on the Rise of Crime Levels	92
Alteration in Visual Aesthetics	92
Table 7.22: Impact Assessment on Alterations in Visual Aesthetics	93
Plate 7. 9: NWSC Pipes in Kalerwe Cut in the on Going Road Works .	93
Plate 7. 10: NWSC System Safely Burrowed Under the Panaora Hotel Road in Nakapiripirit	94
Table 7.23: Impact Assessment on the Rampant Cutting of the OFC.....	95
Table 7.24: Impact Assessment for Mobility Disruptions	Error! Bookmark not defined.
7.4 Decommissioning Phase	95
Plate 7.11: Potential E-Waste outside an existing Sub-Station in Gulu and a General Waste Bin of Kaberamaido District Local Government	95
Plate 7.12: Makerere University UH Gate Now After Restoration of the OFC Cable depicting change in scenic appearance	96
7.5 Environment Social Safety and Health Risk Assessment	96
Table 7.25: Environment Social Safety and Health Risk Assessment	97
CHAPTER EIGHT	111
ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN	111
8.0. Environment and Social Management and Monitoring Plan (ESMMP).....	111
8.1. Structure of the ESMMP	111

Table 8.1: Summary of the Environment and Social Management and Monitoring Plan for the Last Mile RCIP Project Components	112
Cultural Heritage Management Plan	139
Table 8.2: Proposed mitigation measures for potential negative impacts on cultural heritage resources.	139
Table 8.3: Assessment of Significance	140
Monitoring Plan	140
Table 8.4: Archaeology and cultural heritage Monitoring Plan.....	141
Chance Finds Procedures.....	141
Procedures to address chance find	141
CHAPTER NINE.....	143
PROJECT DECOMMISSIONING	143
9.0. Decommissioning	143
BIBLIOGRAPHY	144
APPENDICES	147
Appendix 1: Examples of layouts for the routes in selected districts to be visited.....	147
Appendix 2: UNRA clearance to utilize road reserves for project activities	148
Appendix 4: Risk Matrix	151
Appendix 5: Cultural heritage, archaeological and historical sites	152
Appendix 6: Plant Species Composition.....	165
Appendix 7: Emergency / Incident Response System.....	226
Appendix 8: Stakeholder consultation records	227
Appendix 9: TORs approval	252
Appendix 10: Resolution of Parliament to Borrow Funds for the Project from International Development Association	254
Appendix 11: General Site Descriptions - Project Area Photographic and Noise Presentations	256
Appendix 12: Waste Management Plan.....	381
INTRODUCTION.....	398
PURPOSE	399
SCOPE.....	399
DEFINITIONS.....	400
ABBREVIATIONS	401

RESPONSIBILITIES	402
Director Technical Services (DTS)	402
NITA-U Project Specific Team Members/ Supervisors/ Managers	402
Contractor Health Safety and Environment Supervisors	402
NITA-U Project Partners	403
Environmental specialist (ES).....	403
Waste Handling Contractors	403
All Personnel and 3rd Parties.....	403
GENERAL PRINCIPLES.....	403
WASTE MINIMISATION AND REUSE.....	404
Waste Reuse and Recycle Programs.....	404
RECYCLING OF E-WASTE	405
WASTE CLASSIFICATION.....	405
WASTE MANAGEMENT PROCEDURE.....	405
STORAGE, SEGREGATION AND HANDLING OF WASTE	406
MANIFESTING/CONSIGNING OF WASTE.....	407
WASTE DISPOSAL FACILITIES	407
MONITORING AND REPORTING	408
NON-CONFORMANCE	408
INDUCTIONS, TRAINING AND AWARENESS.....	409
APPENDIX A – WASTE TRANSFER FORM.....	410
Appendix 13: Operations Site Survey Report Format.....	414
Table 7.14: Impact Assessment for Morale Degeneration	417
Plate7. 6: A Grave Marked in one of the Karamoja Roads for illustration of Chance Finds	418
Table 7.15: Impact Assessment for the Physical and Cultural Resources (PCRs)	419
Alteration of Visual and Aesthetic Quality of Sites	419
Plate7. 7: Footprint of OFC Trenching Work at Mega FM (Gulu) and the Makerere University UH Gate Respectively	420

Table 7.16: Impact Assessment for the Physical and Cultural Resources (PCRs).....	421
Disruption of Access to Utilities and Infrastructure	421
Table 7.17: Impact Assessment for Public Facilities	423
Plate 7.9: Typical poor PPE culture in Uganda during excavations, Last Mile to avoid such cultures during project implementation	424
Table 7.18: Impact Assessment for WRULDs	424
7.3 Operations Phase	425
Plate 7.10: A Functional OFC Sub-Station at Mega FM in Gulu	426
Table 7.19: Impact Assessment on Access to Public Services and Information.....	427
Table 7.20: Impact Assessment on Loss of Market Opportunities by Internet Cafes..	428
Table 7.21: Impact Assessment of the Burden of Disease	428
Table 7.21: Impact Assessment on the Rise of Crime Levels	430
Alteration in Visual Aesthetics	430
Table 7.22: Impact Assessment on Alterations in Visual Aesthetics	431
Plate 7. 9: NWSC Pipes in Kalerwe Cut in the on Going Road Works	432
Plate 7. 10: NWSC System Safely Burrowed Under the Panaora Hotel Road in Nakapiripirit	433
Table 7.23: Impact Assessment on the Rampant Cutting of the OFC.....	434
Table 7.24: Impact Assessment for Mobility Disruptions.....	435
7.4 Decommissioning Phase	435
Plate 7.11: Potential E-Waste outside an existing Sub-Station in Gulu and a General Waste Bin of Kaberamaido District Local Government	436
Plate 7.12: Makerere University UH Gate Now After Restoration of the OFC Cable	437
7.5 Environment Social Safety and Health Risk Assessment.....	437
Table 7.25: Environment Social Safety and Health Risk Assessment	439
CHAPTER EIGHT	457
ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN	457

8.0. Environment and Social Management and Monitoring Plan (ESMMP).....	457
8.1. Structure of the ESMMP	457
Table 8.1: Summary of the Environment and Social Management and Monitoring Plan for the Last Mile RCIP Project Components	458
Cultural Heritage Management Plan	500
Table 8.2: Proposed mitigation measures for potential negative impacts on cultural heritage resources.	500
Table 8.3: Assessment of Significance	501
Monitoring Plan	502
Table 8.4: Archaeology and cultural heritage Monitoring Plan.....	503
Chance Finds Procedures.....	503
Procedures to address chance find	504
CHAPTER NINE.....	506
PROJECT DECOMMISSIONING	506
9.0. Decommissioning	506
BIBLIOGRAPHY	507
APPENDICES	511
Appendix 1: Examples of layouts for the routes in selected districts to be visited.....	511
Appendix 2: UNRA clearance to utilize road reserves for project activities	513
Appendix 4: Risk Matrix	514
Appendix 5: Cultural heritage, archaeological and historical sites	516
Appendix 6: Plant Species Composition.....	530
Appendix 7: Emergency / Incident Response System.....	590
Appendix 8: Stakeholder consultation records	591
Appendix 9: TORs approval	616
Appendix 10: Resolution of Parliament to Borrow Funds for the Project from International Development Association	618
Appendix 11: General Site Descriptions - Project Area Photographic and Noise Presentations	620
Appendix 12: Waste Management Plan.....	Error! Bookmark not defined.
INTRODUCTION.....	757
PURPOSE	757
SCOPE.....	758

DEFINITIONS	758
ABBREVIATIONS	759
RESPONSIBILITIES	760
Director Technical Services (DTS)	760
NITA-U Project Specific Team Members/ Supervisors/ Managers	760
Contractor Health Safety and Environment Supervisors.....	760
NITA-U Project Partners	760
Environmental specialist (ES).....	760
Waste Handling Contractors	760
All Personnel and 3rd Parties.....	760
GENERAL PRINCIPLES	760
WASTE MINIMISATION AND REUSE	761
Waste Reuse and Recycle Programs.....	761
RECYCLING OF E-WASTE	761
WASTE CLASSIFICATION	762
WASTE MANAGEMENT PROCEDURE	762
STORAGE, SEGREGATION AND HANDLING OF WASTE	762
MANIFESTING/CONSIGNING OF WASTE	763
WASTE DISPOSAL FACILITIES	764
MONITORING AND REPORTING	764
NON-CONFORMANCE	764
INDUCTIONS, TRAINING AND AWARENESS	765
APPENDIX A – WASTE TRANSFER FORM	766
Appendix 13: Operations Site Survey Report Format.....	768

INTRODUCTION

This Waste Management Plan provides guidance on waste handling in NITA-U operations. It is prepared to ensure compliance to NITA-U internal policies, Uganda regulations and International Best Practice. It further provides guidance for both office and field operations providing guidance on roles and responsibilities in waste handling (production, collection, storage and disposal). Attention is drawn to the fact that existing waste management regulations in Uganda prohibit disposal of any form of waste on land, water or in air except when it conforms to prevailing national regulatory standards. It is also a requirement in the National Environment (Waste Management) Regulations, 1999, and will be in the draft 2018 waste management regulations for waste transporters and disposal sites obtain licensure from NEMA. With the main waste stream in NITA-U related projects being electronic waste specific reference shall be made to the draft waste management regulations as therein is detail on electronic waste management.

Below are some applicable local and international laws and guidelines:

- National Environment Act, Cap 153
- Water (Waste Discharge) Regulations, 1998
- Public Health Act, Cap 281
- Ferries Act, Cap 355
- Inland Water Transport (Control) Act, Cap 356
- National Environment (Waste Management) Regulations, 1999
- EIA Regulations (1998)
- The Land Act, 1997
- National Environment (Wetlands, River Banks and Lake Shores Management) Regulations, 2001
- Wildlife Act, Cap 200 of 2000
- Standards for Discharge of effluent into water or land regulations
- Minimum standards for management of soil quality regulations (2001)
- Management of Ozone Depleting substances and products regulations (2001)
- Constitution of Republic Of Uganda (Chapter 3, section 245)
- Investment Code, 1991
- National Environment (Discharge of Effluent) Regulations, 1999

PURPOSE

This plan provides practical guidance on management of all waste streams attached to NITA-U operations and or handling of waste generated. It is a compliance tool that supports practical guidance to ease both implementation and supervision of waste management activities. In the event that waste management plans of either the contractors or NITA-U differ, the more stringent plan shall apply with guidance from competent teams.

The NITA-U Compliance Policy Statement/ compliance commitment statement provides for adherence to performance of activities in environmentally responsible way which entails Pollution prevention and Pollution minimization in our activities. To achieve this, the following have been streamlined as pertinent:

- Understand the value of knowledge on environmental compliance in our areas of focus
- Commit to waste minimisation through appropriate maintenance and purchase of sound equipment
- Commit to playing a great role in environmental compliance around communication and E-waste management
- Streamline all waste streams associated with our operations as NITA-U and for our contractors
- Provide for continuous improvement in compliance related aspects of our operations.

SCOPE

This Waste Management Plan applies to all waste, hazardous and non hazardous waste including electronic waste, general domestic waste, grey and black water among others from:

- Stations and poles (both treated and untreated)
- Office facilities
- Transport services
- Excavation works

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

- Facilities maintenance works and
- Management or disposal options for end of life facilities/ units

DEFINITIONS

Waste Includes any matter prescribed to be waste, and any radioactive matter, whether liquid, solid, gaseous or radioactive which is discharged, emitted or deposited into the environment in such volume, composition or manner as to cause an alteration of the environment.

General Waste Material free of any apparent or actual pathological/infectious, radioactive or hazardous chemical contamination.

Hazardous waste Any waste specified in the Fifth Schedule of the National Environment (Waste Management) Regulations. S.I.No 52/1999, 2nd, 4th Schedule (Regulation 2), Guidelines for determination of some hazardous characteristics.

Electrical electronic equipment or means equipment which is dependent on electric currents or electromagnetic fields in order to function properly, as well as equipment for the generation, transfer, distribution and measurement of such currents and fields, including the components necessary for the cooling, heating and protection of the electrical or electronic equipment

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

Electrical or Waste from electrical or electronic equipment or any part of that
electronic waste equipment, including equipment that is old, obsolete, has reached end-
of-life or has ceased to be of any value to its owners.

Waste Contractor NEMA licensed Waste management contractor

ABBREVIATIONS

ES Environmental Specialist

HSE Health Safety and Environment

MSDS Material Safety Data Sheet

NEMA National Environment Management Authority

PPDA Public Procurement and Disposal Authority

SDS Safety Data Sheet

WMP Waste Management Plan

WTN Waste Transfer Notes

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

RESPONSIBILITIES

Director Technical Services (DTS)

The DTS is responsible for the overall implementation of the Waste Management Plan and communication of the same to both staff and contractors.

NITA-U Project Specific Team Members/ Supervisors/ Managers

Responsible for ensuring that all waste originating from projects is managed in line with this plan. Supervisors should also ensure that all team members are aware of their obligations in line with minimization of waste and sound waste management practices.

Contractor Health Safety and Environment Supervisors

These are responsible for ensuring that all NITA-U related waste is managed in a sound manner in accordance with resident regulations and International

best practice.

NITA-U Project Partners

Responsible for waste in operations related to NITA-U and other waste produced from their operations. They should ensure that their operations have competent personnel to appropriately handle waste or offer guidance in waste management.

Environmental specialist (ES)

The ES shall guide teams on various waste management strategies. He/ she shall ensure that all waste streams and waste are identified throughout the project cycle in accordance with this plan. The environmental specialist shall ensure that aspects of waste collection, storage, transportation and disposal are soundly carried out.

The main responsibilities for the ES include:

- Ensuring that waste registers are maintained and updated
- Develop waste management related documentation including but not limited to Waste Transfer and Disposal forms.
- Providing advice on waste disposal issues and periodic summaries on waste management;
- Assessing training needs and carrying out trainings on waste management to execution teams.
- Addressing non-conformances related to NITA-U related waste

Waste Handling Contractors

These shall ensure that all activities carried out are in compliance with the National Environment (Waste Management) Regulations, NITA-U HSE considerations and International Best Practice.

All Personnel and 3rd Parties

It is a duty of all personnel dealing in or aware of NITA-U related waste to efficiently manage waste in accordance with the National Environment (Waste Management) Regulations. Specific interest should be directed to PART V – producer responsibility and product stewardship, management of plastics and associated waste and management of electrical and electronic waste in the National Environment (Waste Management) Regulations.

GENERAL PRINCIPLES

The following general measures shall be considered when handling waste:

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- All hazardous and non-hazardous waste from NITA-U related activities shall as reasonably practicable as possible be collected by a NEMA licensed waste handler.
- Food/organic waste produced in offices shall be managed and disposed of by the responsible contractor in compliance with resident regulations.
- NITA-U strives to have a zero E-waste illegal dumping. All waste should be appropriately managed and disposed of in the best available manner.
- Waste minimization and reuse shall be considered by NITA-U and relevant partners as priority approaches in dealing with E-waste waste management.
- Continuous improvement is expected to be one of the guiding factors in managing NITA-U related waste. There shall be continuous liaison with other relevant government agencies to ensure that E-waste is appropriately managed in the country.
- NITA-U is responsible for the E-waste and other waste categories collected from its operation areas and shall ensure that contractors carrying out tasks on their behalf comply with the same.
- Efforts on E-waste collection and disposal centres shall be determined through joint efforts with relevant lead agencies and partners. For guidance purposes, the E-waste storage or segregation areas should:
 - Have the ability to withstand harsh weather conditions
 - Be secure enough to check on scavengers and vermin
- Communication on E-waste management shall be carried out jointly with other relevant Lead agencies and partners.

WASTE MINIMISATION AND REUSE

NITA-U focuses on sound planning regimes to only purchase materials needed for their operations. Where possible, this shall be extended to other development partners in both government and the private sector so as to minimize what goes to waste. Liaison shall also incorporate looking at what is imported into the country and whether it is of value to reduce on trans-boundary waste movement that often occurs under the pretext of valuable goods. Where possible, NITA-U shall ensure that all materials to be utilized are purchased with specific reference to environmental friendliness.

Waste Reuse and Recycle Programs

Where deemed appropriate and sound on HSE grounds, some of the waste from NITA-U operations shall be reused. NITA-U shall in liaison with relevant lead agencies and partners offer guidance on E-waste management plans to the general public in this regard. Re-use of general waste like packaging material, wooden pallets among others from NITA-U projects shall only be carried out with guidance from competent HSE/ ES personnel and in liaison with project management teams.

RECYCLING OF E-WASTE

With e-waste becoming an increasing global challenge, NITA-U plans to adopt recycling approaches to E-Waste in the country in liaison relevant Lead Agencies and partners. NITA-U is in the process of identifying in country recycling plants for e-waste like batteries, solar panels, so that materials that are damaged or that have passed their shelf life are moved to these facilities. In collaboration with NEMA and local governments, NITA-U plans to further enhance e-waste management efforts through among other approaches setting up collection points for e-waste to ease quantification of actual waste volumes disposed of. Awareness sessions on e-waste management shall also be held by NITA-U, other relevant lead agencies and partners to ensure that the public appreciates associated waste management benefits.

Options in e-waste management shall be considered in line with prevailing conditions as provided for below:

Scenario(s)	Action(s)
Presence of recycling facilities	<ul style="list-style-type: none"> • Store materials to viable quantities at NEMA licensed storage / collection points and move waste to recycling units
Absence of recycling facilities	<ul style="list-style-type: none"> • Store materials to viable quantities at NEMA licensed storage / collection points and; • Move or provide for shipping materials back to the manufacturer or recycling plants out of the country. • Plan to encourage development of technology or facility in the country to deal with the waste
Absence of viable waste quantities at collection points	<ul style="list-style-type: none"> • Carry out joint campaigns to encourage e-waste collection from the public

WASTE CLASSIFICATION

Waste shall at all times be classified as listed in the National Environment (Waste Management) Regulations. Aspects of labelling and colour coding may however be addressed depending on project needs.

WASTE MANAGEMENT PROCEDURE

Sound waste management calls for understanding of the categories of waste associated with a project as improper waste management practices could

easily cost NITA-U reputational damage, equipment damage, injury to people and pollution. Appropriate PPE usage shall be adhered to in line with the OSH Act 2006 and the National Environment (Waste Management) Regulations among others. It calls for appropriate awareness on the potential negative impacts associated with poor waste management and an appreciation of the reasons behind the set controls. NITA-U shall therefore ensure that project teams are provided with awareness sessions and trainings on sound waste management. Waste management shall also form an integral part of the project induction process.

STORAGE, SEGREGATION AND HANDLING OF WASTE

- Waste storage facilities should be provided for operations in areas where vast amounts of waste are expected. Handling of these shall be done with appropriate PPE including Safety glasses, long sleeved coveralls, task appropriate gloves and a safety helmet as a minimum. Optical fibre related hazards trainings shall also be carried out. In areas of limited waste quantities, all materials should be stored at project designated points prior to being transported to the government collection centres to ease accountability. This shall provide technical teams with opportunity to salvage and re-use parts of e-waste that are still in sound condition saving money, time and supporting sustainable development.
- Waste storage facilities shall have clear labels, be protected from rain and other adverse weather conditions, protected from vermin, sound floors, proper aeration, with clear warnings on entry and access by third parties. Designated fibre-scrap trash cans shall be utilized to collect cut offs from the NITA-U operations.
- Waste management approaches shall only be approved by the Directorate of Technical Services under the docket of the Environmental Specialist and Project managers.
- Black and grey water from NITA-operations are handled by National Water and Sewerage Cooperation systems. In remote areas where these are not accessible, risk assessments shall be carried out on the best available approaches to deal with human waste and mitigation measures executed prior to project commencement.
- Trans-boundary movement of waste shall only be carried out in consultation with NEMA and with fully signed Waste Transfer Notes. Handling of waste across borders calls for joint planning taking into account considerations from both the sending and receiving end. NITA-U shall ensure that all relevant Lead agencies and partners are informed about this prior to execution
- All E-waste shall be appropriately labelled by the project responsible personnel with details on origin, amount and destination among others. Proper identification systems shall be utilized to also trace the facility number of the products deemed waste. Appropriate storage of these materials shall be carried out with the ES's and project leadership teams guidance. Storage facilities shall be in compliance with National legislation and best industry practice with restricted access and entry. The waste shall then be collected by a NEMA licensed waste handler and transported to a pre-agreed NEMA licensed recycling, reuse or disposal site. Clearly completed waste transfer forms shall be utilized to ensure sound chain of custody of the E-waste. The transfer forms shall be fully signed at the receiving site to ease monitoring and for future reference. A detailed report on waste treatment approach shall be expected from the receiving entity detailing the steps taken and the final output from the process including residual waste.
- Chemically treated poles associated with NITA-U projects shall only be reused with guidance from competent personnel. Re-using them for cooking

is prohibited as these pose more health risks to personnel.

- Where deemed appropriate by the HSE or Environmental Specialist, MSDS/ SDS should be availed to the project teams and teams handling waste for guidance purposes as part of the labelling process, housekeeping and first aid.

MANIFESTING/CONSIGNING OF WASTE

A sound chain of custody system should appropriately address aspects of waste quantity, status, movement and treatment. These together with hiring of competent personnel play a great role in waste management. Waste transfer forms shall be utilized by project teams and these shall be signed by all responsible parties until the waste reaches the disposal or treatment facility. Waste transfer forms should clearly provide information on the type of waste, quantities, date & time of dispatch, destination, waste handler details, general state of the materials among others.

Waste transfer notes shall be developed in accordance with the National Environment (Waste Management) Regulations. As a minimum, the NITA-U waste transfer notes shall be in triplicate with the original copy kept by the waste producer and kept for future reference, the second copy for the waste handler or transporter of waste and the final copy for the waste disposal facility.

Drivers of trucks transporting waste for licensed waste handlers shall have appropriate driving licences, be trained in Control of Substances Hazardous to Health (COSHH) and understand the value to stick journey management plans as part of the set chain of custody. This requirement shall also be provided to contractors to ensure consistence in NITA-U operations among other requirements.

E-waste export practices shall only be considered with guidance from NEMA. The option of sending waste back to the producers or exporting it to places where it can be recycled shall only be carried out after appropriate due diligence. Priority shall be given to in country e-waste management facilities due to the ease in compliance monitoring.

WASTE DISPOSAL FACILITIES

As an addition to waste tracking or manifesting of waste, NITA-U shall ensure that due diligence is periodically carried out on facilities receiving waste from their operations. All waste should be disposed of at NEMA licensed points and facilities dealing with waste in Uganda. Some of the known facilities are presented below:

Location Waste Management	Facility/Capability	Acceptable Waste/ activities
---------------------------	---------------------	------------------------------

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General Waste (landfill and recycling)	Kampala City dump and Recycling plants	Inert Waste
Black water and Sewage	National Water and Sewerage Corporation	Any waste originating from black and grey water
Hazardous waste	Enviroserv Uganda, Luwero Industries, Nakasongola and Epsilon Uganda Limited etc...	Chemical contaminated waste, radioactive materials
E-waste receiving facilities	Uganda Batteries Limited, etc...	Battery recycling

MONITORING AND REPORTING

- Project teams shall carryout regular inspections and spot checks to ensure compliance of both the contractor during project implementation, at the storage facilities and the final waste destination.
- Scheduled leadership visits especially for multi-sectoral teams should be encouraged to that all relevant lead agencies and partners to show commitment and encourage continuous improvement.
- Monitoring of facilities by project teams shall be carried out and information on quantities of waste, origin among others reported on a weekly and monthly basis. Aspects of waste management shall be an integral part of the monthly and quarterly monitoring reports submitted to partners and relevant lead agencies. Monthly reports on waste should provide details on waste origin, quantity received, planned or executed disposal routes, cumulative quantities of waste received, description of the waste generated including batch number details where feasible.

NON-CONFORMANCE

Contractual obligations attached to compliance shall be clearly stipulated in contracts and meetings with contractors and staff. Breaches in waste

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management shall be handled in various steps from simple notifications/ warnings of the non-conformity to fully fledged investigations. Full investigations shall be for repeat incidents (even after personnel have been informed of the requirements) and occurrences as per the NITA-U Risk Matrix. Presentations of the same as a lessons learned so as to check on other project and NITA-U team members getting the same issue shall also be carried out.

INDUCTIONS, TRAINING AND AWARENESS

As part of the general project HSE induction, waste management right from production to disposal shall be provided for. Trainings on waste management shall also be carried out detailing proper definitions of waste, why advocate for sound waste management, NITA-U's commitment to sustainable development, NITA-U related waste streams, storage, handling and principles of waste minimization among others.

APPENDIX A – WASTE TRANSFER FORM

PART A – ORIGINATOR						
NAME OF FACILITY:					DATE:	
WASTE DESCRIPTION	Waste Type Hazardous(H) Non Hazardous (NH)	# of Containers Shipped	Unit of Measure	Total Quantity Transported	Disposal method	Disposal facility
I declare that the information I have provided in Part A is correct and complete. For NITA-U: Name _____ Signature _____					Telephone: _____	

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

PART B – TRANSPORTER AND STORAGE SITE

Transporter:	
Address of Transporter:	
I declare that I have received the waste as described in PART A for delivery to the disposal site indicated and the information is correct and complete	Telephone:
Transporter's representative:	Signature:

PART C – TRANSPORTER AND STORAGE SITE

Transporter:	
Address of Transporter:	
I declare that I have received the waste as described in PART A for delivery to the disposal site indicated and the information is correct and complete	Telephone:
Transporter's representative:	Signature:


PART D- RECEIVING (DISPOSAL SITE)

Waste Receiver:

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

Appendix 13: Operations Site Survey Report Format

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)


			
Surveyor:		Approved:	Date:

Site Survey Report

1. SITE INFORMATION

Site NAME		Site ID		Site Location		
Phase		City/Town		District		
GPS Coordinates	Longitude			Altitude(m)		
	Site Type <input type="checkbox"/> School <input type="checkbox"/> MDA <input type="checkbox"/> TUG					
MW LOS Survey	<input type="checkbox"/> Accept <input type="checkbox"/> Reject					
<input type="checkbox"/> School	Obstacles at close Range					
	Nearby POP					
	Condition of Building		<input type="checkbox"/> Good	<input type="checkbox"/> Medium	<input type="checkbox"/> Bad	
	Building Height					
	Parapet Wall Height					
	No. of Floors					
	Antenna Pole		<input type="checkbox"/> Available	<input type="checkbox"/> unavailable		
	Outdoor Installation		<input type="checkbox"/> Wall Mount	<input type="checkbox"/> Pole Mount	<input type="checkbox"/> Roof Mount	
	Power for IP Equipment		<input type="checkbox"/> DC available	<input type="checkbox"/> AC available		
	Space for DDF installation		<input type="checkbox"/> Available	<input type="checkbox"/> unavailable		
<input type="checkbox"/> MDA	Proposed Installation height					
	Space for CPE/NE		<input type="checkbox"/> NE available	<input type="checkbox"/> Rack available	<input type="checkbox"/> Need new Rack	
	Power for Tx Equipment		<input type="checkbox"/> DC available	<input type="checkbox"/> AC available		
	Distance between outdoor to indoor installation					
	Potential Environmental Risks		<input type="checkbox"/> Yes	<input type="checkbox"/> No		
	List them					
	Possible Safe guards & Measures					
	<input type="checkbox"/> TUG	Potential Social Risks		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
		List them				

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

			
Surveyor:		Approved:	Date:

2. TRANSMISSION INFORMATION

3. Requirement

4. Photographs of Path Survey

5. Official Signature

Prepared by	Agreed by Client	Approved by NITA-U
Name:	Name:	Name:
Signature:	Signature:	Signature:
Designation:	Designation	Designation:
Date:	Date:	Date:

Table 7.14: Impact Assessment for Morale Degeneration

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/ level
Morale Degeneration	Community	High	Site specific	Very Short	Low	Low

Physical and Cultural Resources (Chance Finds)

Ms of chance finds, a number of settlements with the likelihood of harbouring cultural burial sites and spiritual trees were observed in a number of the 40 project beneficiary districts and their community roads. The most sensitive receptors of this risk include towns and trading centres that harboured war camps. In Lwala Township in Kaberamaido, Gulu, Lira, Kiryandongo, Kumi, Soroti, Luwero and Kasese, chance finds especially, graves may be found because of the many war camps they hosted for many years with many people being buried there and there remains not being relocated. Acholi road in Gulu for example, has a mass grave in the road reserve that has affected progress in the current road construction in that section.



Courtesy Photos: Chris Opesen 2018

Plate 7. 6: A Grave Marked in one of the Karamoja Roads for illustration of Chance Finds

Highlighting the sensitivity of this risk in the district too, the Gulu district IT Officer noted:

Part of Acholi and Kitgum road has a mass grave. It has even stalled road works. To avoid these graves, IFMs was put in the reserve space closer to the road but this explains why the Chinese cut it during the current road works. We did not think the road expansion would eat all that space.

These towns also have graves where road ambushes were executed or where traffic accidents claimed lives. In Fort Portal, Hoima, Kampala, Jinja, Iganga, Kasese there are also cultural institutions which increase the likelihood of other chance finds underground. Rubaga division in particular, in Kampala where the Kingdom of Buganda sits has many cultural images, trees and shrines with the most famous in Mengo and Kasubi. There are also cultural sites in Muganzilwazza and Katooke Wamala in Nansana, Wakiso district. Some sections of the road reserve also have ethno medicine and shrines especially, in Kiryandongo. Kulungu district, being hosted on cultural property also has historical trees, places of worship, graves and shrines. Where need arises to trim some of these trees especially, the historical, the project will become more sensitive. This is also true of Rakai district where not only cultural trees are along major roads but the district offices are also sitting on property owned by the Kamswaga with shrines, sacred and worship places rendering it a sensitive receptor of the chance finds risk. In municipalities like Soroti, Gulu, Lira, Kumi, Mbale, Jinja and in the East generally, most trees in the road reserves are also historical because they were planted by the British and may need removal or stripping in order to use the road reserve. Attempts to avoid them may mean entering private land.

Mitigation

6. The chance finds procedures must be followed to secure all PCR's encountered.
7. Trees will not be cut down.
8. Develop and use a sound GRM to handle complaints that may arise.
9. Community awareness and engagements will be conducted to identify and save PCR's.
10. In the event of chance finds, the chance finds procedure in Annex 3 will be followed.

Table 7.15: Impact Assessment for the Physical and Cultural Resources (PCRs)

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
PCRs/Chance Finds	Community	Moderate	Site specific	Long-term/Permanent	Low	Low

Alteration of Visual and Aesthetic Quality of Sites

The rubble from excavation work will leave the site not the same even after backfilling. Vegetation like grasses and flowers are also likely to be stripped. It should be noted that these easily grow back. Some districts like Mukono that are currently undertaking initiatives to beautify their towns by planting of trees and flowers in strategic areas also have a risk of their effort disrupted in some areas. On this for example, the CDO Mukono noted:

“Mukono district is currently undertaking initiatives to beautify the town involving the planting of trees and flowers in strategic areas to achieve the intended plan. The excavations and other civil work related activities to a small extent can alter the existing landscaping, vegetation cover and other views despite the requirement of reinstatement of a project area to as much as possible the original state.”

In municipalities like Gulu and Kaberamaido trees are all over the roads. Should they be cut, people will not only lose their sheds and fruits but also scenic beauty. Excavations will also lead to soil erosion and mud accumulation along the road especially, after heavy rains especially, in flood prone areas like Kasese and more so, if no compactor is used after backfilling. Pointing to previous projects, the Gulu Municipality Roads Engineer observed:

“You also didn’t use a compactor in NBI and we are likely to accumulate this problem”.

With support from the World Bank, the government of Uganda is also tarmacking all major urban areas in Uganda. Any cutting of tarmac will certainly leave the newly constructed roads and pedestrian paths with patches and broken pavements. This risk is however, taken care of in the design of the installation works not to cut but burrow any connections that cross roads. In the event of poor waste management and disposal too, the project beneficiary

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towns will be left littered with excavation footprint.



Source: Last Mile ESIA Field Photo

Plate 7. 7: Footprint of OFC Trenching Work at Mega FM (Gulu) and the Makerere University UH Gate Respectively

And where trenching occurs in the dry season, dust will leave offices and residences covered in suspended dust particles. In some areas too, connections will affect green areas and wetlands especially, in peri-urban areas like Ggaba and Bwaise in Kampala or Pece in Gulu. In the same way, where aerial technology is used in sensitive ecologies like wetlands, scenic appearance will also be altered. This risk is very high though can reversibly be short term and is site specific.

Mitigation

9. All sites will be restored to pre-trenching state including walkways after installation works
10. Installation works will not to cut but burrow any connections that cross roads.
11. Vegetation will be re-planted and the ground leveled to its initial state where it is substantially affected
12. Compaction will be done especially along slopes to avoid soil erosion distorting the landscape after trenching
13. The project will work with road engineers to make use of ducts in the road reserve where they exist instead of trenching
14. Electronic wastes generated will be managed using a NEMA certified service provider and following the good practices in e-waste management

- 15. The bridge technology will be used in sensitive areas to avoid trenching everywhere.
- 16. The project will have a sound GRM to address community concerns from time to time during the project

Table 7.16: Impact Assessment for the Physical and Cultural Resources (PCRs)

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/ level
PCRs/Chance Finds	Community	Moderate	Site specific	Long-term/Permanent	Low	Low

Disruption of Access to Utilities and Infrastructure

Public utilities and infrastructure including, water lines, electric poles, cables, paved, tarmacked and graded roads may be damaged due to the localised nature of excavation lines to MDAs within the urban areas. This risk is rated very high considering that all major service providers use the road reserve and serve the same MDAs targeted for OFC connectivity. As highly sensitive receptors, where these utilities are cut access to service delivery will be disrupted. Highlighting this for example, the district IT officer Gulu observed:

“The city is not well planned and many telecom companies are trenching all the time in the same lines. Three months back CCCC cut the IFMS link to the works department about 1 km from the district headquarters and the link cannot be repaired until the road is completed. Expect therefore, your contractor also to do the same to other cables. Down there are many cables. There is MTN, Africell, Airtel, UTL and etc and all of them are in the road reserve. There are water and power lines also. When Soliton was extending NBI from here, they dug out a 3 phase line. Fortunately, there was load shedding. When power came back, it burnt both the OFC and the power line. It almost burnt even the offices in the administration building here and also people’s houses.”

The HR, UNRA Kyambogo also noted:

“Some excavation was previously done by NITA and it terribly affected our work”

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Drainage channels may also be destroyed and silted during excavations and backfilling more so, where heavy down pours wash soils into the drainage systems. Across the forty project districts, roads, banks, health facilities, schools, churches, postal offices, hotels, NSSF service facilities, are also within the OFC localised urban areas. For illustration, the Principal Policy Analysts Jinja Civil service College observed:

“Most of the social and physical disruption will be faced by BoU because it’s the nearest to where the works will take place”

In Kampala, Mbale, Soroti, Jinja, Bugiri, Kagadi, Iganga, Hoima and Mbarara, access to hospitals and water is likely to be disrupted during trenching.



Source: Last Mile ESIA Field Photo

Plate7. 8: Soroti Regional Referral Hospital and a broken Water Pipe Being Fixed at the Makerere UH Gate during OFC Trenching Adjacent to Bugiri hospital, Maersk Bugolobi and Tororo-Mbale highway too, are sewage channels. In Dokolo, one of the petrol stations is in the road reserve and its pipes could be damaged where they are shallow.

And as sensitive project receptors, while markets like Otuboi in Kaberamaido may also be disrupted, construction activities are likely to affect mobility of students going to school affected by trenching including Wiggins primary and Secondary Schools in Kumi, Entebbe SS in Wakiso, Lwala girls (secondary), Lwala boys (Primary) and Lwala Girls (Primary) and about four other schools and churches in the 15 km distance between Otuboi and Kaberamaido district not yet installed with OFC will be affected. Where these disruptions occur, conflicts with other institutions and service providers may occur especially, where losses result. In Kaberamaido, wherever a road is cut, the developer will not only repair it but also pay a fine to the town

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council.

Given that less sophisticated equipment with no capacity to generate huge seismic vibrations to be used the risk of health units, schools and roads in the localised setting developing cracks is however, low. And given the area of allowance too, this risk is manageable.

Mitigation

8. Exhaust all options available within the range of the sampling point given to avoid directly or indirectly affecting any existing service infrastructure
9. Develop and use a RAP accompanied with a sound GRM to avoid backlash
10. Get certification of completion from the town clerk to verify adherence with compliance standards
11. Work with the locals, authorities and service providers to avoid damaging utilities. Be careful not to cut underground water pipes and other ground utilities because it's costly and time consuming to fix.
12. Set a time frame for the works and work at night in busy town centres
13. Restore all infrastructure damaged
14. The client/NITA U should closely liaise with the relevant Government MDAs responsible for public utilities (including NWSC, UETCL, /REA, among others) to obtain technical guidance during the excavation works so as to minimize as much as possible damage/disruption to public utilities.

Table 7.17: Impact Assessment for Public Facilities

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs	Very high	High	Very high	Very high	High

Work related upper Limb Disorders (WRULDs) and body injuries

Repetitive activities, poorly maintained equipment and poor working postures have the potential to impact on the health of the project implementing team. Aspects of manual labour for long stretches can lead to back pain and spinal injury which impacts could appear long after excavations are carried out. Lack of appropriate PPE could also increase exposure of personnel to occupational injuries which could lead to LTIs or even fatalities. Since workers shall be changed from region to region, this risk though high is not expected to have long-term impacts if mitigation measures are adhered to.

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Source: Last Mile ESIA Field Photo

Plate 7.9: Typical poor PPE culture in Uganda during excavations, Last Mile to avoid such cultures during project implementation

Mitigation

5. Provide for inductions and awareness sessions on EHS aspects of the project, manual handling techniques among others
6. Provide for a lessons learned folder to capture any near misses or project non-compliances and routinely review these to enable continuous improvement.
7. Provide for rest breaks and shifts in scenarios where there is night shift work
8. Provide and inspect tool s to ensure that they are functional. Ensure timely repair of the same by competent personnel and with compatible parts.

Table 7.18: Impact Assessment for WRULDs

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
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Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

NITA-U	Very high	High	Very high	Very high	Medium
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7.3 Operations Phase

Improved Access to Public Services and Information

With the project expected to connect over 1000 MDAs and 40 districts to the NBI coverage for IT infrastructure in the country will not only improve but also the delivery of public services with the help of an efficient government cloud infrastructure. The sensitivity of project affected MDAs and districts to this impact is very high as most now use applications such as IFMS and IPPS. This is facilitated by the potential of the project to cut the cost of each Mbps to a record low US \$ 20, making internet more affordable, reliable and accessible.

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)



Source: Last Mile ESIA Field Photo

Plate 7.10: A Functional OFC Sub-Station at Mega FM in Gulu

As a tertiary effect, it will help government institutions, improve financial transparency, monitoring and tracking of all transactions since every transaction can then be done online. It will also boost e-service delivery in the district as well as e-business. Reflecting this, the Town Clerk- Bugiri observed:

“The project is very welcome as it will ease communication with Central Offices especially now that we are using PBS to report”

The IT Officer-Gulu District also observed:

“I welcome the project to Gulu because its gains outweigh the cost. It will help government institutions, improve financial transparency and monitoring and tracking of all transactions since every transaction then be done online”

Institutions and schools that will benefit from the project are also expected to experience improved access to research materials. The Deputy Principal Bushenyi NTC equally added:

The service is welcome because we have a challenge accessing internet for students. This initiative would solve this particular challenge and improve research within the institution.

Optimisation

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8. Connect all the nearby facilities to the infrastructure
9. Ensure that the internet is faster and functional
10. Use standard gauges for the underground cables
11. Liaise with property owners where MDAs are renting.
12. Harmonize the project connectivity plans with the institutions’ physical development plans. Where an MDA or a local government is in a rented house for example, consider connectivity also in the new office premises being constructed
13. Create regional structures to connect NGOs and private service providers that will need to be connected
14. Clarify on the procedure to guide connection of NGOs and the civil society to avoid illegal connections

Table 7.19: Impact Assessment on Access to Public Services and Information

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs, MDAS, LGs	Very high	High	Long term	Very high	Very High

Loss of Business Opportunities by Internet Cafes

Currently, a substantial part of communications services in the 1000 beneficiary MDAs and 40 districts is run in the private sector internet cafes. Connection of these MDAs and districts to the NBI therefore, represents a substantial loss of business by internet cafes. As a high risk for example, the CDO of Bugiri observed,

“When this project becomes operational, there will be loss of business by private internet cafes.

Reflecting the same risk, the CDO of Bukedea asked:

“How soon will we be connected because we keep going to cafes and using personal modems?

Mitigation

To make the cost of internet affordable, government will make it possible for the private sector also to connect to its OFC in the near future thus further

reducing costs

Table 7.20: Impact Assessment on Loss of Market Opportunities by Internet Cafes

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
Internet cafes	Very high	High	Long term	Very high	Very High

Increase in the Burden of Disease

Incidence of malaria is likely to go up especially, if back filling is not done properly especially, in the malaria endemic districts with high per capita mosquito bites crisscrossed by the project in Northern and Eastern Uganda. The risk is also likely to be high where water logging is common due to delayed and poor backfilling of the trenches creating mosquito breeding grounds. To illustrate this, a FGD with Boda-Bodas in Jinja noted:

.... *“Based on past experience, your previous OFC workers did not for example, burry back the road to its original state, the ground was left uneven and when it rains it collects water which later enables breeding of mosquitoes”*

Mitigation

The project will ensure timely and proper backfilling of trenches to avoid creating breeding grounds for mosquitoes

Table 7.21: Impact Assessment of the Burden of Disease

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
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Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

PACs	Very high	High	Short term	High	Moderate
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Rise in the Incidence of Crime

Incidence of crime is expected to go up in all project beneficiary districts and MDAs. As a highly sensitive receptor, there will for example, be many illegal OFC connections during operations including in private houses currently rented by MDAs and local governments across the country should they get their own official premises. The cable may also be vandalized by individuals hunting for mercury or who want to use these cables in some way. Optic fibre cables may also be stolen by community members that associate it with particular uses. In the Eastern and Northern regions for example, lighting arrestors in most ginneries have been excavated by those that hope to find mercury underneath the earth wire. With some mercury substance in the OFC, this risk is very high and long term. A small group interview at the Lands Office in Kaberamaido district in this respect, observed:

“If it has mercury, don’t be surprised. Some will also cut it thinking it can be used to provide spare wires for electronic works more so, those that repair radios and TVs.”

Delayed and under payment of wages may also mislead workers to connive with the locals to steal materials and tools from the company. Away from these, cybercrime is likely to increase. For example, internet connectivity will not only expose workers to pornography but also enable fraudsters to hack institutional financial management systems, data bases and cause a lot of cyber insecurity.

Mitigation

9. The project will install locks for pornographic links
10. The project will raise awareness on cyber ethics
11. The project will provide regular monitoring of the OFC
12. The project will protect the OFC from vandalism
13. The project will install adequate i-cloud security systems
14. NITA-U should create regional structures to connect NGOs and private service providers that will need to be connected
15. NITA-U should clarify on the procedure to guide connection of NGOs and the civil society to avoid illegal connections
16. NITA-U should empower Local Governments to oversee and protect these connections and any connections must involve writing to the district for authentication that they are regular before any works start

Table 7.21: Impact Assessment on the Rise of Crime Levels

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs, NITA-U	Very high	High	Permanent	Very High	High

Alteration in Visual Aesthetics

Due to landscape alterations and the trenching of paved road reserves, scenic beauty in project affected communities will be affected. While attempts will be made to reinstate them, the high cost involved in reinstating tarmac and paved road reserves makes murrum and or soil the most used backfilling material (see plate 7). A Key informant interview with Jinja Municipality Environment Officer for example, revealed:

“From our past experience with your OFC, reinstatement is not usually done well which results into destruction of vegetation, walk ways and the tarmac on the road.”

In Gulu, the District IT-Officer narrated:

“In the NBI we only saw a manhole here. We did not know because we were not involved. We thought it was MTN. The contractor only alerted us when they were making the manhole. We are told to put this manhole here, they said. For who, We asked? Even the manhole was not properly made. Each time it breaks, they have to dig a large area to locate it.”

Soil erosion and mud may also accumulate along the excavated areas of the road after heavy rains especially, where backfilling is poorly done. Heavy downpours after excavation works may also wash soil into the drainage systems and block the drainage systems. Districts most prone to flooding like Kasese are the most sensitive receptors of this risk.

Mitigation

8. Use ducts where they already exist without trenching especially, in municipalities with roads designed with duct.
9. Use alternative technologies to extend the NBI without excavating including bridges that can transmit data in a vacuum of up to 100 km.
10. Not cut the roads but burrow to avoid defacing their scenic beauty
11. Will involve and engage with all stakeholders timely, adequately and effectively.

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12. Replace or fix any infrastructure damaged during construction activities
13. Repair the construction area to its original state
14. Obtain a certificate of completion from the town clerk as an indicator of adherence with compliance standards.

Table 7.22: Impact Assessment on Alterations in Visual Aesthetics

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
PACs, Local governments	Low	Low	Short term	Low	Low

Rampant Cutting of the OFC

Most roads in the project determined roads are not only narrow but also have short life spans. Any upgrades will come therefore, with rampant cutting of the cable, disrupting thus sustainability of its benefits where the cable is not placed deep enough. Laid 1.2 meters deep, this risk is a concern in all the 40 beneficiary districts.

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Source: Last Mile ESIA Field Photo

Plate 7. 9: NWSC Pipes in Kalerwe Cut in the on Going Road Works

In Gulu, CCCC has started the construction of 11 roads and since the town is not well planned, this risk very high. Illustrating the reality in all the 40 beneficiary districts, the District Environment Officer-Dokolo observed:

“Water pipes that are not dug deep enough can burst once heavy equipment passes over. In the case of your cable, it can be cut by an earth mover during road works.”

This risk is compounded by the reality that most city roads do not have ducts yet telecom companies are trenching repeatedly along the same road reserves. In cities like Gulu, some departments located about 1 km from the district headquarters including Works, three months back had their IFMS link cut CCCC and it cannot be repaired until construction is completed. The risk of OFC being cut is very high because roads are expanding quite often and local governments are constructing new buildings all the time. This necessitates construction of access roads that may run across the cable lines. NWSC as well as other telecom companies also trench in the road reserve and could easily cut the cable in their construction activities.

But other than the earth movers, the OFC is prone to vandalism. In customs border points like Busia, smugglers will be interested in interrupting the network system to disrupt tax assessments and enforcement, Busia Customs Police, noted. In addition, where private land is trespassed without compensation or the locals are not involved in unskilled and semi-skilled the risk of vandalism is high. The cable may also be vandalized by youth involved in electronics repairs expecting free wires. Other people may also excavate the OFC expecting mercury components. Explaining this, the Ag. District IT Officer Kaberamaido observed:

“They have removed all installations in ginneries for example, associated with mercury have been vandalized. All our earth wires have also been

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

vandalised who think there is mercury underground. And when you go to transformers, they also vandalise them for transformer oil. Some of those people even come from Kampala”

Mitigation

13. Use existing ducts where feasible to reduce the risk of the cable being cut if it does not make the OFC prone to vandalism.
14. Ensure detailed OFC designs are shared with the Physical Planners and Environment Officers
15. OFC will be restricted to the road reserve and existing public land to avoid triggering trespassing in private land and where land is needed at any one time which is unlikely, land owners will be compensated adequately and timely prior to construction
16. Where the OFC crosses the road, burrow it underground



Source: Courtesy Photo by Chris Opesen

Plate 7. 10: NWSC System Safely Burrowed Under the Panaora Hotel Road in Nakapiripirit

17. Locate the OFC safely so that the cable is not vandalized by smugglers
18. Work hand in hand with the local authorities, opinion leaders, and security to ensure the community owns it, to minimize vandalism and the risk of being cut
19. Ensure cable is installed as deep as possible depending on the location to avoid the fibre from being damaged during the maintenance works
20. Ensure OFC is marked for easy identification when other developments come in the same areas
21. Take into consideration the physical development plans of the local governments and MDAs

22. Sensitise communities on the risks and implications of vandalising the OFC
23. Engage with the different beneficiaries agencies to harmonise the OFC line with their physical development plans
24. Consider the depth for the OFC depending on the site

Table 7.23: Impact Assessment on the Rampant Cutting of the OFC

Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact
NITA-U	Very high	High	Permanent	Very High	High

Mobility Disruptions

There are many corporations trenching in the road reserves. Some trenches are left uncovered or poorly restored. Paved and tarmacked in the same way, are sometimes not fully restored leaving them covered in mud. Muddy and slippery pathways with open trenches all combine to disrupt mobility. Trenches left open also cause accidents to pedestrians. The most sensitive receptors of this risk include schools, health units and members of vulnerable groups especially, pedestrians with physical disabilities. Unrestored trenches may also cause accidents to Cyclists, Boda-bodas and Motorists that use these roads. This is because after construction is done, the contractor also usually leaves the construction areas disrupted, unlevelled and accidents’ prone. While high, the sensitivity of this risk is site specific and short term.

Mitigation

5. All open trenches and excavated areas shall be backfilled as soon as possible after cable laying and construction has been completed.
6. Reinstatement of roads, walkways will be done immediately after the installation of the cable
7. All trenches will be clearly marked and adequate and clear signage erected during ongoing excavation and installation works
8. Alternatives to trenching such as barrowing of the cable where it crosses the road rather than trenching it and bridges that can transmit data over a virtual distance of as far as 100 kms and service ducts where they exist will be used in place of trenching

Table 7.24: Impact Assessment for Mobility Disruptions

Impact	Impact receptors	Receptor sensitivity	Impact extent	Impact duration	Impact significance	Residual Impact extent/level
<i>Mobility disruptions</i>	PACs	High	Site specific	Short	Moderate	Low

7.4 Decommissioning Phase

There are many risks that are likely in this phase including all those enlisted in the construction phase, both positive and negative. In this part however, the report focusses on those not emphasised in the construction phase.

E-Waste Generation

The OFC cable will increase e-waste generation. The Huawei project sub-stations visited in Gulu for example, are all installed with many appliances and electronics with short, medium and long term life spans. With increased access to IT in the district, the sensitivity of this risk will become high. There will be more old cartridges, printers, old laptops and worn own components from ICT systems. How to dispose these will also become a bigger problem to manage considering that many MDAs and local governments are not even able to deal with organic waste.

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)



Source: Last Mile ESIA Field Photo

Plate 7.11: Potential E-Waste outside an existing Sub-Station in Gulu and a General Waste Bin of Kaberamaido District Local Government

Mitigation

3. Electronic wastes generated will be managed using a NEMA certified service provider and following the good practices in e-waste management
4. Manufacturer E-waste management procedures and standards in each electronic device will be observed including their service durations.
Understanding MSDS for all materials procured shall further enhance sound handling of waste from the operations

Visual Aesthetics

Paved grounds will certainly be cut during decommissioning activities. Whenever this happens, aesthetic scenic beauty of the area will always be affected. In a small FGD with a Physical Planner & IT Officer-Bugiri too, an observation was made that:

“From past experience, workers cover up temporarily and then dig up again after breaks. This causes an even reinstatements and a risk of the ground collapsing”

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

Many sites after defacing of pavements may become muddy and areas where tree branches and roots are stripped will also change in their scenic appearances.



Source: Last Mile ESIA Field Photo

Plate 7.12: Makerere University UH Gate Now After Restoration of the OFC Cable

Mitigation

9. All sites will be restored to pre-trenching state including walkways after installation works
10. Installation works will not cut but burrow any connections that cross roads.
11. Vegetation cover will be re-planted and the ground levelled to its initial state where it is substantially affected
12. Compaction will be done especially along slopes to avoid soil erosion distorting the landscape after trenching
13. The project will work with road engineers to make use of ducts in the road reserve where they exist instead of trenching
14. Electronic wastes generated will be managed using a NEMA certified service provider and following the good practices in e-waste management
15. The bridge technology will be used in sensitive areas to avoid trenching everywhere.
16. The project will have a sound GRM to address community concerns from time to time during the project

7.5 Environment Social Safety and Health Risk Assessment

To ensure that appropriate controls are in place to deal with project associated risks, all project related works shall be subjected to risk assessments and reviews prior to execution. Risk ratings shall be as per the risk matrix utilized by NITA-U (Appendix 4). This shall guide on both likelihood and consequences of the risks associated with various project phases. The risk assessment provided for guidance purposes is presented in table 4.

Environmental and Social Impact Assessment for the proposed extension of the Government Network (Last Mile) to Ministries, Departments and Agencies (MDAs), Local Governments (LGs) and other Target User Groups (TUGs)

Table 7.25: Environment Social Safety and Health Risk Assessment

Project Steps	Impact or Risk Description	Impact receptors	Initial rating		Rating	Mitigation measure (s)	Residual extent/ consequence
			L(1-5)	C (1-5)			
8. Pre-project stakeholder engagement and project disclosure meetings	Stakeholder fatigue. This is mainly due to the fact that a number of activities are taking place at the same time that could impact on how stakeholder view the NITA-U project. Some could easily react negatively because of unfulfilled pledges by past projects e.g. the pipeline project in Mubende up to Mutukula	NITA-U staff and the contractors' pre-project launch team	4	2	M	<ul style="list-style-type: none"> ● Provide for time management in the meetings ● Avoid promising unachievable outcomes to stakeholders ● Utilize competent team members in engagements ● Utilize broader channels of communication to reach teams that may have not been invited for meetings 	L
	Poor reception, physical attacks and lack of support from local leaders	NITA-U staff and contractors	3	5	H	<ul style="list-style-type: none"> ● Initial engagements through the ESIA have taken place ● Provide for security during meetings to check on assault ● Utilize competent consultants in discussing sensitive aspects of the project. ● Provide for a sound grievance management system and communicate this to the stakeholders from the onset. 	L

	Impersonation and con men or grifters on jobs and other beneficiaries to the public could lead to loss of finances and abuse of vulnerable groups	Host communities or general public	4	3	H	<ul style="list-style-type: none"> ● Provide for appropriate contractor introductions to local leaders through meetings and radio talk shows among others ● Provide for known identification systems and proper recruitment channels that provide for recommendations from the LC ● The contractor should utilize competent staff in the recruitment process 	M
9. Equipment and personnel mobilization to site	Bad drivers, poor road conditions could lead to accidents impacting on people and machines	Trucks/ equipment, Project personnel, third parties	3	4	M	<ul style="list-style-type: none"> ● Acquire Authorisation from the relevant authorities, ● Use permit to work, non-authorised people should not be allowed at the work place. ● Contractors should have an accident log to record all these occurrences 	L
	Equipment damage	Trucks/ equipment,	3	4	M	<ul style="list-style-type: none"> ● Use competent personnel to man equipment ● Carry out routine equipment inspection and planned maintenance ● Only repair and replace with compatible parts 	L
10. Excavation of the ground using specialized	Environmental pollution due to spills	Physical environment	2	3	L	<ul style="list-style-type: none"> ● Inspect units prior to loading and utilize competent and certified personnel ● Sound incident monitoring systems should be adopted to ease accident and incident investigation. 	L

drilling machine and hand tools	Road accidents due to poor road conditions, incompetent drivers, , bad drivers, black sports, Driving while talking on phone, poor journey management plan. Road kills especially in animal keeping communities and protected areas	Access Roads and Highways	3	4	M	<ul style="list-style-type: none"> • Appropriate inductions for project teams • Make use of Journey movement plan (JMP) with known journey managers. • Ensure that drivers are trained and competent. Where appropriate, utilize drivers that understand the routes and the hazards associated with them like black spots. • Provide for routine vehicle inspections and servicing 	L
	Accidents to people, machines, Equipment damage, Environmental pollution	Final destination (offloading equipment)	3	4	M	<ul style="list-style-type: none"> • Acquire Authorisation, use permit to work, use competent personnel to do the work, non-authorised people should not be allowed at the work place. 	L

	Conflict and community unrest associated with land take, excavation works, child labour and Poor or no payments among others	Plant and vegetation lose, Roadside users' disturbances, water bodies' alterations, underground resources/ utilities disturbances.	4	4	H	<ul style="list-style-type: none"> ● Acquire authorization and notify host communities and leadership prior to excavation works. ● Provide for a grievance management system and a one stop centre for all forms to be submitted. There should be a known timeframe for reviewing and providing feedback to the grieved party ● Use permit to work system, ● All personnel should be properly inducted ● Provide for references from LC chairpersons prior to recruitment of personnel ● Contractor should provide know payment structure to the client ● Carry out community entry and exit meetings in which these issues are closed out. 	L
	Damage to existing underground/ ground services could lead to loss of business to other parties, injury and death in some cases	Personnel working on the project, third parties and utility companies like NWSC, MTN Uganda, UMEME etc	4	4	H	<ul style="list-style-type: none"> ● Use competent personnel for the works, make sure the site is properly inspected or scanned for all potential hazards including underground utilities before work starts, ● Cordon off the work place, ensure that the site is properly restored, ensure that dust is properly controlled during the on-going works, use appropriate PPE use equipment that minimise noise pollution while working, ● Provide for Task Specific Safety Analysis (TSSA) and toolbox talks for staff to understand all controls and steps for works to be undertaken 	L

	Temporary business interruptions especially for roadside Kiosks and access to shops and business entities due to excavations along walkways	Host communities	5	2	M	<ul style="list-style-type: none"> • Provide alternative routes or ramps for sections with businesses • Provide for phased excavations and timely backfilling of sections to cater for stretched that could be impacted by the activity • Limit works in UNRA road reserves and provide for compensation or resolution formats to create win-win situations 	L
	Loss of equipment and general security of personnel during project implementation	NITA-U and contractor	1	4	L	<ul style="list-style-type: none"> • Provide for security personnel to guard equipment in the night and consider routine checks and full head counts for project personnel • Liaise with resident security agencies to ensure safety of all project components 	L

	Body injuries to personnel excavating the trenches and third parties passing by (pinch points, bruises, entanglement)	Project staff Third parties and animals	4	4	H	<ul style="list-style-type: none"> ● Provide awareness sessions on powered tools, excavations etc to project implementation staff ● Ensure equipment inspection and certification from the Ministry of Labour Gender and Social Development. ● Provide for appropriate PPE and awareness on PPE usage ● Barricade off areas to be excavated and utilize warning signs understood by the host communities to reduce on spectators ● Carry out community/ stakeholder awareness programmes ● Provide for rest breaks to reduce on the stress exposed to workers during project execution ● Contractor should have a sound PPE policy approved by the project management team ● Provide fully stocked first aid kits and trained first aiders for project teams in the field. ● Ensure that contractors have known functioning phone contacts for medical personnel or facilities where project staff can be taken for medical treatment ● Follow NITA-U project incident reporting procedure for all near misses and incidents in the project area 	L
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	<p>Dehydration and harsh weather conditions. Dehydration could lead to headaches and worse reactions while rains could easily lead to water accumulation in excavated points and other impacts related to harsh conditions. Lightening related hazards are also present especially</p>	<p>Workers or field teams</p>	<p>3</p>	<p>1</p>	<p>L</p>	<ul style="list-style-type: none"> ● Provide for enough clean portable drinking water for all project team members and ● Carryout awareness on the dangers of not utilizing this amongst the field team ● Provide for sunscreen for team members that could be adversely impacted by sunlight. ● Provide for shade to be utilized during rainy spells ● Provide for water pumping prior to entry into excavated points ● Provide lightening conductors especially on the poles utilized in the project and other units in lightening prone areas 	<p>L</p>
	<p>Food poisoning and hygiene related issues especially in Kaberamaido where this is already a concern amongst stakeholders</p>	<p>Workers or field teams</p>	<p>2</p>	<p>5</p>	<p>M</p>	<ul style="list-style-type: none"> ● Utilize only known food vendors during the operations and ensure that these are effectively pad by the contractor ● Spot checks of food provision areas should be carried out to check on the level of hygiene for the as one of the ways of ensuring the safety of field teams ● Provide for known medical facilities to help out on food safety related incidents ● Provide awareness sessions to project teams on food safety and hygiene 	<p>L</p>

	Shallow gas and H ₂ S related impacts in wetlands	Workers or field teams	1	4	L	<ul style="list-style-type: none"> ● Provide for proper aeration prior to entry into excavated areas ● Look out for rotten egg smell prior to entry into excavations especially in wetlands ● Provide for gas testing if deemed necessary by competent EHS project members ● Have clear rescue plans for sections like this and events of people collapsing while working in such areas 	L
	Equipment and cable damage during installation works	Developer	1	3	L	<ul style="list-style-type: none"> ● Utilize only competent personnel in the exercise ● Provide for proper storage and known standard operation procedures for works execution. ● Provide for JSAs and toolbox talks for staff to understand all controls and steps of works ● Ensure that equipment is serviced regularly. Certification of borrowing and pressure equipment should also be carried out by the MGLSD. 	L

	Wetland ecosystem disturbance in areas like Peche wetland in Gulu, silver wetland in Kiryandongo.	Host environment and communities	2	2	L	<ul style="list-style-type: none"> ● Consider movement of cables through wetlands in the initial project design with emphasis on aspects of utilizing concrete cast poles to check on rotting or utilization of wireless connections to limit impacts in wetlands. ● Look at options of utilizing existing structures or bridges technology to transmit internet to avoid trenching ● Acquire approvals from the MWE and wetland user permits from NEMA for any works through water resources 	L
	Biological hazards like snakes, wasps and disease causing organisms. During installation or construction phase, teams may also contract zoonic diseases and the animals may also get human diseases	Developer, contractor and third parties	2	2	L	<ul style="list-style-type: none"> ● Provide for proper site screening prior to excavation works especially in swampy areas. ● Ensure that potential exposure is looked into during pre-job planning sessions ● Provide for sound waste management and ensure that workers have rangers to guide them at all times while in protected areas. ● Provide competent project supervisors and adherence to national announcements on disease outbreaks ● Ensure that all project teams are inducted 	L

	<p>Poor or no backfilling works present trap hazards for animals and pedestrians while it also brings in a cost for levelling of the area by the day to day users of these spots.</p>	<p>Developer, contractor and third parties</p>	<p>4</p>	<p>4</p>	<p>H</p>	<ul style="list-style-type: none"> ● Provide for awareness sessions on agreed backfilling practices ● Carry out post backfill inspection and spot checks to ensure compliance with set practice and add fill in areas with depression ● Reduce open excavation to mainly areas without tarmac, opt for none-surface destructive penetration as has been the practice 	<p>L</p>
	<p>Noise and Dust emissions especially during the borrowing tool usage. Loose material excavated is easily blown by wind</p>	<p>Office users, Patients in Hospitals, Court disruptions, Neighbouring households, pedestrians</p>	<p>1</p>	<p>3</p>	<p>L</p>	<ul style="list-style-type: none"> ● Utilize dust suppressing method like water sprinkling. ● Utilize silencers were appropriate. Ensure that units are services to reduce on noise emissions. Provide for excavation works during off peak hours to check on potential disruptions ● Provide appropriate PPE like ear muffs for project execution teams ● Carry out regular equipment servicing 	<p>L</p>
	<p>Accidents due to poor equipment use and incompetent personnel</p>	<p>contractor and third parties</p>	<p>4</p>	<p>3</p>	<p>M</p>	<ul style="list-style-type: none"> ● Provide teams with appropriate PPE and have a known PPE ● Provide for sound job coronation and approvals during SIMOPS 	<p>L</p>

	<p>Chance finds and cultural heritage destruction could easily be destroyed due to lack of knowledge causing loss of valuable cultural and heritage information. It could also lead to conflicts where known areas of interest are disturbed during project implementation</p>	<p>Contractor and Host environment</p>	<p>2</p>	<p>4</p>	<p>M</p>	<ul style="list-style-type: none"> ● Train project execution teams in chance finds and their importance ● Carry out chance find surveys during project planning phase and assessments to provide over view of potential finds. ● Provide for social license acquisition during project implementation including aspects of proper introductions to cultural institutions, local council chairpersons for all areas to be disturbed. 	<p>L</p>
	<p>Plant or vegetation loss along project excavation lines could lead to loss of red-listed vegetation, medicinal plants for communities, impact on the scenic view of the area and also increase area susceptibility to soil erosion.</p>	<p>Host environment and communities</p>	<p>5</p>	<p>2</p>	<p>M</p>	<ul style="list-style-type: none"> ● Carry out plant identification prior to excavation works to identify plant species in the area. Avoid trees and plants of high importance if encountered during the ESIA and TSSA ● Restoration should be carried out immediately after backfilling ● Provide for awareness sessions to the project execution teams on restoration and its benefits ● Avoid plants selected by local leaders as medicinal and ● Limit excavations to only areas of interest (1/2 meter wide stretch) 	<p>L</p>

	Human rights abuse especially to vulnerable groups (the girl child, women and children). These including persons with rare conditions like albinism could easily be take advantage off and not be recruited or abused after recruitment	Host communities and contractor staff	2	5	M	<ul style="list-style-type: none"> ● Continuous coordination with the labour office in regards to recruitment of all personnel ● Provide roles earmarked for vulnerable groups like flag personnel, record or stock taking team members among others ● Have the none-discrimination project related policy discussed during inductions to all staff. ● Provide secure channels for reporting any actual or suspected abuse of human rights including aspects related to vulnerable groups. ● Provide for appropriate TSSA for jobs carried out with vulnerable groups provided special attention. 	M
	Poor housekeeping and associated risks of trips and falls, vermin accumulation among others	Host communities and the contractor	4	3	H	<ul style="list-style-type: none"> ● Ensure good housekeeping is adhered to and teams provided with awareness sessions on the same ● Provide for waste collection points and transport waste off site 	L

	Fall from heights, Accidents,	Personnel working, non-authorized personnel on site, existing tress, existing power lines and other utilities, motor vehicles and bodaboda passing near the site.	4	4	H	<ul style="list-style-type: none"> • Use well standardized and inspected scaffolds, • Non-authorized personnel should not be allowed on site, use appropriate PPE and signage, cordon off the area of work and acquire permission from the district environment officer before cutting any existing tree or altering any water body. • Provide for appropriate TSSAs and permit to work issuance prior to works executions 	L
	Impact on the general scenery	Host communities	3	2	L	<ul style="list-style-type: none"> • Utilize know utility line spaces to limit on impacts associated with scenic view destruction 	L

	High voltage power electrocution for sections utilizing poles and in excavations	Contractor and host communities	3	5	H	<ul style="list-style-type: none"> ● Switch off the power lines before installing the cables where practicable, ● Works should not be carried out in rainy conditions or when deemed risky by on site supervisor ● Provide for scanning or swiping to check for ground or underground utilities prior to excavation works ● Provide teams with appropriate PPE ● Awareness sessions on hazards associated with the project should be conducted for all team members ● Look at options of using already existing services or third party utilities 	M
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<p>12. Housekeeping</p>	<p>Open holes present risks of slips, trips and falls, materials and off cuts left on site and neighbourhood property not restored could lead to conflicts and un welcome to the project, roads, power lines, water, sewerage pipes and other utilities damaged and not restored. Loose particles like glass chips and other off cuts could stick in the skin, eye or even contaminate food and if ingested can cause internal haemorrhaging</p>	<p>Host communities and animals</p>	<p>3</p>	<p>4</p>	<p>H</p>	<ul style="list-style-type: none"> ● Provide for post site monitoring by contractor with known parameters to look out for ● Provide for spot checks and routine inspections by project consultants and NITA-U teams ● Provide appropriate PPE and adhere to the waste management plan. ● Provide awareness sessions on impacts associated with cable termination among other activities 	<p>L</p>
<p>13. Demobilization</p>	<p>Accidents and Environmental pollution</p>		<p>1</p>	<p>4</p>	<p>L</p>	<ul style="list-style-type: none"> ● Provide for proper journey planning in compliance with the NITA-U journey management plan. ● Proper equipment inspection to ensure that only sound vehicles are utilized in transporting equipment ● Utilize competent and certified personnel 	<p>L</p>

	Road accidents, bad drivers, black spots, potholes on the roads, poor visibility, animals crossing, driving under the influence of drugs, Driving while talking on phone, poor journey management plan.	Communities along utilized routes (Highway), machinery and Equipment	H	H	H	<ul style="list-style-type: none"> ● Make use of Journey movement plan(JMP), use your seat belts, don't drive while under the influence of drugs, don't drive while tacking on phone, use competent drivers, be vigilant while driving with other road users, follow road safety rules, signage and speed limits. ● Non-authorized people should not be allowed at the work place during loading operations ● Provide for barricades and appropriate supervision during critical operations 	L
14. Overlapping risks	Poor human waste disposal could lead to disease outbreaks and also tarnish the general image of NITA-U	Host communities, NITA-U and contractor	1	4	L	<ul style="list-style-type: none"> ● Inductions and Toolbox talks should also focus on waste management practices for NITA-U as per the NITA-U waste management plan ● Contractor should provide portable toilet facilities for stretches without toilet facilities and also discuss with facilities in areas that have to allow project staff to utilize their ablutions. 	L

	Poor management of general waste streams like treated transmission poles, oil spills from servicing operations could impact on the health of communities that reuse poles for cooking while spills would impact on the environment and also be a source of fires	Host communities and environment	3	3	M	<ul style="list-style-type: none"> ● Ensure adherence to the waste management plan ● Only transport Waste using NEMA licensed waste handlers. ● Provide awareness sessions on hazard identification and utilization of MSDS for all project related materials ● Awareness sessions on the potential impacts of treated poles used as firewood should be provided to workers so that this doesn't occur ● Waste management aspects should be provided for as part of the induction process. ● Provide for disciplinary action to culprits ● Provide for proper chain of custody for waste and records on waste collected. 	L
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	Poor E-waste management and disposal	Host communities	4	4	H	<ul style="list-style-type: none"> ● NITA-U is participating in the initiatives by NEMA on E-waste management. ● Compliance shall be in line with the draft e-waste management regulations under the proposed waste management regulations and the guidelines by the ministry of ICT ● Provide awareness sessions and publications to the public on proper E-waste management and ● Provide collection centres for e-waste at various points throughout the country to ease waste collection. ● Only transport Waste using NEMA licensed waste handlers 	M
	An increase in connectivity will lead to an increase in potential exposure to cyber crime since more people shall be able to utilize the internet services	Ugandan citizens and globally	4	5	H	<ul style="list-style-type: none"> ● NITA-U is one of the agencies spearheading legislation reforms to cater for cyber crime in Uganda. Efforts are already underway to harmonize legislation on Cybercrime and electronic evidence towards Ratification of the Budapest Convention on Cyber Crime. ● A number of awareness programmes should be designed to cater for connectivity related inductions for end-users' ● Automated controls should also be in place to provide for security and secure connections 	M
L: Likelihood C: Consequence		L: Low M: Moderate H: High				Rating: impact significance/ consequence	

Refer to Risk Matrix in Appendix 4

CHAPTER EIGHT

ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN

8.0. Environment and Social Management and Monitoring Plan (ESMMP)

The Environment and social Management and Monitoring Plan identifies potential environmental and social aspects that should be monitored by the project developer hand in hand with NEMA, other relevant government agencies and development partners. Specifically, it identifies parties responsible for monitoring actions, monitoring indicators and reporting. A monitoring process will be established to check/assess the implementation progress and effectiveness of the mitigation measures suggested and the resulting effects of the proposed project on the environment and people. The ESMMP comes into force right from the pre-implementation engagements as controls should be in place to ensure that environmental and social aspects of the project are considered. Tangible start of the project often starts the construction phase and continues throughout the operation phase. It will also include regular reviews of the impacts that cannot be adequately assessed before the beginning of the project, or which arise unexpectedly. In such cases, appropriate new actions to mitigate any adverse effects will be undertaken.

8.1. Structure of the ESMMP

The ESMMP lists the requirements to ensure effective mitigation for all potential impacts. It provides information on:

- Likely impacts and their indicators;
- Monitoring indicators
- Data sources
- A description of the mitigation measures (actions) that Mariana Agencies Ltd will implement;
- Responsible party for ensuring full implementation of that action.

The project specific ESMMP is presented as table 30:

Table 8.1: Summary of the Environment and Social Management and Monitoring Plan for the Last Mile RCIP Project Components

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Land take prior to construction	Where grievances in the resettlement process emerge, steps will be taken to address the grievance in accordance with the RCIP RAP framework	All grievances arising from compensations for loss of land, livelihood and destruction of property settled efficiently and effectively	No complaints from the property owners affected by land acquisition	RAPs report Grievance settlement reports, incidence investigation reports Annual audit reports	Before project implementation	NITA-U, Contractor, LC grievance committees, District grievance committees, NITA grievance committee	Cost of land, property in case compensation and livelihood restoration to be determined
Impacts related to property acquisition within the road reserve.	Stakeholder consultations shall precede project implementation to brief PAPs on project activities, address their concerns and promote transparency and their participation	Participation and cooperation of PAPs for project sustainability	Stakeholder consultation site specific attendance registers and minutes	RAPs reports Stakeholder management reports Annual audit reports	Before project implementation	NITA-U, Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Adequate notice should be given to the affected persons within the road reserve	Owners of property within the road reserve affected by the project are given adequate relocation notices	No complaints from the property owners affected by project activities	NITA survey and census inventories	Throughout the project lifecycle	NITA-U and Contractor	Negligible
Road safety impact and occupational injuries	Only trained and professional drivers and operators should be allowed to man construction vehicles and machinery or vehicles for survey and RAP census teams	Safety from traffic offences and work hazards	Proportion of drivers and operators with requisite training and professional documents	Contractor employment records Contractor compliance reports NITA survey and census inventories	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
	Installation of all necessary sign posts for works crossing roads	No accidents resulting from project related activities.	Safety sign posts on site	Consultations, monitoring and inspection reports.	Throughout construction period and after project completion	NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	First Aid kits should be carried around by the investigation teams during the RAP census and in each construction site	No life is lost due to injury incidents triggered by project related work	Proportion of injury incidents receiving first aid	Injury and illness incident reports	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
Children and Vulnerable Groups protection	Project workers and communities inducted & sensitized on protection of children, gender and criminal effects of sexual engagement with children in the project sites	Promote respect for rights of PAPS and workers especially, VMGs. No PAP-contractor staff conflicts. No STI, HIV/AIDS, sex abuse and family breakups triggered by the project.	% of sites with workers and communities inducted and sensitized on child, gender and criminal effects of sexual engagement with children in the project sites	Contractor sensitisation records, Field visits and observations	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Coordinate with MoGLSD and develop protocols on responding to labor and child protection issues.	All cases of labor and child rights infringed by contractor staff on site handled according to the laws of Uganda	Status of protocol development with MoGLSD on responding to labor & child protection issues.	Project inventory review	Before works commence	NITA-U and Contractor	As per approved budgets to carry out activity
	Construction Phase						
	Impact on the Socio-economic environment						
	Positive Impacts						

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Creation of employment and business (livelihood) opportunities	Vulnerable and disadvantaged groups in the project area such as the women, youth, poor, orphans, PHAs, PWDs e.tc will be the preferred source of unskilled and semi-skilled labor provided they have the requisite qualification, competence & experience	Optimize participation and livelihood opportunities for PAPs in all project activities	Proportion of the un/skilled women, youth, poor, orphans, PHAs, PWDs etc. with qualification from the PA employed	Contractor employment records Contractor compliance reports	Weekly	Contractor, NITA	As per approved budgets to carry out activity
	The project will promote procurement of materials from local suppliers where it is technically, qualitatively and commercially reasonable and feasible.	Local communities and businesses benefit from procurement process	Number of local businesses benefiting from construction related procurement	Contractor Procurement records Contractor compliance reports	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Ensure regular business dealers especially food vendors are registered for identity & effective GRMs	PAPs earn livelihood without exploitation	Proportion of regular business dealers by category registered	Contractor inventory for regular business dealers by category	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
	Ensure that nationals benefit from employment opportunities and observe the national labor laws	Optimize participation and livelihood opportunities for local PAPs in all project activities	Proportion of nationals in the project labor force	Contractor employment records	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity
Negative Impacts							
Temporal business disruptions due to trenching in urban centers and markets in rural areas	Works should be planned for out of business peak hours (night) and days (weekends) to minimize inconveniences to businesses	Implement the project with as less disruptions on the PAPs especially, the VMGs as possible	Number of community complaints lodged over disruptions	RAPs Report, Field Visits	Monthly	Contractor, LG leaders NITA-U	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Communities should be sensitized on road use during construction.	Minimal disruption of community facilities 'operations during construction activities	Number of complaints from communities long the project area		Throughout construction period	NITA-U and Contractor	Negligible
Construction noise, vibration and air quality	Only equipment and vehicles in good working order will be used	Management of noise, dust and vibration nuisance	Complaints of DMC equipment and vehicles in use	Field consultations with District Engineer, Complains from the operators and community	Daily	District Engineer, NITA-U and Contractor	As per approved budgets to carry out activity
	Only trained and professional drivers (operators) should be allowed to drive construction vehicles and to operate machinery.	Management of noise, dust and vibration nuisance	Proportion of drivers (operators) with requisite training and professional documents	Contractor employment records Contractor compliance reports inventories	Monthly	NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Implement best driving (operator) practices to minimize noise /dust created through unnecessary acceleration and breaking	Management of noise, dust and vibration nuisance	Complaints on bad driving/machine operations. Evidence of best fleet management policy for example: Proportion of machines/vehicles with a call number for bad driving/operation Proportion of bad driving/operation reports acted on by the contractor	Contractor compliance reports, field consultations with OC traffic	Daily	OC Traffic, NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Regular inspection of vehicles, machinery and equipment used in the operation according to manufacturer inspections to ensure that they are in good working condition	Management of construction noise, dust and vibration nuisance	Proportion of vehicles, machinery and equipment inspection and serviced according to manufacturer specifications	Inspection records of vehicles, machinery and equipment field consultations with OC Traffic and District Engineer	Daily	OC Traffic, District Engineer, NITA-U and Contractor	As per approved budgets to carry out activity
	Noise-prone activities will not be implemented between the hours of 6 pm. and 6 am	Avoidance of noise-prone activities between the hours of 6 pm. and 6 am	Complaints of excessive noise from construction areas from between the hours of 6 pm. and 6 am	Community observations Contractor compliance reports Field visit District Environment Officer	Daily	District Environment Officer, NITA-U and Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Noise generating sources should be located away from residential areas, schools, hospitals and other sensitive receptors to meet the noise emission levels provided in IFC's General EHS Guidelines	To keep noise emission at levels provided in IFC's General EHS Guidelines especially, in noise sensitive receptors	Complaints of noise generating sources located in residential areas, schools, hospitals and other sensitive receptors	Community observations Contractor compliance reports Field visit consultations with District Environment Officer	Daily	District Environment Officer, NITA-U and Contractor	As per approved budgets to carry out activity
	Use of noise suppression shields and mufflers	To keep noise emission levels low	% of machines generating beyond 65dBA with noise suppression shields and mufflers	Field observations and consultations with District Environment Officer	Monthly	District Environment Officer, NITA-U, Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Observe the 75 dBA and 65 dBA NEMA regulation limits for day and night time noise levels respectively	To comply with the NEMA regulation limits for day and night time noise levels respectively	Complaints of noise levels beyond the 75 dBA and 65 dBA NEMA regulation limits for day and night time noise levels respectively	Field visit consultations with the district Environmental office	Daily	District Environment Officer, NITA-U, Contractor	As per approved budgets to carry out activity
	Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use.	To keep noise emission levels low	Complaints on engines of vehicles/trucks and earth-moving equipment running when not in use.	Field visit consultations with the district Engineer and OC traffic	Daily	District Engineer , OC traffic NITA-U, Contractor	As per approved budgets to carry out activity
	Installing suitable mufflers on engine exhausts and compressor components to reduce vibration levels	To keep vibration nuisance levels low	% of machines generating vibration nuisance with mufflers	Field visit consultations with the district Environmental office	Daily	District Environment Officer, NITA-U, Contractor	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Sprinkling water regularly during dusty conditions	To suppress dust emissions, improve visibility and at the same time minimize the health impact of dust pollution to both workers & the general public.	Public recognition of contractors attempts to manage dust particles through water sprinkling	Reports from safeguards' staff	Daily	<ul style="list-style-type: none"> • NITA-U MGLSD Contractor NEMA 	Negligible

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Social ills of construction labor and HIV/AIDS	As a contractual obligation, contractors should have an HIV/AIDS policy and a framework (responsible staff, action plan, etc.) to implement it during execution of this project.	No illicit sexual relationships among construction workers and local community	All construction workers are aware of HIV/AIDS risk and responsible living. All construction workers living in a camp adhere to a “No fraternization” and comply with latest entry time into camp (6PM) set to avoid prostitution.	NITA-U Contractor; Local Government	Throughout construction	NITA-U	As per approved budgets to carry out activity HIV/AIDS awareness programmes, posters/fliers and free condoms

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Impact on cultural heritage/ archaeological interests/Chance finds in OP 4.11 safeguards	Locations of Cultural Heritage/ Archaeological interest should be avoided by project activities	To keep Cultural Heritage/ Archaeological sites in tact	No. of Cultural Heritage/ Archaeological interest interfered with by the project activities	NITA-U Contractor; Local Government	Daily	Contractor Cultural leaders, NITA U, Department of Antiquities	As per approved budgets to carry out activity
	Work must immediately stop along an affected section, and the Supervising Engineer, Department of Museums and Antiquities and the competent authority under NEMA immediately informed to take a decision on the way forward	To save and protect chance finds in OP 4.11 safeguards	Incidents where work continued in sections of chance finds in OP 4.11 safeguards	Chance finds reports, field visits	Daily	Contractor NITA-U Local government Supervising Engineer, Department of Museums and Antiquities and the competent authority under NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Care must be taken during the excavation of borrow pits to avoid family or clan graveyards. Where family graveyards are affected, the RCIP RAP framework must be observed to compensate the PAPs	To save and protect family or clan graveyards. To ensure prompt and adequate compensation as guided by the RCIP RAP framework to the PAPs	Proportion of family or clan graveyards avoided. Proportion of cases promptly and adequately compensated according to the RCIP RAP framework. Proportion of compensation grievances addressed as guided by the RCIP RAP framework	Chance finds reports, field visits RAP reports	Monthly	Contractor NITA-U Local government Supervising Engineer, Department of Museums and Antiquities and the competent authority under NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Occupational Health and Safety risks	All manual equipment such as pickaxe, Pick Mattock, Cutter Mattock, etc should be sturdy and firmly fixed	Promote occupational health and safety	Complaints of workers sheared by falling off pick, mattock, hoe etc.	Occupational health and safety risk incidence inventories	Monthly	MGLSD NEMA Contractor District labour officer	As per approved budgets to carry out activity
	Only trained and professional drivers and operators should be allowed to man construction vehicles and machinery.	Management of traffic accidents	Proportion of drivers and operators with requisite training and professional documents	Contractor employment records Contractor compliance reports inventories	Monthly	District Engineer, NITAU and Contractor	As per approved budgets to carry out activity
		To reduce the risk of accidents involving pedestrians and vehicles.	Reports of pedestrians and vehicles falling into trenches	Site visits, complaints filed in Police, Reports from safeguards' staff	Daily	NITA-U MGLSD NEMA Contractor District Labour Officer	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	All open trenches and excavated areas should be backfilled as soon as possible after cable laying and construction has been completed. Open trenches or ongoing excavation shall be provided with adequate barriers/fences, appropriate signages and should be illuminated at night.	To reduce the risk of accidents involving pedestrians and vehicles.	Reports of pedestrians and vehicles falling into trenches	Site visits, complaints filed in Police, Reports from safeguards' staff	Daily	NITA-U MGLSD NEMA Contractor District Labour Officer	As per approved budgets to carry out activity
	Construction workers should be provided with and enforced to wear suitable Personal Protective Equipment (PPE) including hard hats, overalls, high-visibility vests, safety boots, gloves etc.	Promote occupational health and safety	Proportion of workers provided with and enforced to wear suitable Personal Protective Equipment (PPE)	Reports from safeguards' staff	Daily	NITA-U MGLSD NEMA Contractor District Labour Officer	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Clear signage should be used near project sites	To reduce traffic accidents	Public & worker complaints on lack of signage	Reports from safeguards' staff	Daily	NITA-U MGLSD Contractor District OC Traffic	As per approved budgets to carry out activity
	Training of workers and community members on safety precautions.	To reduce accidents	Training reports	Reports from safeguards' staff	Daily	NITA-U MGLSD Contractor District OC Traffic	As per approved budgets to carry out activity
	Community and workers training on potential of disease transmission such as HIV/AIDs, Hepatitis, Gender Based Violence and Child abuse	Prevent potential transmission of diseases such as HIV/AIDs, Hepatitis, Gender Based Violence and Child abuse	Training reports	Field visits, documentary review	Daily	<ul style="list-style-type: none"> NITA-U MGLSD Contractor NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Documentation of Accidents and actions taken	For assess and improve safety mechanisms	Evidence of accidents documentation	Reports from safeguards' staff	Daily	<ul style="list-style-type: none"> NITA-U, MGLSD, Contractor, NEMA DHO 	As per approved budgets to carry out activity
	Ensure latrine, bathroom and accommodation facilities are separate according to sex	To protect VMGs from abuse of sexual, gender and privacy rights	Evidence of separate latrine, bathroom and accommodation facilities by sex	Reports from safeguards' staff	Daily	<ul style="list-style-type: none"> NITA-U, MGLSD, Contractor, NEMA DHO 	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Construction traffic related accidents and traffic interference	Trenching across roads and project vehicles and trucks movement should be scheduled during general traffic off-peak hours	To avoid traffic jam due to project activities	Evidence of trenching across roads and project trucks moving during traffic peak hours	Reports from traffic wardens and safeguards staff	Daily	NITA-U MGLSD, DHO Contractor, NEMA	As per approved budgets to carry out activity
	Employ safe traffic control measures, including temporary road signs and flag persons to warn of dangerous conditions and on-going road construction works or diversions	Minimize traffic accidents	Evidence of traffic control measures	Reports from safeguards' staff	Daily	NITA-U MGLSD Contractor District OC Traffic	As per approved budgets to carry out activity
	Trucks carrying construction materials will be covered with tarpaulin or appropriate polythene material from or to project site	Prevent injuries caused by flying objects from project trucks hauling construction materials	complaints of people being hit by objects from moving project truck	Reports from safeguards' staff	Monthly	MGLSD, NEMA, Contractor, District labour officer and OC Traffic	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Attach speed limits to vehicles that will use the Road	To reduce human error associated with accidents due to over speeding	complaints of over speeding by project vehicles	Field visit consultations	Monthly	MGLSD, NEMA, Contractor, District labour officer	As per approved budgets to carry out activity
	Documentation of Accidents and actions taken	To ascertain the impact of the project and take timely corrective action	Evidence of accident documentation	Reports from safeguards' staff	Daily	NITA-U, MGLSD Contractor, District OC Traffic	As per approved budgets to carry out activity
Risk of assault/ Attack/ intimidation	Report all the criminal cases to police and seek police protection in affected sites	To prevent risk of assault/ Attack/ intimidation	Cases reported to police	Incident reports in Police	Daily	NITA-U, MGLSD Contractor, DPC	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Potential loss of land/property/livelihood (crops, market stalls, sewer and water lines, electricity and telecom cables as well as roads networks)	The project will use the road reserve and public land to avoid physical displacement/loss of land, livelihood and destruction of property.	Implement the project with as less resettlement effect on the PAPs especially, the VMGs as possible	Number of incidents in the project communities losing land, livelihood or property due to project triggered activities	RAPs report	Before project implementation	NITA-U and Contractor	As per approved budgets to carry out activity

	<p>Where the project leads to damage of property or physical displacement leads to loss of land, livelihood and destruction of property, owners shall be compensated. Regardless of their ownership or tenure of the lands, occupants/owners of affected structures, crops, garden, economic trees shall be compensated in accordance with OP 4.12 and the RPF. This includes those whose livelihood or businesses have been temporarily disrupted due to construction. A simple RAP shall be prepared for each district to inventory, assess the value and compensate owners of structures, crops, garden and economic trees as well as disruption of businesses.</p>	<p>All PAPs with incidents of loss of land, livelihood and destruction of property re-settled promptly and adequately</p>	<p>Proportion of incidents of land, livelihood or property loss due to project triggered activities resettled promptly and adequately in accordance with the RCIP RAP framework</p>	<p>RAPs report</p>	<p>Before project implementation</p>	<p>NITA-U and Contractor, MoLHUD</p>	<p>As per approved budgets to carry out activity</p>
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Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Chance Finds Procedures	All grievances arising from compensations for loss of land, livelihood and destruction of property settled efficiently and effectively		RAPs report Grievance incidence resettlement reports Annual audit reports	Before project implementat ion	NITA-U, Contractor, LC grievance committees, District grievance committees, NITA grievance committee	As per approved budgets to carry out activity
	Impact on the Biophysical environment						
	Potentially Negative						
Increased susceptibility to soil erosion during rainy days	Stripping of vegetation shall be restricted to existing road reserves and diversions to transmission sub-stations	Minimized effect on the adjacent ecosystem	Evidence of restricted stripping of vegetation to the road reserve and diversions to transmission sub-stations Evidence of eroded mass from project sites	Field visits and consultations with the District Environment Officer	Daily	NITA-U, Contractor, District Environment Officer	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Use aerial transmission poles in erosion prone spots	Preserved ecosystem	Evidence of eroded mass from project sites	Field visits and consultations with the District Environment Officer	Daily	NITA, Contractor LG staff, DEO	As per approved budgets to carry out activity
	The Contractor will preferably deal with local borrow material suppliers certified by NEMA	Best practices in project footprint and soil erosion management	The legal status of local borrow material suppliers	Field visits and consultations, audit of supplier documentation	Daily	NITA, DEO, Contractor, LG staff	As per approved budgets to carry out activity
Impact on natural habitats and protected areas	Siting of strong short towers/poles (<9 Meters) that cannot be damaged by larger fauna along the road reserves in conservation areas	Protected critical habitats e.g. nesting grounds, bird flying spaces, foraging corridors, and migration corridors	The layout of the OFC implemented in conservation areas	Field visits, monitoring and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Avoidance of construction activities during the breeding season and other sensitive seasons or times of day in collaboration with conservation teams.	To avoid interference with the breeding seasons and habits of endangered species in conservations	The timing of construction in conservation areas	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Minimizing clearing and disruption to riparian vegetation. Re-vegetation of disturbed areas with native plant species	To avoid interference with the habitats of conservations	The extent of the project foot prints in conservation areas. Evidence of re-vegetation	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
Construction waste generation	Trenching spoil material should be used for backfill	Properly preserved spoil material for use during backfilling	Evidence backfilled trenches	Field visits and consultations	Daily	Contractor, NITA LG Staff, DEOs/NEMA	As per approved budgets to carry out activity
	All wastes should be collected in gazetted areas and sorted	Separation of hazardous and non-hazardous wastes for proper disposal	Records for wastes generated and disposal practice	Field visits and consultations	Daily	Contractor, NITA LG Staff, DEOs/NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Contractor should seek guidance of local environmental officers to identify acceptable disposal sites for oily/ fuel waste	Disposal of waste by a licensed service provider. Availed records of waste disposed of.	Reports of illegal waste dumping in non-designated areas	Field visits and consultations Records of waste disposal records of waste disposed of.	Daily	Contractor, NITA LG Staff DEOs/NEMA	As per approved budgets to carry out activity
	Where it does not exist for hazardous wastes, a NEMA certified waste handler should be contracted	To transport and disposal of wastes to a known NEMA approved waste disposal facility.	Reports of illegal handling of hazardous waste by un licensed companies	Field visits and consultations	Daily	Contractor NITA LG Staff DEOs/NEMA	As per approved budgets to carry out activity
	Contractors should induct their drivers and sensitise them on safe transportation of the rubble and cut-to-spoil materials to the final disposal site	Proper handling and transportation of waste material	Induction and sensitisation reports for drivers Traces of waste spillages along transportation routes	Field visits and consultations	Daily	Contractor NITA LG Staff DEOs/NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Implementing fuel delivery procedures and spill prevention and control plans applicable to the delivery and storage of fuel for backup electric power systems, preferably providing secondary containment and overfill prevention for fuel storage tanks;	Controlled fuel spillages	Evidence of fuel delivery procedures and spill prevention and control plans Availed spillage contingency plan	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NEMA	As per approved budgets to carry out activity
E-Waste	Contractors should undertake waste segregation to separate e-waste from waste	To restore excavations	Waste segregation practice reports	Field visits and consultations	Daily	Contractor NITA-U, LG Staff DEOs/NEMA	As per approved budgets to carry out activity
	Ensuring that new support equipment does not contain PCBs or ODSs. PCBs from old equipment should be managed as a hazardous waste	To avoid hazard wastes	Manufacturer equipment specifications	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Purchasing electronic equipment that meets international phase out requirements for hazardous materials contents and implementing procedures for the management of waste from existing equipment according to the hazardous waste guidance in the General EHS Guidelines.	Durable and genuine equipment installed	Manufacturers' Specification records	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NEMA	As per approved budgets to carry out activity
	Considering the implementation of a take-back program for consumer equipment such as cellular telephones and their batteries.	To avoid accumulation of hazardous wastes	Equipment purchase and handover agreements	Field visits and consultations	Daily	Contractor NITA-U, MoICT LG Staff DEOs/NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Review of regulations and the strategic electronic waste management plan to cater for e-waste disposal options in and outside the country	New defined regulation and plans on waste management capturing e-waste aspects Provision and encouragement of developers or government to invest in e-waste management facilities	Regulations rollout amongst project teams and country at large Presence of e-waste management facilities or know collection points	Field visits Publications of new legislation and strategic plan	Monthly	NITA-U, NEMA, MoICT	As per approved budgets to carry out activity
Water pollution	Maintenance and cleaning of vehicles, trucks and equipment should take place offsite and away from water sources and conservation areas	To keep the ecosystem from pollution	Project vehicles cleaning and maintenance records	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NEMA	As per approved budgets to carry out activity
	All the wastes should be collected in areas separate from the surface water bodies such as streams	Responsible waste management and protected water sources.	Records for water sample analysis Evidence of garbage/refuse, oily/fuel waste in drains	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Recycling or proper disposal of all waste lubricants and oils		Waste recycling or disposal records	Field visits and consultations	Daily	Contractor & NITA-U	As per approved budgets to carry out activity
	Constructor should provide latrine facilities for construction workers to avoid indiscriminate defecation in nearby bush or shores		Evidence of latrine facilities on site	Field visits and consultations	Daily	Contractor NITA-U LG Staff DEOs/NEMA	As per approved budgets to carry out activity
	Post-Construction Phase						
	Potential impacts on the socio-economic environment						
	Potential Negative impacts						
Visual and Aesthetic Impacts i.e. Alteration of visual and aesthetic quality of sites	Taking into account public perception about aesthetic issues by consulting with the local community during the siting process of antenna towers.	To review site, material and technology alternatives with the visual interests of project communities in mine	Concerns with aesthetic changes	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Limiting vegetation clearance to the road reserve	Limited interference with sceneries in project communities	The extent of the project foot prints in conservation areas. Evidence of re-vegetation	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Any areas that were cleared of vegetation but are not paved should be planted with grass indigenous to those areas.	To restore the vegetation to its indigenous state	The extent of the project foot prints in conservation areas.	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Restoration of quarry and borrow pit sites opened by the contractor to as far as is possible their original conditions	Sceneries aesthetic kept in their pre-construction form Restoration of borrowed areas	Public complaints Presence of an appropriate restoration plan	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Demobilization and restoration of sites hosting support construction facilities for the project at project closure	Site restored to its original aesthetics	Demobilization and restoration status of sites hosting support construction facilities	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Buying materials from only suppliers with evidence of compliance with Statutory requirements for commercial sources in place.	Compliance with Statutory requirements for commercial sources in place.	Evidence of compliance with statutory requirements for commercial sources in place.	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Proper storing and disposal of all wastes generated to appropriate gazetted areas with the help of NEMA certified service providers	A well-protected integrity of the ecosystem	Waste storing and disposal records	Field visits and consultations	Daily	Contractor, LG DEOs, NITA-U, NEMA	As per approved budgets to carry out activity
	Operational phase						
	Impact on Socio-Economic Environment						

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
	Positive Impact						
An efficient government cloud infrastructure with better public service delivery	Connectivity to as many Government, Private and Cultural Institutions as possible.	An improved service delivery and accessibility	Number of entities connected Percentage reduction in time delays in service delivery	Monitoring reports Quarterly review reports	Quarterly	NITA-U Project coordinator and Contractor, MoICT	Improved delivery of public services by improving efficiency through government cloud infrastructure
Better capacity in management of IT programs and projects	Design training programs for effective use of the infrastructure by beneficiaries as part of the project.	A resourceful management structure.	Training programs design status for effective use of the infrastructure	Monitoring and evaluations	Annually	NITA-U, MoICT and contractor(s)	Building capacity in management of IT programs and projects

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Improved policy and regulatory environment for ICT in country	Formulate and review policies and regulations based on project performance	Well-structured and relevant policy framework	Number of policies and regulations reviewed based on home grown experience	National policy and legal framework.	Annually	NITA-U, MoICT and contractor(s), NEMA	Improved policy and regulatory environment for ICT in country
Job creation/Loss	National and regional labor laws should be observed	An established job creation venture	Trend of employment in the IT sector	Consultations, monitoring and evaluation reports.		NITA-U, and contractor(s)	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Occupational Health and Safety Risk	<p>Only qualified and certified workers shall be employed to install, maintain, or repair any equipment onsite</p> <p>Maintenance workers will be provided with adequate PPE to limit their risks to works accidents. Such PPE will include gloves, helmets, safety belts for working in heights, and any other as deemed necessary.</p> <p>A first Aid kit will be kept onsite whenever there are maintenance activities. This will help in administering the first help in an event of injury of any operation staff.</p>	A good health and safety culture.	Reports of injuries during maintenance	Accident log.	Bi-annually	NITA-U and contractor(s)	As per approved budgets to carry out activity

<p>Social misdemeanor and cybercrimes</p>	<p>Formulate and enact policies, laws, rules and regulations to protect private, public and shared information and prevent cybercrimes, including fraud, copyright piracy, pornography etc. on national intra- and inter-net;</p> <p>Educate MDAs' personnel and enhance personnel management, regularly conduct the appropriate amount of education on procedural management of websites/portals;</p> <p>Strengthen educational programs on patriotism and moral construction to resist the penetration and influence of corrupt thoughts and culture, and keep the purity of our thoughts and morality;</p> <p>Censure internet content to suit target end users</p>	<p>A controlled and responsible usage of intra and internet.</p>	<p>ICT policies, laws, rules and regulations enacted</p> <p>Certificates of training</p> <p>Education Curricula content at different levels</p> <p>Websites blocked</p>	<p>Consultations, monitoring and evaluation reports.</p>	<p>Real time tracking coupled with monthly reviews</p>	<p>NITA-U, MoICT, Uganda Police</p>	<p>As per approved budgets to carry out activity</p>
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Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Lightning risks and associated impacts	Lightning arrestors will be incorporated in the project design. The appropriate earthlings will be provided to safeguard against lightning. This installation shall be supervised by a qualified person.	Installation during construction and maintenance during operation	Installed/erected lightning conductors in place	Installation and maintenance manuals Records of lightning strikes	Bi-annually	NITA-U	As per approved budgets to carry out activity

<p>Electric and Magnetic Fields</p>	<p>Evaluating potential exposure to the public against the reference levels developed by the international Commission on Non-Ionizing Radiation Protection (ICNIRP).</p> <p>Average and peak exposure levels should remain below the ICNIRP recommendation for General Public Exposure; Limiting public access to antennae tower locations (see also ‘Community Health and Safety’ of this document, below); Following good engineering practice in the siting and installation of directional links to avoid building structures;</p> <p>Taking into account public perception about EMF issues by consulting with the local community during the siting process of antenna towers.</p>	<p>Limited exposure to electromagnetic field</p>	<p>Reported cases of health effects associated with exposure to electric and magnetic, i.e., cancer, leukemia.</p>	<p>ICNIRP recommendation for General Public Exposure;</p> <p>Public consultation and disclosure reports.</p> <p>Field inspection / monitoring reports</p>	<p>Bi-annually</p>	<p>NITA-U, MoICT, Uganda Atomic Energy Council</p>	<p>As per approved budgets to carry out activity</p>
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Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
e-waste generation	Management should undertake waste segregation onset to separate e-waste waste from non-e-waste waste.	NITA-has records of proper waste disposal indicating quantities dumped and location of dumping site	Quantities of e-waste generated		Quarterly	NITA-U	As per approved budgets to carry out activity
	Decommissioning Phase						
	Possible Socio-Economic Impact						
	Potential impact on the biophysical environment						

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
Soil erosion and landslides	NITA-U should consider the option of not removing installed cables in some areas or whole network Contractor should restrict vegetation stripping to critical sites to minimize project footprint and soil erosion Contractor should avoid ground and vegetation stripping in steep sloping areas to minimize soil erosion and risk of landslides.	Retarded rate of erosion	Traces of gullies Cases of siltation downstream.	Consultations, monitoring and evaluation reports.	Throughout the decommissioning period	NITA-U, DEOs, Contractor(s)	As per approved budgets to carry out activity
Water quality	No garbage/refuse, oily wastes, fuels/waste oils should be discharged into drains or onto site grounds	Proper storage of waste and responsible disposal	Water quality test report	Water quality test records	Quarterly	NITA-U, DEOs, DHOs, Contractor(s)	As per approved budgets to carry out activity

Environmental/ Social Impact	Mitigation/Enhancement Measures	Desired Outcome	Monitoring Indicators	Source of Data (MoVs)	Frequency	Implementation/ Supervision Responsibility	Cost Estimate
e-Waste generation	Management should undertake waste segregation onset to separate e-waste waste from non-e-waste waste and use NEMA certified service providers for safe disposal E-waste waste separated from non-e-waste waste	Labeled waste bins and no waste littered Documentation of formal engagement of refuse handlers Segregated waste storage area	Records of waste generated and disposed of. Waste storage area with segregated compartments.	Quarterly reports	Quarterly	NITA-U, DEOs, DHOs, Contractor(s)	As per approved budgets to carry out activity

Cultural Heritage Management Plan

The cultural heritage management plan identifies the negative impacts of the proposed project and then suggests mitigation measures and assigns responsibility centers for the cultural heritage management in the affected areas. These are tabulated on Table 3.2.

Table 8.2: Proposed mitigation measures for potential negative impacts on cultural heritage resources.

Impact on cultural heritage resources	Mitigation	Responsibility
<p><i>Kiryandongo Archaeological site 1</i></p> <ul style="list-style-type: none"> • Destruction of potsherds and any other cultural materials found underground. • Interchange of the cultural material layering hence losing their provenance. 	<ul style="list-style-type: none"> • Conduct pre-development awareness programmes for the workers on how to recognize cultural materials during the construction phases. • Follow chance finds procedures during development phase. 	Archaeologist and cultural heritage consultant & NITA-U
<p><i>Kiryandongo Archaeological site 2</i></p>	<ul style="list-style-type: none"> • Ensure that a watching brief by qualified personnel (archeologist/cultural heritage specialist) is put in place and followed to help locate possible chance finds before ground breaking or dumping. 	Archeologist/cultural heritage specialist & NITA-U
<p>Destruction of the potsherds and other possible remains in the area.</p>	<ul style="list-style-type: none"> • Conduct pre-development awareness programs (training) for the workers on how to recognize cultural materials during the construction phases. 	
<p>Interchange of the landscape and the meaning of the object hence losing the provenance of objects.</p>		
<p><i>Gulu Archaeological site</i></p>	<ul style="list-style-type: none"> • Involvement of the archaeologist and cultural heritage specialist in site selection 	Archaeologist and cultural heritage

	<ul style="list-style-type: none"> ● Conduct pre-development awareness programs (training) for the workers on how to recognize cultural materials during the construction and development phases. 	expert and NITA-U
Destruction of the potsherds and other materials that could be in the area.	<ul style="list-style-type: none"> ● Ensure that watching brief by qualified personnel (archeologist/cultural heritage specialist) is put in place to help locate possible chance finds before ground breaking or dumping. 	
Interchange of the landscape and the meaning of the object hence losing the provenance of objects.		
<i>Nakasongola Archaeological site</i>	<ul style="list-style-type: none"> ● Conduct pre-development awareness programs (training) for the workers on how to recognize cultural materials during the construction and development phases. 	Archaeologist and cultural heritage expert and NITA-U
Destruction of potsherds and any other cultural materials found underground.	<ul style="list-style-type: none"> ● -Ensure that a watching brief by qualified personnel (archeologist/cultural heritage specialist) is put in place to help locate possible chance finds before ground breaking. 	
Interchange of the cultural material layering hence losing the provenance		
<i>Gulu mass grave/cemetery</i>	<ul style="list-style-type: none"> ● Avoidance 	NITA-U

Table 8.3: Assessment of Significance

Site	Significance/Value	Magnitude of Potential Impact	Overall Impact Assessment
Kiryandongo Archaeological site 1	Low	Medium	Medium Positive

Kiryandongo Archaeological site 2	High	Major	Large Positive
Gulu Archaeological site	High	Major	Large Positive
Nakasongola Archaeological site	High	Major	Large Positive
Gulu mass graves/cemetery	Low	Medium	Medium Positive

Monitoring Plan

This entails how the cultural heritage resources will be monitored for proper management. Monitoring should place emphasis on archaeological materials which could be found underground during the project activities at all construction phases. It is therefore recommended to involve a qualified archeologist and cultural heritage specialist to ensure that cultural materials are properly monitored. As part of monitoring there will be need to create awareness/training of all contractors/developer's staff on identification of archeological resource materials, their documentation using photography and GPS coordinates, procedure for informing and consulting community leaders and the Department of Museums and Monuments (DMM) to be considered during the project implementation.

The developer should hire a cultural heritage specialist to be available whenever need arises to salvage materials of archaeological and cultural heritage nature. This will ensure that chance finds from the sites are well documented and salvaged. The monitoring plan would follow suggestions in Table 8.4 below.

Table 8.4: Archaeology and cultural heritage Monitoring Plan

Activities	Responsibility	Frequency	Reporting to
Creating awareness of Contractor’s staff on identification of archeological resource materials.	Developer/DMM	Before commencement of the Project	DMM
Watching brief on PCRs by qualified personnel.	Developer/DMM	Ground breaking phase	DMM
Documentation of archeological materials by taking photographs and GPS coordinates (Record of CF)	Developer	During construction (All times when materials are discovered).	DMM
Living cultural resources: Avoid camping or any other activity at the site	Developer	All times of the project.	DMM

Chance Finds Procedures

Archaeological sites are the only physical evidence that tell us about the past history of Uganda and are indicators of the indigenous people’s cherished values and identity. The 1995 Constitution of Uganda, under the national objectives and directive principles of the state policy (XXV), obligates the state to protect and preserve Uganda’s Heritage. This emphasizes the Historical Monuments Act 1967 amended in a decree in 1977 that governs the protection of all cultural property in Uganda. The Department of Museums and Monuments is therefore mandated to monitor the protection, preserving, gazetting and rescue/salvage of any material of archaeological, paleontological or historical importance on behalf of the State. Thus the DMM came up with a Chance Finds procedure. Chance Finds are sites or materials such as pottery or Stone tools, Iron Slag, Charcoal that could be found during earthworks of any development. Pottery or broken pots may be decorated or plain, red ware or brownish or even yellowish-white for those that used kaolin. Stone tools may also be in black/dark (chert), white without or with crystals (quartz/quartzite) and many others. Some other people may find iron slag, spears, knives or other objects made from iron ore and bones of either human or animal remains. It is therefore important to follow the protocol provided below while operating in culturally rich areas of Kichwamba II zone, Kichwamba Sub County, Kabarole district.

Procedures to address chance find

In line with the General Specification for Road and Bridge and WB Physical Cultural Resource (PCR) Safeguard Policy Guidebook, the Contractor must stop work immediately after discovering evidence of possible scientific, historical, prehistoric, or archaeological data and notify the Resident Engineer giving the location and nature of the finds.

The Contractor shall exercise care so as not to damage artefacts or fossils uncovered during excavation operations and shall provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the Employer. The Contractor shall also document/record the Chance Finds and provide a report with the following;

- Date and time of discovery
- Location of the discovery
- Description of the PCR
- Estimated dimensions of the PCR
- Temporary protection implemented.

Note: This report will first be submitted to the Resident Engineer who will report to the main developer and then other authorities for further communications and actions.

The Resident Engineer should notify the Commissioner DMM of such finds for verification and salvage by writing a notification letter or email and where urgency is needed a telephone call. The contact name' Rose Nkaale Mwanja; email; mwanjankale@gmail.com and telephone numbers: 0414 232 707 or 0772 485624. This is in line with the Historical Monument Act 1967, Section 11(1 &4) and section 12b.

The DM should be able to provide a solution at least within 7 to 28 days after being contacted. This implies that where salvage archaeology is required, works of the contractor should be suspended for at least not more than 28 days. A report of the finds should be shared with all authorities especially the developer and DMM.

The project areas in the Northern districts are relatively archeologically and historically rich especially in pottery which indeed the project investigations revealed. The impact of the project on the recorded cultural heritage sites will be direct during the entire phases of construction. Chance finds procedure should be emphasized given the anticipations of more archaeological remains that could have not been observed from the surface.

Relation to the project: the project team has incorporated sample studies of an archaeologist during the ESIA and shall ensure that project teams are provided with awareness sessions on chance finds prior to project execution.

CHAPTER NINE

PROJECT DECOMMISSIONING

9.0. Decommissioning

Given the numerous conditions and factors that could come into play during the operation phase of the project, decommissioning and restoration of facilities shall require development of detailed plans and acquisition of demolition certificates. Planning for decommissioning should ideally be carried out when the project reaches 80% of its life span. Involvement of a consultant or specialist shall enable the client provide restoration and decommissioning plans to NEMA, other relevant lead agencies and development partners for further guidance. Prior to removal of material, approaches such as reuse shall be looked at so that the facilities are utilized for other compatible projects. Where this is not feasible, client shall follow guidance of the relevant lead agencies, National legislation and international best practice. All works shall be in line with all stated EIA approval conditions with strict supervision to ensure adherence to this.

A typical decommissioning plan should provide information on:

- The project location, length
- Anticipated waste quantities and composition
- Transportation and disposal of materials from site
- Traffic management during the decommissioning project phase
- Anticipated impacts and mitigation measures
- The project team and
- The relevant legislations in place
- Anticipated outcome of the decommissioning exercise

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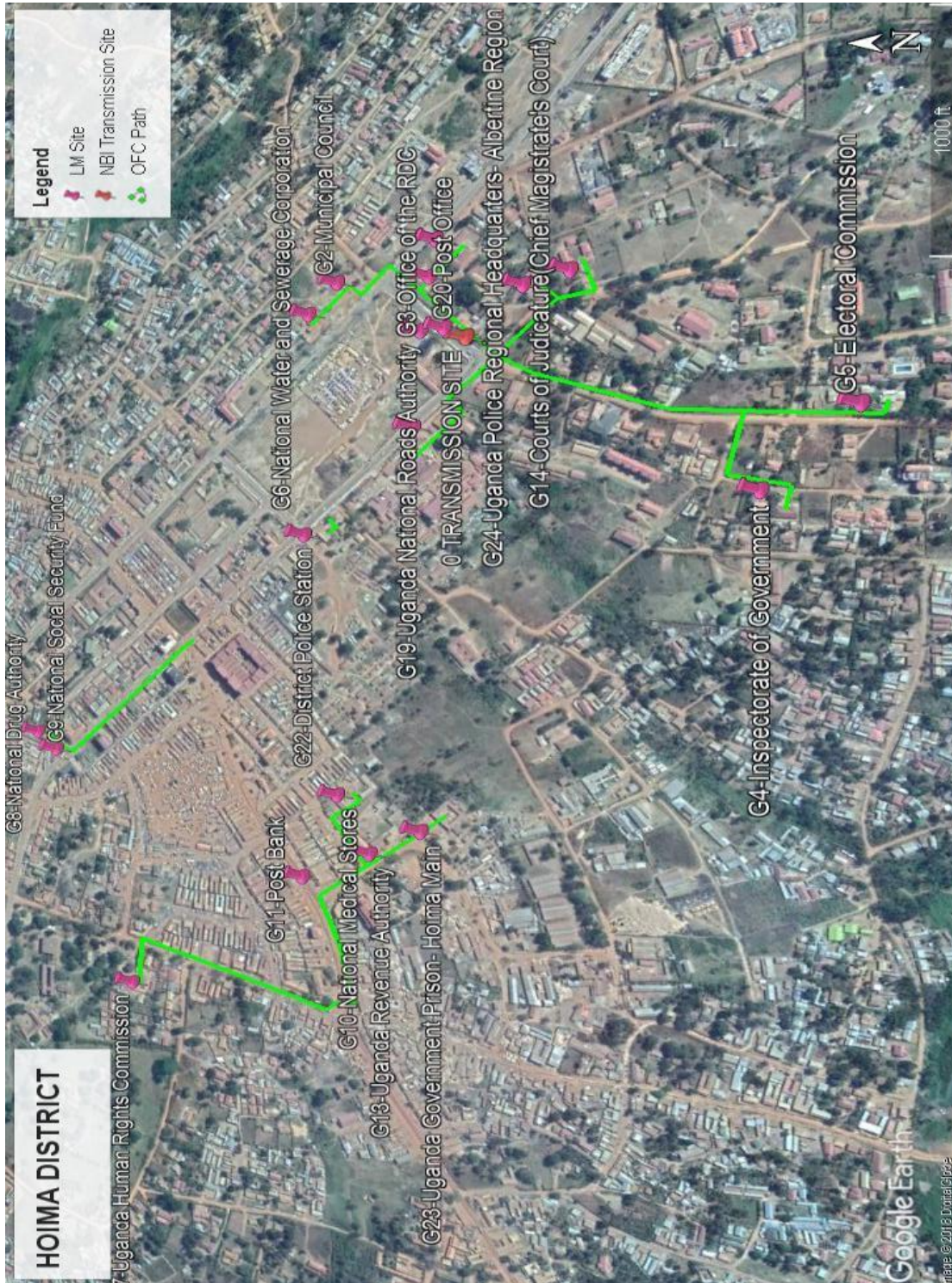
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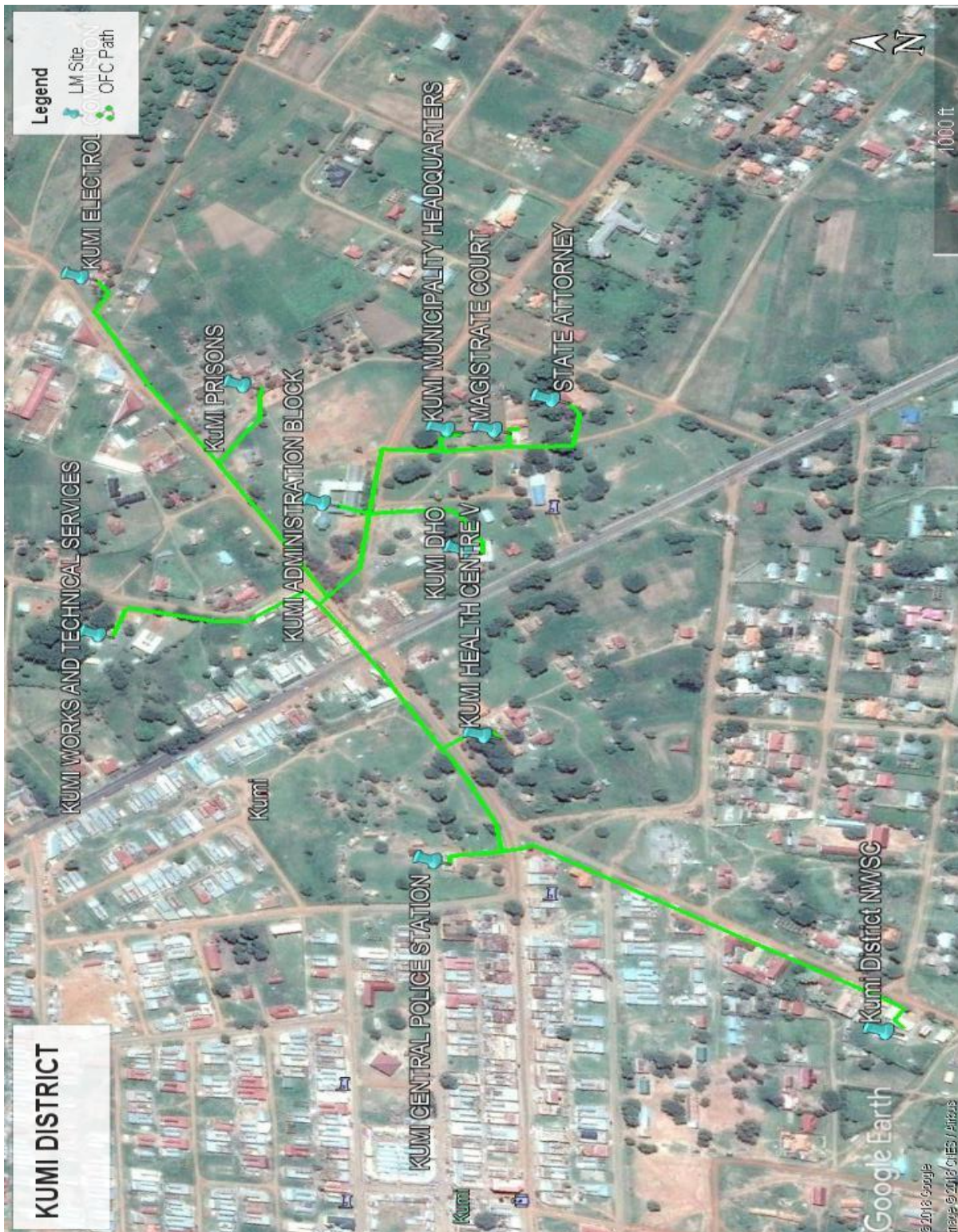
APPENDICES

Appendix 1: Examples of layouts for the routes in selected districts to be visited

c) Hoima District



d) Kumi



Appendix 2: UNRA clearance to utilize road reserves for project activities



Uganda National Roads Authority

Plot 5 Lourdel Road
P.O. Box 28487
Kampala Uganda
In any correspondence on this subject
Please quote No. UNRA/PL/87

05th June 2015

Executive Director
National Information Technology Authority (NITA)
Palm Courts, Plot 7A Rotary Avenue Lugogo Bypass
P.O. Box 33151
Kampala-Uganda



IMPLEMENTATION OF PHASE 3 OF NATIONAL DATA TRANSMISSION BACKBONE INFRASTRUCTURE AND EGOVERNMENT INFRASTRUCTURE OPTICAL FIBRE CABLES

Approval of Request to Lay Optical Fibre Cables along Right of Way (RoW)

Reference is made to your letter dated 12th April 2015 in which you requested UNRA for permission to lay Optical Fibre Cables along the Right of Way (RoW) of Masindi-Hoima-Kyenjojo, Kampala-Masaka, Masaka-Mutukula, Masaka-Mbarara, Mbarara-Ntungamo-Kabale and Kabale-Katuna road links. We have reviewed your request and find it acceptable.

The purpose of this letter is to inform you that UNRA has no objection to your request on condition that:

- i. You will closely monitor the implementing contractor and ensure compliance with the approved proposal and method of work;
- ii. Proper traffic management and safety is maintained during implementation of works;
- iii. You will ensure proper planning and coordination with relevant stakeholders before implementing the works;
- iv. You will make good at your cost any damage(s) caused to the bridge structures during implementation and maintenance of your works;
- v. UNRA shall not bear any cost and risks associated with the process of laying the fibre across the bridges; and
- vi. UNRA will not be responsible for costs associated with relocation of cables when future upgrade of the roads and bridges is undertaken. All costs will be borne by you.

Yours sincerely,

Allen C. Kagina
EXECUTIVE DIRECTOR

Cc: Ag. Director Operations
Cc Regional Manager - Western
Cc Regional Manager - Central
Cc Regional Manager - Southern
Cc Station Engineer - Masindi
Cc Station Engineer - Masaka
Cc Station Engineer - Mbarara
Cc Station Engineer - Kabale

GT/PL

Tel: +256 31 2233100* 256 414 318000* Fax: +256 414 232807, 347616* E-mail: executive@unra.go.ug* Website: <http://www.unra.go.ug>

Appendix 3: Chance Finds Protocol

Source: *Environmental and Social Management Framework for the proposed Regional Communications Infrastructure Project, 2015.*

- h) The contractor shall not perform excavation, demolition, alteration or any works that may harm resources of cultural importance without authorization of the Engineering Assistant or officials from the Department responsible for museums and monuments.
- i) In case of chance finds, the Contractor shall mark, cordon and secure the subject site(s) to avoid damage in the course of road construction and immediately notify the Department responsible for museums and monuments.
- j) Opening of a new borrow or quarry site shall be witnessed and inspected by official(s) from the Department responsible for museums and monuments for the first 2 days of site opening. The official(s) shall maintain watching briefs during works, with clear procedures for protection and documentation of any “chance finds” encountered (cost of this has been provided in the ESMP,).
- k) The contractor is obliged to provide for and ensure archaeological intervention in case they come across new finds. This involves immediate discontinuation of works and notifying the Department responsible for museums and monuments about any discoveries.
- l) “Chance finds” encountered in presence of official(s) from the Department of Museums and Monuments
- m) “Chance finds” encountered in absence of these official shall be handed over to supervising Engineering Assistant, Environmental Officer or District Engineer who would immediately notify officials of the Department of Museums and Monuments.
- n) The Contractor and supervising engineer shall maintain contact details of the Department of Museums and Monuments to quickly notify it in case chance finds are encountered.

Appendix 4: Risk Matrix

		HAZARD SEVERITY/ CONSEQUENCE				
		1	2	3	4	5
PEOPLE	Insignificant Negligible injury or illness; no absence from work.					
	Minor Minor injury or illness.					
ENVIRONMENT AND SOCIAL	Moderate Injury or illness but not a fatality.					
	Major Single fatality.					
ENVIRONMENT AND SOCIAL	Severe Multiple Fatality					
	Contained and recovered spills, within set system controls. Issue discussed at localized level with field management team or supervisor	Short term effect e.g. Release of oil from project vehicles outside an environmentally sensitive area. Issue moved to Local Council chairperson and solved with no further action required	Incident with moderate impact with clean up carried out using resident or local resources. Issue discussed solved with the involvement of the District technical teams like the DCDO, DEO etc...and NITA-U project manager and NITA-U Team Coordinators	Incident with medium to long term impact to environmentally sensitive area. Response requires external assistance. Issue discussed with District Leadership, NITA-U Director, development partner focal points and other relevant Lead Agency representatives at District Level	Incident with major environmental impact. Extensive & persistent damage, requiring long term clean up & 3rd party help. Issue involves joint response from various lead agencies, NITA-U Leadership Team and development partners' representatives. Issue could lead to international coverage and Nationwide concern	
PROPERTY/EQUIPMENT DAMAGE/LOSS/Theft (Ug Shillings)	<1,000,000	1,000,000 - 10,000,000	>10,000,000 - 30,000,000	>50,000,000 - 100,000,000	> 100,000,000	
LIKELIHOOD OF OCCURRENCE	Rare An unexpected combination of factors would be required for the incident to occur	Low	Low	Low	Low	Low
	Unlikely Rare combination of factors would be required for the incident to occur	Low	Low	Low	Medium	Medium
	Possible Incident could occur if a number of additional factors are present	Low	Low	Medium	Medium	High
	Likely Not certain but incident could occur with one normally occurring additional factor	Low	Medium	Medium	High	High
	Very Likely Almost certain that the incident could occur	Low	Medium	High	High	High

Appendix 5: Cultural heritage, archaeological and historical sites

ID	Site name	Description	District
UG-C-001	Speke Memorial Monument	Spot where explorer John Speke stood and sited the Source of the River Nile in 1862.	Buikwe
UG-C-002	Mabira Forest	Cultural resource, with indigenous, herbal medicinal trees.	
UG-C-005	Buvuma Island	Sangoan Late Stone Age site, Earthworks and Rock Art Paintings.	Buvuma
UG-C-007	Ssesse Island	The Islands rich in Middle Stone Age Tools (flakes, tortoise cores and rough picks), late stone age implements (waste, flakes chips and small cores), and later iron age materials (from the Earthworks).	Kalangala
UG-C-008	Luggo Forest	Site where 'Ddamula's stick for Buganda Kingdom 'S King is obtained.	
UG-C-010	Independence Monument	Statue representing 1962 Independence Monument (An adult person lifting a new born infant (Uganda).	Kampala
UG-C-011	Independence Tablet	Commonwealth independence October 9 - 1962, Jubilee park.	Kampala
UG-C-012	Kololo Monument	50 years of independence.	Kampala
UG-C-013	Kololo Monument	Hero Ignatius Musaaazi independence liberation hero	Kampala
UG-C-014	Kololo /ceremonial grounds	Commemoration of independence/raisin g of Uganda's flagon the 9th October 1962.	Kampala
UG-C-015	Mackay Memorial ,Natete	Anglican Church at the 1st site of occupation by the CMS missionaries in the country (1890), headed by Reverend Mackay.	Kampala
UG-C-016	Busega Memorial	Martyrs Rubaga, Three Anglican Martyrs were killed and buried here.	Kampala

ID	Site name	Description	District
UG-C-017	Bulange	Royal seat of the Buganda Kingdom.	Kampala
UG-C-018	Nagalabi Buddo	Coronation site for Buganda Kingdom Kings.	Kampala
UG-C-019	All Saints Church Kisozi	One of the first and oldest churches in Uganda.	Kampala
UG-C-020	Shree Shanathan Dharma	1954 Hindu Temple, original form, rich oriental architecture & traditional building skills.	Kampala
UG-C-021	Rubaga Cathedral	Head of the Catholic churches.	Kampala
UG-C-022	Namirembe Cathedral Hill	Head of Anglican Churches, historic cave and historic buildings by the missionaries. 1st cathedral was built in 1th march 1890-1894 made up of mud and wattle	Kampala
UG-C-023	Gadaffi Mosque	The main seat for the Chief Khadi of the Muslim faith Uganda.	Kampala
UG-C-024	Kibuli Mosque	Seat for the Muslim faith built in 1945 by the Aghakan and Prince of Buganda.	Kampala
UG-C-025	Bahai Temple	Seat for the Bahai Faith	Kampala
UG-C-026	LusazeLubya Church	Catholic mission of 1879 Kijukizo church	Kampala
UG-C-027	Fort Lugard, Old Kampala	Established by Captain Lugard 1890 where he raised the British flag, served as and headquarters up to 1894 Survived by the first museum in the country and the Gaddaffi mosque.	Kampala
UG-C-028	Aghakan Mosque	Old Kampala	Kampala
UG-C-029	St Athanasius Bazzekuketta	Mengo Memorial, Catholic Martyr	Kampala

ID	Site name	Description	District
UG-C-030	St MatiaKalembaMulumba	Site in memory of the oldest Martyr of the 22 catholic martyrs.	Kampala
UG-C-031	High Court building Nakasero	Seat of Highest Court building in the country.	Kampala
UG-C-032	The Parliamentary Building	Seat where the law makers of the country meet to transact business.	Kampala
UG-C-033	Uganda Bookshop	Oldest bookshop plot 4 Colville street 1927 publishing and printing house.	Kampala
UG-C-034	Makerere University Building	Ivory Tower building as one of the oldest iconic education institutional seat.	Kampala
UG-C-035	BasiimaBakyagaya house	Late Sir Apollo, Kagwa's house, on KabakaNjagala Road, built 1903.	Kampala
UG-C-036	Buganda court building	Mengo	Kampala
UG-C-037	Doset building	At Makerere university	Kampala
UG-C-038	Nagulu communications mast	Two national for television and radio	Kampala
UG-C-039	Uganda Museum	Oldest Museum in East Africa	Kampala
UG-C-040	National Theatre	National Culture Centre	Kampala
UG-C-041	Public Library	On Buganda Road House in an Indian Building.	Kampala
UG-C-042	Nommo Gallery	African village.	Kampala
UG-C-043	Tulifanya Gallery	Art gallery and craft shop.	Kampala
UG-C-044	St. Balikudembe (Owino) Market	Traditional market in centre of city.	Kampala

ID	Site name	Description	District
UG-C-045	Nakasero Market	Built in 1927.	Kampala
UG-C-046	Mulago hospital	National Referral Hospital. Old Mulago was founded in 1913 by Sir Albert Ruskin Cook, while the New Mulago facility was completed in 1962.	Kampala
UG-C-047	Musa body metal works	Katwe plant that fabricates oil refineries and brick making.	Kampala
UG-C-048	Twekobe Palace	KabakaMutesa II Residential palace	Kampala
UG-C-049	Buttikiro	Katikkiro of Buganda Official residence.	Kampala
UG-C-050	Kabaka lake	Manmade Cultural Water Body.	Kampala
UG-C-051	Kampala Club	At Sezzibwa road is the oldest club in Kampala	Kampala
UG-C-052	Kisingiris House	One of those historic buildings of the Kabakas Chiefs.	Kampala
UG-C-053	TefioKisonsokole	Kampala	
UG-C-054	Sir Albert cooks house	Makindye, Kabaka Birth place.	Kampala
UG-C-055	Kawutas house	Ring road.	Kampala
UG-C-056	CHOGM Monument	Officially known as the CHOGM monument, commemorates the hosting of the heads of government meeting in Uganda 2007. An imposing copper structure	Kampala
UG-C-057	Clock tower	Commemorating the queen's visit in 1954 built within the Queens way.	Kampala
UG-C-058	Kololo Airstrip	Monuments, burial for heroes, airstrip national functions.	Kampala

ID	Site name	Description	District
UG-C-059	Constitutional square	Upper part commemorates World war 2 victims, lower part is Monument of the constitutional square.	Kampala
UG-C-060	Kasubi Tombs	Grass thatched round house containing the tombs and insignia of Mutesa I, and three northern subsequent rulers of Buganda.	Kampala
UG-C-061	KasubiMasgidTawahud Mosque	Built by Mutesa I in 1870 when he first had his capital at Kasubi, Nabulagala.	Kampala
UG-C-062	Wamala Tombs	Grass thatched round hut very similar to Kasubi tombs, containing the tombs of Sunna II of the Buganda kingdom 1856.	Kampala
UG-C-063	MapeeraBakateya mba House Nalukolongo	Established by Mapeera to treat the disabled and the elderly.	Kampala
UG-C-064	Kiwewas Tombs	At Masanafu in Kampala is the Tombs of King Kiwewa.	Kampala
UG-C-065	Old railway house	Railways building –More information	Kampala
UG-C-066	GOU analytical lab	Built in 192, a historical building	Kampala
UG-C-067	Corner House	Plot 44 Rashid Hamis road (historic buildings)	Kampala
UG-C-068	St Peters boys Nsambya	One of the first schools by the Hill Mill Fathers 1907	Kampala
UG-C-069	Nsambya convent	Several historic buildings(assign someone to take the history)	Kampala
UG-C-070	Musajalumbwa house	Built heritage	Kampala
UG-C-071	Kisingiris house Mengo	Residential	Kampala
UG-C-072	Kakungulu's house	Built heritage	Kampala

ID	Site name	Description	District
UG-C-073	Gomboloa House	Balintuma road.	Kampala
UG-C-074	Speke hotel	Built in 1920, historical and has maintained colonial look.	Kampala
UG-C-075	Port bell pier	1st- pier for large ships landing in Luzira	Kampala
UG-C-076	Grand Imperial Hotel	One of the oldest hotels in Kampala Initially known as Grand hotel.	Kampala
UG-C-077	Ruparellia Building	Martin Road	Kampala
UG-C-078	Mawanda's House	Salaama Road	Kampala
UG-C-079	Kampala Club	Ssezibwa Road.	Kampala
UG-C-080	Jimmy Purmas house	Salaama road	Kampala
UG-C-081	Centenary park	Monument commemorating 100 years of	Kampala
UG-C-082	Kalagala Falls	Falls with a series of natural and cultural caves.	Kayunga
UG-C-083	Bukomero	Mass graves, NRA War memorial	Kiboga
UG-C-084	Lwamata	Mass graves and NRA war memorial.	Kiboga
UG-C-085	Mpanga Forest	Several shrines and 16 springs are found here.	Kiboga
UG-C-087	ButuntumulaKikyusa, ZiobweMakulubita	NRA War mass graves memorial	Luweero
UG-C-088	Walusii hills	At Kikyusa is Muteesa' palace and main ancestral grounds.	Luweero

ID	Site name	Description	District
UG-C-089	Mulajje Cathedral Kasana	The 3rd catholic cathedral/seminary in the country was established in 1914 by the white fathers after Daudi Chwa gave them 30 acres of land.	Luweero
UG-C-092	Masaka Fort	Fort established and existed from in 1897-1901. Originally the site of a Church	Masaka
UG-C-094	Villa building	Maria First Catholic old mission church and brick house 1891	Masaka
UG-C-095	Kitovu cathedral	Catholic church on the World Monuments Watch list.	Masaka
UG-C-096	Farther memorial	Ngobya Burial place for renowned father Ngobya at Kitovu Catholic church	Masaka
UG-C-097	Kiwala Pit shafts	At Kako, are Kaolin pit shafts similar to those of Mityana for mining?	Masaka
UG-C-098	Tanda Archaeological site	Old mining pit shafts (Kaolin) (EnyangazaWalumbe,) totaling to 400 in number.	Mityana
UG-C-099	Kyamusisi	NRA War memorial, and mass burial grounds.	Mityana
UG-C-100	Magonga Shrines	2 miles to Mudende Town are Kintus shrines.	Mityana
UG-C-101	Bukalamuli catholic mission.	NRA war memorial. KikandwaLuttamemorial, and Diocese.	Mityana
UG-C-103	Equator Monument	At Kayabwe circular arches on both sides of the road signify the equator crossing	Mpigi
UG-C-104	Kibibi	NRA War mass grave	Mpigi
UG-C-105	Muduuma	NRA War mass grave	Mpigi
UG-C-106	Kiringaente	NRA War mass grave at Luvumbula	Mpigi
UG-C-107	KiringaenteButoBuvuma	At Luvumbula again is a ritual site, place for the coronation of Saza chiefs.	Mpigi

ID	Site name		Description	District
UG-C-108	Mubende (witch tree)	Hill	Last Chwezi \Capital	Mubende
UG-C-109	Kanyogoga gorge		Corridor	
UG-C-110	Lake Wamala		Receded from Lake Victoria, with active shrines of King Wamala.	Mityana
UG-C-111	Moniko Engravings	Rock	Engravings and Harrows on top of the hill.	Mukono
UG-C-112	Kitale Rock Gong		Popularly known as Dindo's Rock with Kintus foot, print, etc.	Kayunga
UG-C-113	Polish camp.	Refugee	Kojja (Mpunge) Polish Jewish refugees were exiled in Uganda in 1945.	Buikwe
UG-C-114	Kisweera		NRA War Memorial.	Mukono
UG-C-115	Kinanisi		Royal iron working and smelting site.	Buikwe
UG-C-116	Ssezibwa falls		Cultural site and forest resource with spiritual significance.	Mukono
UG-C-117	Ma Ngira forest		Traditional cultural forest resource.	Mukono
UG-C-118	Buvuma Islands		Rock paintings and cultural forests. In Buvuma Mpaata	
UG-C-119	Ham Mukasa Home	Gulu,Nasuti	Ham Mukasaa country residence.	Mukono
UG-C-120	Nambi's cave shrine		In Kyagwe where the Kintu, Nambi and walumbe are still worshiped. And soldiers business fraternity and job seekers flock the place for blessings	Buikwe
UG-C-121	Katikamu memorial	war	Mass graves	Nakaseke
UG-C-122	Wakyato		Mass grave and memorial at the Sub county headquarters.	Nakaseke
UG-C-123	Kikamulo		Mass grave and memorial at Sub county headquarters.	Nakaseke

ID	Site name	Description	District
UG-C-124	Nakaseke	Mass grave and Memorial	Nakaseke
UG-C-125	Semutto	Mass grave and Memorial	Nakaseke
UG-C-126	NamunkekeeraKap peka	Mass grave and memorial	Nakaseke
UG-C-127	Nakibinge Tombs	At Kitinda are shrines for KabakaNakibinge	Nakaseke
UG-C-128	Bumera Tombs	KanzinzeMasulita are shrines Kimeras.	Nakaseke
UG-C-129	LuwokoKatikamu Masulita	KabakaTembo's palace.	Nakaseke
UG-C-130	OyiteOjok Memorial site	At Mijeera, Plane crash site.	Nakasongola
UG-C-131	Nakasongola Hill	Nakasongola named after a stone on Nakasongola hill that sticks out.	Nakasongola
UG-C-132	Kageri Hill Wabinyoyi	, Historically known by the Baruli for Protection against their enemies.	Nakasongola
UG-C-133	Macumu hill in Kikangula	King Kabarega resided here during his battles with the British (footprint print available.)	Nakasongola
UG-C-134	Kirooro	Nyinamwiru the daughter of Bukuku mother of Ndaula the Cwezi King Lived here.	Nakasongola
UG-C-135	Kyawaikaakata Lwampanga sub- county	, Kabalega & Mwanga were detained here before they were exiled to Seychelles.	Nakasongola
UG-C-136	Wakibombo	NRA Mass grave	Nakasongola
UG-C-137	Muduuma tombs	Tomb of Winyi III RugulukaMacolya	Nakasongola
UG-C-138	Kamuswagas' palace	King of Kooki royal residence.	Rakai
UG-C-139	Serinya Tombs	Kooki Kingdom royal burial grounds	

ID	Site name	Description	District
UG-C-140	Simba Hills Monument Kasambya Fort?	K.A.R.1914-18, Simba site. Also Speke's spot to view lake Victoria.	Rakai
UG-C-141	Kasozi church	At Katuntu is the second oldest catholic church.	Rakai
UG-C-142	Muzimu Caves	At Kasambya are ritual caves	Rakai
UG-C-143	Rwanda Genocide Memorial	Graves at Kasensero/Kyebe / Rwandan genocide graves.	Rakai
UG-C-144	Katubi Tombs	Royal Burial grounds	Rakai
UG-C-145	Kyarurangira	Hippos view	Rakai
UG-C-146	Kiya hill	Archaeological sites of early stone age works.	Rakai
UG-C-147	Kigera cave	Along Kyotera-Mutukula road. Became popular during the pre-colonial wars between the Baziba of Karagwe.	Rakai
UG-C-148	Bigo byaMugenyi	Earth works, Archaeological Site 13th- century to 16th century	Cwezi Ssembabule
UG-C-149	Ntusi earthworks	Earth works, Archaeological site capital 11th century.	Cwezi Ssembabule
UG-C-150	Kasonko earthworks	Earthworks, Archaeological site	Ssembabule
UG-C-151	Bwogero Basin	Several scrapped depressions & mounds, associated with rituals of the Cwezi.	Ssembabule
UG-C-152	Equator Crossing at Nshozi	Small Monument signifying equator crossing	Ssembabule
UG-C-153	LwentaleLyamugye nyi	Granite rock with rock sounds.	Ssembabule
UG-C-154	Hippo bay cave Entebbe	Archaeological, Olduwan and Acheulean tools site.	Wakiso

ID	Site name	Description	District
UG-C-155	OmutigweDdembe, Entebbe	Freedom site where Ignatius Musaazi held independence struggle meetings.	Wakiso
UG-C-156	Kigungu ,Monument and Church	First catholic church Laudel&Amans Catholic missionaries landing, Mapeera monuments and church 1879	Wakiso
UG-C-157	Bugonga and Tree. Church	Farther Laudel landed at Kigungu but camped at Bugonga .	Wakiso
UG-C-158	St Johns Church, Entebbe	Built by the first colonial Anglican masters in Entebbe, is one of the oldest buildings.	Wakiso
UG-C-159	Entebbe Hall Cinema	One of the very first cinema hall used by colonial masters to watch films when Entebbe was headquarters ,	Wakiso
UG-C-160	Luzira Figurines	Iron age stone tools including pottery (the Luzira Head at the Uganda Museum.)	Wakiso
UG-C-161	Mpangas ,Luzira Shrine	(Ekigwa)	Wakiso
UG-C-162	Buloba hill	Dimple based pottery	Wakiso
UG-C-163	Kazi ,Busabala	KaziYatch club meeting place of Stanley and Muteesa in 1875.	Wakiso
UG-C-164	Nalukolongo Martyrs	Memorial?	Wakiso
UG-C-165	Namugongo Martyrs shrine	At Buloori is the catholic shrine	Wakiso
UG-C-166	Namugongo Martyrs shrine	At Kyaliwajala is the Protestant shrine	Wakiso
UG-C-167	Mamugongo Masjid Nuru	At Buloori, Moslem martyrs.	Wakiso
UG-C-168	Kalema'sKomeraK atereke	Prison ditch for Buganda prince and Princesses	Wakiso
UG-C-169	MuganziLwaza prison	Prison ditch located in Kisalosalu, Kyebando.	Wakiso

ID	Site name	Description	District
UG-C-170	MuganziLwaza tombs mounds.	Located in Kazo, Mpererwe. Tombs and mounds.	Wakiso
UG-C-171	Baagalayazze Tombs	At Mpererwe are tombs of NamasoleBagalayazze mother to KabakaMwanga II.	Wakiso
UG-C-172	Kyabaggu Tombs Kyebando.	Tombs of the 25th king of Buganda ,Kyabaggu ruled,1750-80	Wakiso
UG-C-173	Kiwewea Tombs	At MasanafuKiwewa	Wakiso
UG-C-174	Kimeras shrines	KabakaKimeras jaw bone.	Wakiso
UG-C-175	Kongoje Shrines	Jaw bone shrines of KabakaNakibinge, Sekamanya and Mutebi.	Wakiso
UG-C-176	Equator crossing	In Lake Victoria island	Wakiso
UG-C-177	Sir Apollo Kagwa	At Manyangwa is a mausoleum, residential house, Church.	Wakiso
UG-C-178	LEGCO Assembly building (Currently housing NARO.)	Seat of Uganda's first legislative council , parliament established by the British colonial government in 1920 by then all MPs were whites, (NARO	Wakiso
UG-C-179	Old Entebbe airport	First\ old airport. (Israels raid during Amin's regime.	Wakiso
UG-C-180	Muzinga square	Long range German gun captured by the British and brought to Entebbe, at the time the government seat of Uganda	Wakiso
UG-C-181	Entebbe zaMugula.	At the shores of Lake Victoria, has history to the founding of the Entebbe name.	Wakiso
UG-C-182	Lunyo well.	Well of traditionally used by the then (Kabaka of Buganda.)	Wakiso
UG-C-183	Gombe	War memorial mass graves.	Wakiso

ID	Site name	Description	District
UG-C-184	Masulita	War memorial mass graves.	Wakiso
UG-C-185	Kireka.Wakiso	War memorial mass graves.	Wakiso
UG-C-186	Kakiri	War memorial mass graves.	Wakiso
UG-C-187	Namayumba	War memorial mass graves.	Wakiso
UG-C-188	Busukuma	War memorial mass graves.	Wakiso
UG-C-189	Kasanje	War memorial mass graves.	Wakiso
UG-C-190	Kireka Palace	Current King Mutebi's Official Residence.	Wakiso
UG-C-191	Banda Palace hill	Meeting place of Speke and Mutesa of 1862/also for Kabaka Mutebi.	Wakiso
UG-C-192	Gayaza	Sangoan culture similar to Sango bay.	Wakiso
UG-C-193	Bulamu palace	At Kasangati is shrine/sacred place for Ndaula, Kiwanuka and Wanema's spirits.	Wakiso
UG-C-194	Ndaulas Shrine	At Kakooge, Buwaali.	Wakiso
UG-C-195	Kakungurus House	At Kirinya is one of those historic buildings.	Wakiso
UG-C-196	Ziika Forest	Bemba's cave with cultural importance is found here, and indigenous herbal tress.	Wakiso
UG-C-197	Mpanga Forest	Bird species and herbal trees and shrubs.	Wakiso
UG-C-198	Entebbe Botanical Gardens.	Exhibition of a variety of plants and herbs	Wakiso
UG-C-199	Lutembe bay	Forests and bird species.	Wakiso

ID	Site name	Description	District
UG-C-200	Lunyo station.	Police First police station in Uganda.	Wakiso
	Nyero paintings	rock rock paintings/rock art nominated for world heritage site status	Kumi
	Kachumbala paintings	rock rock paintings/rock art	Kumi
	Komuge site	rock art rock paintings/rock art	Kumi
	Mukongoro art site	rock rock paintings/rock art	Kumi
	Kakoro rock art site	rock paintings/rock art	Kumi
	Ngora rock art site	rock paintings/rock art	Kumi
	Kapir rock art site	rock paintings/rock art	Kumi

Appendix 6: Plant Species Composition

6a. Eastern-Northern routes

No	Species	kkumi	Bugiri	Bukedea	Busia	Dokolo	Gulu	Iganga	Jinja	Kaberaidoo	Lira	Mbale	Tororo	Status
1	<i>Aneilema Aaequinociale</i>	1	.	.	.	.	.	.	.	1	.	.	.	LC
2	<i>A framomum sp</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
3	<i>Abutilommaurifianum</i>	.	.	.	1	.	.	1	.	.	.	.	.	LC
4	<i>Acacia polyacantha</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
5	<i>Acalypha hispida</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
6	<i>Acalypha brachycalyx</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
7	<i>Acalypha cordata</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC
8	<i>Acalypha ornata</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
9	<i>Acalypha racemosa</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
10	<i>Acanthospermum hispidum</i>	3	.	.	.	.	.	.	.	.	1	.	.	LC
11	<i>Achyranthes aspera</i>	.	.	.	.	1	1	1	2	1	1	.	.	LC
12	<i>Adiantum incisum</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
13	<i>Aeschynomene abyssinica</i>	1	.	.	1	.	.	.	.	.	.	.	.	LC
14	<i>Ageratum conyzoides</i>	.	1	.	.	.	1	1	.	.	.	1	.	INASIVE
15	<i>Albizia coriaria</i>	.	.	1	.	.	1	.	.	1	1	2	1	LC
16	<i>Albizia grandi bracteata</i>	.	.	.	.	.	.	.	1	.	1	.	1	LC
17	<i>Albizia zygia</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
18	<i>Aloe dawei</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
19	<i>Alternanthera nodiflora</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
20	<i>Alternanthera pungens</i>	1	1	3	1	.	.	.	1	.	.	2	.	INASIVE
21	<i>Alternanthera sessilis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
22	<i>Alyscarpus rugosus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
23	<i>Alyscarpus ferruginea</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
24	<i>Alyscarpus rugosus</i>	.	.	.	.	.	.	.	.	1	1	.	.	LC
25	<i>Amaranthus dubius</i>	1	.	.	.	.	1	1	1	.	.	2	.	LC
26	<i>Amaranthu hybridus</i>	.	.	.	.	.	.	1	.	1	.	1	1	LC
27	<i>Amaranthus spinosa</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
28	<i>Amphicarpa africana</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC

No	Species													Status
		kkumi	Bugiri	Bukedea	Busia	Dokolo	Gulu	Iganga	Jinja	Kaberaidoo	Lira	Mbale	Tororo	
29	<i>Anacardium occidentale</i>	.	1	1	.	.	.	.	1	.	.	.	.	LC
30	<i>Antiaris toxicaria</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
31	<i>Arachis hypogaea</i>	1	.	.	.	.	.	.	.	.	.	3	.	LC
32	<i>Araucaria araucana</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
33	<i>Aristida adscensionis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
34	<i>Aristolochia bracteolata</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
35	<i>Arthropteris orientalis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
36	<i>Artocarpus heterophyllus</i>	1	1	.	1	.	1	1	.	.	1	.	.	LC
37	<i>Asparagus africanus</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
38	<i>Asparagus racemosus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
39	<i>Aspilia africana</i>	.	.	.	.	.	.	.	.	1	1	.	.	LC
40	<i>Asplenium loxo scaphoides</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
41	<i>Asystasia gagentica</i>	.	.	.	.	.	1	.	1	.	1	.	.	LC
42	<i>Azadirachta indica</i>	1	.	.	.	.	1	1	.	.	.	.	.	INASIVE
43	<i>Barleria ventricosa</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
44	<i>Bauhinia petersiana</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
45	<i>Bidens pilosa</i>	3	.	1	1	.	1	3	.	1	1	2	1	INASIVE
46	<i>Blumea crispata</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
47	<i>Boerhavia coccinea</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
48	<i>Borassus aethiopum</i>	.	.	.	.	2	.	.	.	.	.	.	.	LC
49	<i>Bothriochloa insculpta</i>	.	1	2	.	.	.	.	.	.	.	.	.	LC
50	<i>Bougainvillea spectabilis</i>	.	1	.	.	.	.	1	1	.	.	.	.	INASIVE
51	<i>Brachiaria brizantha</i>	1	.	.	.	.	.	.	.	.	.	2	.	LC
52	<i>Brachiaria decumbens</i>	1	2	1	1	2	.	10	1	1	.	3	.	LC
53	<i>Brachiaria leersioides</i>	.	.	.	.	.	1	.	.	1	.	.	.	LC
54	<i>Broussonetia papyrifera</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
55	<i>Caesalpinia decapetala</i>	.	1	.	.	.	.	.	.	.	.	1	.	INASIVE
56	<i>Cajanus cajan</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Status
57	<i>Calliandra calothyrsus</i>	.	2	.	.	.	.	.	.	.	.	.	.	LC
58	<i>Callistemon citrinus</i>	1	.	.	1	.	.	.	.	.	.	.	.	LC
59	<i>Cana indica</i>	.	.	.	.	1	.	1	1	.	.	1	.	INASIVE
60	<i>Capsicum frutescens</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
61	<i>Cardiospermum grandis</i>	.	.	.	.	.	.	1	.	.	.	.	.	INASIVE
62	<i>Cardiospermum halicacabum</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
63	<i>Carica papaya</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
64	<i>Casallanthus ssp</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
65	<i>Cascabela thevetia</i>	1	1	.	.	1	.	3	1	.	.	1	.	INASIVE
66	<i>Cassia mimosoides</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
67	<i>Cassia obtusifolia</i>	.	1	.	.	.	.	1	.	.	.	.	.	LC
68	<i>Cassia occidentalis</i>	.	.	.	1	.	.	.	.	1	.	1	.	LC
69	<i>Cassia siamea</i>	3	2	1	.	.	.	2	1	.	.	1	.	INASIVE
70	<i>Casuarina equisetifolia</i>	.	1	.	.	.	.	.	1	.	.	.	.	LC
71	<i>Catharanthus roseus</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
72	<i>Cedrella odorata</i>	3	.	.	.	.	.	.	.	.	.	.	1	LC
73	<i>Celtisgompophylla</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
74	<i>Centellaasiatica</i>	.	1	.	.	.	.	2	1	.	1	2	.	LC
75	<i>Chamaecrista mimosioides</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
76	<i>Chenopodium procerum</i>	.	1	.	.	.	.	2	.	.	.	.	.	LC
77	<i>Chloris pycnothrix</i>	.	.	1	.	.	.	.	.	1	.	1	.	LC
78	<i>Chlorophytum filipendulum</i>	2	.	.	.	.	.	1	.	.	.	.	.	LC
79	<i>Cissampelos mucronata</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
80	<i>Citrus limon</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
81	<i>Citrus senensis</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
82	<i>Clematis hirsuta</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
83	<i>Clematis simensis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
84	<i>Cleome gynandra</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
85	<i>Cleome monophylla</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC

N o	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	K a b e r a m a i d o	L i r a	M b a l e	T o r o r o	Stat us
86	<i>Clerodendrum umbellatum</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
87	<i>Colocasia esculenta</i>	.	.	.	1	.	.	1	1	.	.	1	.	LC
88	<i>Commelina africana</i>	1	.	.	1	.	.	.	.	1	.	1	.	LC
89	<i>Commelina benghalensis</i>	1	.	1	.	.	.	1	1	.	.	1	1	LC
90	<i>Commicarpus pedunculatus</i>	.	1	.	.	.	.	.	.	.	.	1	.	LC
91	<i>Commicarpus plumbagineus</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
92	<i>Conyza floribunda</i>	.	.	.	.	.	1	.	.	1	.	.	1	LC
93	<i>Conyza neglecta</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
94	<i>Conyza sumatrensis</i>	2	.	1	.	.	.	2	1	.	.	1	.	LC
95	<i>Crassocephalum montuosum</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
96	<i>Crotalaria recta</i>	.	.	.	.	.	.	2	.	1	.	.	.	LC
97	<i>Crotalaria spinosa</i>	.	.	1	.	1	.	.	.	.	1	.	.	LC
98	<i>Crotalaria subcapitata</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
99	<i>Croton macrostachyus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
100	<i>Cucumis aculeatus</i>	1	.	1	.	.	.	.	.	.	.	1	.	LC
101	<i>Cucurbita pepo</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
102	<i>Cucurmis aculeatus</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
103	<i>Cyanotis lanata</i>	.	1	.	.	.	.	.	.	1	.	.	.	LC
104	<i>Cyathula chyranthoides</i>	2	.	.	.	.	.	.	.	.	.	.	.	LC
105	<i>Cyathula prostrata</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
106	<i>Cynodon dactylon</i>	1	1	2	.	.	.	4	3	.	.	1	.	INASIVE
107	<i>Cynoglossum amplifolium</i>	.	.	.	.	1	.	.	.	.	.	1	.	LC
108	<i>Cynoglossum lanceolatum</i>	2	.	.	.	.	.	.	.	.	.	.	.	LC
109	<i>Cyperus articulatus</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
110	<i>Cyperus cyperoides</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
111	<i>Cyperus dichroostachyus</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
112	<i>Cyperus distans</i>	.	.	1	.	.	.	.	.	.	.	1	.	LC
113	<i>Cyperus rotundus</i>	.	.	1	.	.	.	.	.	1	.	.	.	LC
114	<i>Cyphostemma de docente</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
115	<i>Delonix baccal</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Status
116	<i>Desmodium hirtum</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
117	<i>Desmodium salicifolium</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
118	<i>Desmodium tortuosum</i>	1	.	.	.	2	.	1	1	.	.	.	.	LC
119	<i>Desmodium triflorum</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
120	<i>Desmodium velutinum</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
121	<i>Dichondra micrantha</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
122	<i>Digitaria abyssinica</i>	.	.	.	.	.	.	1	1	.	.	1	1	INASIVE
123	<i>Digitaria longiflora</i>	.	1	.	.	.	.	1	.	.	.	.	.	LC
124	<i>Digitaria scalarum</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
125	<i>Digitaria ternata</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC
126	<i>Digitaria velutina</i>	.	.	1	.	.	.	1	.	.	.	.	1	LC
127	<i>Diospyros mespiliformis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
128	<i>Dovyalis hebecarpa</i>	.	.	.	.	.	.	2	1	.	.	1	.	LC
129	<i>Dreggea sehimperii</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
130	<i>Duranta erecta</i>	2	.	.	.	.	.	3	1	.	.	.	.	LC
131	<i>Dyschoriste spp</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
132	<i>Dyschoriste radicans</i>	2	.	.	.	.	.	.	.	.	.	1	.	LC
133	<i>Echinochloa hapoclada</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
134	<i>Eleusine indica</i>	1	.	.	2	.	.	3	.	.	.	.	1	INASIVE
135	<i>Emilia coccinea</i>	.	1	.	.	.	.	5	.	.	.	1	.	LC
136	<i>Eragrostis superba</i>	1	.	1	.	.	.	.	.	.	.	.	.	LC
137	<i>Eragrostis aspera</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
138	<i>Eragrostis exasperata</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
139	<i>Eragrostis tenuifolia</i>	.	2	1	.	3	.	3	.	.	.	.	1	LC
140	<i>Erythrococa bongensis</i>	2	.	.	.	.	.	1	.	.	.	.	.	LC
141	<i>Erythraia marginata</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
142	<i>Eucalyptus camadulensis</i>	1	.	.	.	.	.	.	.	.	.	.	1	INASIVE
143	<i>Eucalyptus grandis</i>	.	.	1	.	.	.	1	.	.	.	.	.	INASIVE
144	<i>Euphorbia heterophylla</i>	1	.	.	.	.	1	.	.	.	.	1	.	INASIVE

No	Species	kkumi	Bugiri	Bukede	Busia	Dokolo	Gulu	Iganga	Jinja	Kabera	Lira	Mbale	Toro	Status
145	<i>Euphorbia hirta</i>	1	1	2	.	.	1	1	.	.	1	1	1	LC
146	<i>Euphorbia indica</i>	.	.	1	.	.	.	2	1	.	.	.	.	LC
147	<i>Evolvulus alsinoides</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
148	<i>Ficus benjamina</i>	1	.	.	.	.	.	.	.	.	.	.	.	INASIVE
149	<i>Ficus cordata</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
150	<i>Ficus glumosa</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
151	<i>Ficus natalensis</i>	.	1	1	.	.	.	1	.	.	1	.	.	LC
152	<i>Ficus ovata</i>	.	.	.	.	.	.	1	.	.	.	.	1	LC
153	<i>Ficus pseudomangifera</i>	.	.	.	.	.	.	2	.	.	.	.	.	LC
154	<i>Ficus sycomorus</i>	.	.	1	.	.	.	.	.	.	.	1	.	LC
155	<i>Ficus thonningii</i>	1	.	.	.	1	.	.	.	.	.	.	.	LC
156	<i>Flueggea virosa</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
157	<i>Galinsoga parviflora</i>	.	.	.	1	.	.	1	.	.	.	1	1	LC
158	<i>Glycine wightii</i>	.	.	.	.	.	.	1	.	.	.	1	.	INASIVE
159	<i>Gmelina arborea</i>	2	1	.	.	.	.	1	.	.	.	.	.	LC
160	<i>Gomphrena celosioides</i>	.	1	1	.	.	.	1	.	.	.	1	.	LC
161	<i>Grevillea robusta</i>	1	1	1	.	2	.	1	.	.	.	.	.	INASIVE
162	<i>Gutenbergia cordifolia</i>	2	.	.	.	.	.	2	.	.	.	.	.	LC
163	<i>Harrisonia abyssinica</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
164	<i>Hibiscus micranthus</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
165	<i>Hiptis suaveolens</i>	.	.	.	.	2	.	.	.	.	.	.	.	LC
166	<i>Holopteria grandis</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
167	<i>Hoslundia opposita</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
168	<i>Hyparrhenia filipendula</i>	2	.	.	.	.	.	.	.	.	1	.	.	LC
169	<i>Hyperthelia dissoluta</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
170	<i>Hypitits suave</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
171	<i>Hyptis suaveolens</i>	.	1	1	.	.	.	1	.	.	.	1	.	LC
172	<i>Indigofera circinella</i>	1	1	.	.	.	.	.	.	.	.	.	.	LC
173	<i>Indigofera spicata</i>	.	1	1	.	.	.	.	1	.	1	1	1	LC
174	<i>Ipomoea cairica</i>	.	.	.	.	.	.	.	1	.	.	.	.	INASIVE

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Status
175	<i>Ipomoea eriocarpa</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
176	<i>Isolonacongolana</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
177	<i>Jacaranda mimosifolia</i>	1	.	.	.	.	.	1	.	.	1	1	.	INASIVE
178	<i>Jasminum abyssinicum</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
179	<i>Jasminum pauciflorum</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
180	<i>Jatropha curcas</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
181	<i>Justicia flava</i>	.	.	.	.	.	.	2	.	.	.	1	.	LC
182	<i>Justicia heterocarpa</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
183	<i>Justicia matammensis</i>	2	2	.	.	.	.	1	.	.	.	1	.	LC
184	<i>Justicia schimperiana</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
185	<i>Kalanchoe laciniata</i>	.	.	1	1	.	.	.	.	.	.	1	.	LC
186	<i>Kigelia africana</i>	.	.	.	1	.	.	.	.	.	.	1	.	LC
187	<i>Kyllinga bulbosa</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
188	<i>Kyllinga elatior</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
189	<i>Lactuca inermis</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
190	<i>Lagenaria sphaerica</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
191	<i>Lannea edulis</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
192	<i>Lantana camara</i>	.	.	.	.	.	.	3	2	.	1	1	1	INASIVE
193	<i>Lantana trifolia</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
194	<i>Laportea latipes</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
195	<i>Launaear arifolia</i>	.	.	.	.	.	.	2	.	.	.	.	.	LC
196	<i>Leonotis nepetifolia</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
197	<i>Leucas deflexa</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
198	<i>Lippia javanica</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
199	<i>Maerua angolensis</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
200	<i>Maerua decumbens</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
201	<i>Majidea sp</i>	.	.	.	.	.	.	1	1	.	.	.	.	LC
202	<i>Mangifera indica</i>	3	1	.	1	3	1	3	1	.	1	.	1	LC
203	<i>Manihot esculenta</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
204	<i>Mariscus dubius</i>	.	1	.	.	.	.	1	.	.	.	.	.	LC
205	<i>Mariscus sumatrensis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	K a b e r a m a i d o	L i r a	M b a l e	T o r o r o	Status
206	<i>Markhamia lutea</i>	3	1	.	.	3	.	5	1	.	2	2	1	LC
207	<i>Maytenus indica</i>	.	1	.	1	.	.	.	.	.	.	.	.	LC
208	<i>Melinis repens</i>	.	.	.	1	.	.	.	.	.	.	.	.	LC
209	<i>Milicia excelsa</i>	2	.	1	.	.	.	1	1	.	1	.	.	EN
210	<i>Mimosa pigra</i>	.	.	.	.	.	.	.	.	.	.	.	1	INASIVE
211	<i>Mimosa pudica</i>	.	1	1	.	.	.	2	.	.	.	1	.	LC
212	<i>Mitracarpus virosa</i>	1	.	1	1	.	1	.	.	.	1	.	1	LC
213	<i>Mucuna poggei</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
214	<i>Musa sapientum</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
215	<i>Ocimum gratissimum</i>	.	.	1	.	.	.	2	.	.	.	.	.	LC
216	<i>Ocimum lamiifolium</i>	2	.	.	.	.	.	.	.	.	.	1	.	LC
217	<i>Ocimum suave</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
218	<i>Oldenlandia goreensis</i>	.	.	1	.	.	.	.	.	.	.	.	.	LC
219	<i>Oldenlandia herbacea</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
220	<i>Oldenlandia sp.</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
221	<i>Opuntia ficus-indica</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
222	<i>Orthosiphon suffrutescens</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
223	<i>Oxalis latifolia</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
224	<i>Oxygonum dregeanum</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
225	<i>Oxygonum sinuatum</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
226	<i>Panicum maximum</i>	2	1	.	.	3	.	3	2	.	1	.	.	LC
227	<i>Pararistolochia triactina</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
228	<i>Parthenium hysterophorus</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
229	<i>Paspalum scrobiculatum</i>	.	1	.	.	.	.	.	.	.	.	.	1	LC
230	<i>Passiflora edulis</i>	.	.	.	.	.	.	1	.	.	1	.	.	LC
231	<i>Passiflora quadrangularis</i>	.	.	.	.	.	.	1	1	.	.	.	.	LC
232	<i>Periploca nigrescens</i>	.	.	.	.	.	.	2	.	.	.	.	.	LC
233	<i>Perotis patens</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
234	<i>Persea americana</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
235	<i>Phaseolus vulgaris</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
236	<i>Phyllanthus amarus</i>	1	.	.	.	.	.	2	.	.	.	2	.	LC

No	Species	k k u m i	B u g i r i	B u k e d e a	B u s i a	D o k o l o	G u l u	I g a n g a	J i n j a	Ka ber am aid o	L i r a	M b a l e	T o r o r o	Status
237	<i>Phyllanthus maderaspatensis</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
238	<i>Phyllanthus pseudoniruri</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
239	<i>Phyllanthus suffrutescens</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
240	<i>Pinus patula</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
241	<i>Polygala albida</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
242	<i>Portulaca oleraceae</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
243	<i>Portulaca quadrifida</i>	.	1	.	.	.	.	.	.	.	.	.	.	LC
244	<i>Pouzolzia parasitica</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
245	<i>Priva curtisiae</i>	.	.	.	.	.	.	1	1	.	.	1	.	LC
246	<i>Psidium guajava</i>	1	.	.	1	1	.	.	2	.	.	.	1	INASIVE
247	<i>Psydrax schimperianum</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
248	<i>Rauwolfia caffra</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
249	<i>Rhus natalensis</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
250	<i>Ricinus communis</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
251	<i>Sansevieria americana</i>	.	.	.	.	.	.	.	.	.	.	1	.	INASIVE
252	<i>Sansevieria conspicua</i>	1	.	.	.	.	.	.	.	.	.	.	.	LC
253	<i>Sansevieria cylindrica</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
254	<i>Sansevieria parva</i>	.	.	.	.	.	.	1	.	.	.	1	.	LC
255	<i>Sapium leonardii-crispi</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
256	<i>Sateria sphacelata</i>	.	.	.	.	2	.	.	.	.	.	.	.	LC
257	<i>Secamone punctulata</i>	.	.	.	.	.	.	.	1	.	.	.	.	LC
258	<i>Senna hirsuta</i>	.	.	.	.	1	.	.	.	.	.	.	.	LC
259	<i>Sennahirta</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
260	<i>Senna obtusifolia</i>	.	.	.	.	.	.	.	.	.	1	.	.	LC
261	<i>Senna siamea</i>	.	.	.	.	.	.	.	.	.	1	.	1	INASIVE
262	<i>Senna spectabilis</i>	.	.	.	.	.	.	1	.	.	1	.	.	INASIVE
263	<i>Setaria homonyma</i>	.	.	.	.	.	1	.	.	.	1	.	.	LC
264	<i>Setaria kagerensis</i>	.	.	.	.	1	.	1	.	.	.	1	.	LC
265	<i>Setaria sphacelata</i>	.	.	.	.	1	.	1	.	.	.	.	.	LC

No	Species	kkumi	Bugiri	Bukedea	Busia	Dokolo	Gulu	Iganga	Jinja	Kaberaidoo	Lira	Mbale	Tororo	Status
266	<i>Sida acuta</i>	2	1	.	1	1	1	4	.	.	.	2	1	LC
267	<i>Sida alba</i>	2	2	.	1	1	.	.	.	1	.	1	.	LC
268	<i>Sida cordifolia</i>	2	.	.	.	.	.	.	.	.	.	1	1	LC
269	<i>Sida rhombifolia</i>	.	.	.	.	.	1	.	.	1	1	.	.	LC
270	<i>Siegesbeckia abyssinica</i>	.	1	.	1	.	.	1	.	.	.	.	.	LC
271	<i>Siegesbeckia orientalis</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
272	<i>Solanum campylacanthum</i>	.	.	.	.	.	1	.	.	.	.	.	.	LC
273	<i>Solanum incanum</i>	2	2	.	.	.	.	2	2	1	1	4	1	INASIVE
274	<i>Solanum nigrum</i>	1	.	.	.	.	1	1	.	.	.	1	.	LC
275	<i>Sonchus luxurians</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
276	<i>Spathodea campanulata</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
277	<i>Sporobolu spyramidalis</i>	1	1	.	.	.	.	.	.	.	2	.	.	LC
278	<i>Synedrella nodiflora</i>	3	.	1	1	.	.	1	1	1	.	.	.	LC
279	<i>Syzygium cumini</i>	.	.	.	.	.	.	1	.	.	.	1	1	INASIVE
280	<i>Tabebuia pentaphylla</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
281	<i>Tamarindus indica</i>	1	.	.	.	.	.	1	.	.	.	.	.	LC
282	<i>Tectona grandis</i>	1	.	1	.	.	.	1	.	.	.	.	.	INASIVE
283	<i>Tephrosia nana</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC
284	<i>Tephrosia pumila</i>	3	.	1	.	.	.	.	.	1	.	.	.	LC
285	<i>Terminalia mollis</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
286	<i>Terminalia superba</i>	.	.	1	.	.	.	1	.	.	.	.	.	LC
287	<i>Thunbergia mildbraedii</i>	.	.	.	.	.	.	.	.	.	.	.	1	LC
288	<i>Thunbergia alata</i>	1	.	.	.	.	.	.	.	.	.	1	.	LC
289	<i>Tinospora caffra</i>	.	.	.	.	.	.	.	.	.	.	1	.	LC
290	<i>Tithonia diversifolia</i>	.	.	.	.	.	.	1	.	.	.	.	1	INASIVE
291	<i>Tradescantia zebrina</i>	.	2	.	.	.	.	1	1	.	.	1	.	LC
292	<i>Tridax procumbens</i>	.	.	1	.	.	.	1	1	1	3	1	1	LC
293	<i>Triumfetta flabellato-pilosa</i>	.	.	.	.	.	.	1	.	.	.	2	.	LC
294	<i>Triumfetta rhomboidea</i>	1	.	.	.	.	.	.	.	1	.	.	.	LC
295	<i>Tylosema fassoglensis</i>	.	.	.	.	.	.	1	.	.	.	.	.	LC

No	Species	kkumi	Bugiri	Bukedea	Busia	Dokolo	Gulu	Iganga	Jinja	Kaberaidoo	Lira	Mbale	Tororo	Status
296	<i>Urena lobata</i>	.	.	.	.	.	.	1	.	1	.	.	.	LC

6b. Western to Southern Routes

No	Species	Kabala	Nasinongi	Eushenyi	Fortportal	Hoiina	Kabale	Kagaadi	Kanpala	Kaseese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarara	Ntungano	Fakai	Rubirizi	Lveingo	Sheena	Sheena	Status	
1	<i>Abutilon mauritanum</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
2	<i>Acacia polyantha</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
3	<i>Acacia sie</i>	.	.	.	2	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvengo	Sheena	Sheena	Status
	<i>beriana</i>																					
4	<i>Acalypha bipartita</i>	.	1	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
5	<i>Acalypha hispida</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	LC
6	<i>Acalypha villiculis</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
7	<i>Acanthospermum hispidum</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
8	<i>Acanthus</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>polystachus</i>																					
9	<i>Achyranthesaspera</i>	2	.	.	.	2	1	.	.	2	.	.	1	.	.	.	.	.	.	.	.	LC
10	<i>Agave sp.</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
11	<i>Agrotumconzoides</i>	2	1	.	.	.	1	.	.	.	1	.	.	.	.	2	1	.	.	1	1	INVASIVE
12	<i>Albizia coriaria</i>	.	.	.	.	2	.	.	1	1	.	.	.	.	.	.	.	.	2	.	.	LC
13	<i>Albizia grandbr</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Species	K	M	E	F	H	K	K	K	K	K	K	K	M	M	N	R	L	S	S	S	Status	
	<i>actea ta</i>																						
14	<i>All op hyl us afr ica na</i>	.	1	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
15	<i>Al oe sp.</i>	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
16	<i>Alt er na nt he ra no difl ora</i>	.	1	.	.	.	.	1	1	.	1	.	1	.	.	.	.	.	.	.	.	.	LC
17	<i>Alt er na nt he ra pu ng en s</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	IN VASI VE
18	<i>A mar an th us du biu</i>	.	1	.	.	.	.	1	.	.	1	.	1	.	2	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaal	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
19	<i>Amaranthus gracizans</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	1	LC
20	<i>Amaranthus levidus</i>	.	.	.	.	.	.	.	1	.	1	1	.	.	.	.	.	.	.	.	1	LC
21	<i>Artocarpus heterophylla</i>	.	.	.	.	2	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	LC
22	<i>Asparagus racemosus</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	K	M	E	F	H	K	K	K	K	K	K	K	M	M	N	R	F	L	S	S	S	Status
23	<i>Aspili africana</i>	.	.	.	.	.	.	.	.	.	.	.	.	2	1	.	.	.	.	.	.	1	LC
24	<i>Aspili kotchy</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
25	<i>Asystezia gangetica</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	LC
26	<i>Barleria ventricosa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	2	.	.	.	.	.	.	LC
28	<i>Bidens pilosa</i>	2	.	1	.	.	.	.	1	1	1	.	.	1	.	2	.	.	.	.	1	.	LC
29	<i>Bouhinia variegata</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	INVASIVE

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
30	<i>Brachiaribrizantha</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
31	<i>Brachiaridecumbens</i>	.	.	.	.	.	.	.	.	2	1	.	.	.	1	.	.	.	.	.	.	LC
32	<i>Brachiariscalaris</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
33	<i>Brachiarisp.</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
34	<i>Callistemoncitrinus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC
35	<i>Canna</i>	2	1	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	INVA SI

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>lilly</i>																					VE
36	<i>Capparis tomentos</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
37	<i>Carica papaya</i>	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
38	<i>Carissapinarum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
39	<i>Caryotaurens</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
40	<i>Cassiamimosoides</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	1	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaalira	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
41	<i>Cassia obtusifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
42	<i>Casualina</i> sp.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
43	<i>Centella asiatica</i>	.	1	1	1	1	1	.	1	.	.	.	.	1	.	1	.	.	.	.	.	LC
44	<i>Chamaecrista mimoides</i>	.	1	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
45	<i>Chloris gayana</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
46	<i>Chloris pycn</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>ot hrix</i>																					
47	<i>Chlorophytum galabensis</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
48	<i>Cissampelos mucronata</i>	.	1	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	LC
49	<i>Cissus quadrangularis</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
50	<i>Cissus rotundifolia</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	a																					
51	<i>Citrus aurantium</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
52	<i>Citrus limon</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
53	<i>Cleome gynandra</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
54	<i>Clerodendrum johnstonii</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
55	<i>Clerodendrum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvenjo	Sheena	Sheena	Status
	<i>rotundifolium</i>																					
56	<i>Coffea robusta</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC
57	<i>Commelina africana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	LC
58	<i>Commelina benghalensis</i>	.	1	1	.	.	1	.	.	1	1	.	.	1	2	.	.	1	.	.	.	LC
59	<i>Commelina latifolia</i>	.	.	1	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	LC
60	<i>Conyza</i>	.	1	1	1	2	1	.	1	.	.	.	.	.	.	1	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>floribunda</i>																					
62	<i>Corbichonia decumbens</i>	.	.	.	.	.	.	.	1	1	.	1	.	.	.	.	.	.	.	.	.	LC
63	<i>Corchorus tridens</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
64	<i>Crassocephalum crepidoides</i>	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
65	<i>Crassocephalum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>anii</i>																					
66	<i>Crassocephalum montuosum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
67	<i>Crassocephalum vitellinum</i>	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
68	<i>Crotalaria incana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
69	<i>Crotalaria spinosus</i>	.	.	.	2	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
70	<i>Cucumis</i> sp.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
71	<i>Cucurbita pepo</i>	.	.	.	.	.	.	.	1	.	1	.	1	.	.	.	.	.	.	.	.	LC
72	<i>Cyatula conozoides</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
73	<i>Cyatula prostrata</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC
74	<i>Cynodon dactylon</i>	.	1	.	.	.	.	.	1	2	1	1	.	.	1	2	1	.	1	.	1	INVASIVE
75	<i>Cynodon nlemf</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	INVASIVE

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>uensis</i>																					
76	<i>Cyperus denudatus</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
77	<i>Cyperus distans</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	LC
78	<i>Cyperus dubius</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	LC
79	<i>Cyperus sp.</i>	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
80	<i>Cyphostemma adenocaul</i>	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvengo	Sheena	Sheena	Status
	e																					
81	<i>Desmodium salicifolium</i>	.	1	1	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	LC
82	<i>Desmodium setigerum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
83	<i>Desmodium sp.</i>	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
84	<i>Desmodium tortuosum</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	LC
85	<i>Desmodium</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvengo	Sheena	Sheena	Status
	<i>mitriflorum</i>																					
86	<i>Desmodium velutinum</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
87	<i>Dicrocephala integrifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
88	<i>Digitaria abyssinica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC
89	<i>Digitaria longiflora</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
90	<i>Dyschoriste SP</i>	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	LC
91	<i>Dracaena steudneri</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	LC
92	<i>Durantasp</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	1	.	.	LC
93	<i>Dyplocyclops palmatus</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
94	<i>Dyschoriste radicans</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
95	<i>Eleusine afr</i>	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaal	Kase	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>icana</i>																					
96	<i>Eiue sine indica</i>	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	INVASIVE
97	<i>Emilea javanica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
98	<i>Entadasp</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
99	<i>Eragrostis sp.</i>	.	.	1	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	LC
100	<i>Eriobotrya japonica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
101	<i>Erythrina abyssinica</i>	2	.	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	1	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
102	<i>Erythrocoeca Congensis</i>	.	1	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	LC
103	<i>Eucalyptus camadulensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	INVASIVE
104	<i>Eucalyptus sp.</i>	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
105	<i>Euphorbia heterophyllus</i>	.	.	.	.	.	.	1	.	.	1	.	1	.	.	.	.	.	.	.	.	LC
106	<i>Euphorbia hirta</i>	.	1	.	.	.	.	1	.	1	.	.	.	.	.	.	1	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status	
107	<i>Euphorbia tirucalli</i>	4	.	.	.	2	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	LC
108	<i>Ficus benjamina</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	INVASIVE
109	<i>Ficus natalensis</i>	.	1	.	1	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
110	<i>Ficus platyphylla</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
111	<i>Ficus pseudomangifera</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
112	<i>Ficus sp.</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
113	<i>Ficus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoiana	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>thonningia</i>																					
114	<i>Fluggea virosa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
115	<i>Galinso gaparviflora</i>	.	1	1	.	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
117	<i>Gomphrena celosioides</i>	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
118	<i>Grevillea robusta</i>	.	1	.	.	.	1	.	.	.	.	.	.	.	.	1	1	.	1	1	.	INVASIVE
119	<i>Grewia similis</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
121	<i>Gynura scandens</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
122	<i>Harungana madagascanensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC
123	<i>Hibiscus rosasinensis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	LC
124	<i>Hoslundia opposita</i>	.	.	.	.	.	.	.	.	1	.	1	1	.	.	.	.	.	.	.	.	LC
125	<i>Hygrophyll</i>	.	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvengo	Sheena	Sheena	Status
	<i>la sp.</i>																					
126	<i>Hyperrhena filipendula</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
127	<i>Hyperrhena rufa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
128	<i>Indigera arcta</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
129	<i>Indigera hirsuta</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
130	<i>Indigera sp.</i>	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaalira	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status	
131	<i>Indigera spicata</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	LC
132	<i>Ipomoea batatas</i>	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
133	<i>Ipomoea sp.</i>	.	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	LC
134	<i>Jacaranda mimosifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	INVASIVE
135	<i>Justicia exigua</i>	.	.	.	.	.	.	.	.	.	1	.	1	.	1	.	.	.	.	.	.	.	LC
136	<i>Justicia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaal	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status	
	<i>matamensis</i>																						
137	<i>Justicia himperiana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
138	<i>Kyllinga alba</i>	.	1	1	.	2	.	.	1	.	1	1	.	.	1	.	.	.	.	.	.	LC
139	<i>Kyllinga sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
140	<i>Lantana camara</i>	.	1	1	.	.	1	.	1	1	1	1	.	2	1	.	2	.	1	.	.	INVASIVE	
141	<i>Lantana trifolia</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
142	<i>Launaeana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
143	<i>Leontis nepetifolia</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	INVASIVE
144	<i>Leucas deflexa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC
145	<i>Ludwigia</i> sp.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
146	<i>Mangifera indica</i>	.	1	.	.	.	.	.	.	.	.	1	1	1	.	.	1	.	2	1	.	LC
148	<i>Manihot esculenta</i>	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	1	.	.	.	LC

No	Spesies	Kabala	Nasindii	Eushenyii	Fortportal	Hoina	Kabale	Kagadi	Kanpaalaa	Kaseese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvengo	Sheena	Sheena	Status
149	<i>Markhamiolutea</i>	.	.	.	.	2	.	.	1	.	1	1	1	2	1	2	.	.	.	.	.	LC
150	<i>Meliazadirahtaa</i>	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	INVASIVE
151	<i>Melinisrepens</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
152	<i>Momordicafoetida</i>	.	.	.	.	2	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	LC
153	<i>Musa sp.</i>	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	LC
154	<i>Neonotoniawii</i>	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

Noc	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvengo	Sheena	Sheena	Status
	<i>ghitii</i>																					
155	<i>Ocimum gratissimum</i>	.	.	.	.	.	.	.	.	.	.	.	1	2	.	.	.	.	.	.	.	LC
156	<i>Optunia ficus-indica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	LC
157	<i>OrthocypHONE sp.</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
158	<i>Oxalis coniculata</i>	2	.	1	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
159	<i>Oxalis latifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	INVASIVE

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
160	<i>Oxygonum sinuatum</i>	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	.	LC
161	<i>Panicum maximum</i>	.	.	1	.	.	.	.	1	1	.	.	1	1	1	.	.	.	1	.	.	LC
162	<i>Parvoniasp.</i>	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	LC
163	<i>Paspalum scribblatum</i>	.	2	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	LC
164	<i>Paspalum sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	LC
165	<i>Paspalum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	Exotic

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>monotum</i>																					
166	<i>Pennisetum polystachion</i>	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	LC
167	<i>Pennisetum purpurium</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
168	<i>Persicaria setosula</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
169	<i>Phoenix clinata</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
170	<i>Phyllanthus</i>	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Species	S	K	M	E	F	H	K	K	K	K	K	M	N	N	R	L	S	S	Status	
	<i>thus Myrtifolius</i>																				
171	<i>Phyllanthus pseudoneuri</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
172	<i>Phyllanthus sp.</i>	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	LC
173	<i>Phytolacca dodendora</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
174	<i>Pinus sp.</i>	.	1	.	.	2	.	.	.	.	1	.	.	.	.	.	.	.	.	.	LC
175	<i>Plectranthus</i>	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kase	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	sp.																					
176	<i>Pseudarthria hookeri</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
177	<i>Psidium javanense</i>	.	.	.	.	.	.	1	.	.	.	2	.	.	.	.	1	.	.	.	.	INVASIVE
178	<i>Psydax parviflora</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
179	<i>Rhynchosia sp.</i>	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	LC
180	<i>Rhynchosia viscosa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpaal	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
181	<i>Ricinus communis</i>	.	1	.	.	.	.	.	1	1	.	.	1	1	.	.	.	.	.	.	.	INVASIVE
182	<i>Saccharum officinarum</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
183	<i>Sansiveria daurica</i>	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
184	<i>Sansiveria sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	LC
185	<i>Senna obtusifolia</i>	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
186	<i>Senna</i>	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpala	Kasee	Katungulu	Kiryandongo	Kyenjojo	Masindi	Nbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>occidentalis</i>																					
187	<i>Sennasia mearia</i>	.	1	.	.	.	.	.	2	.	1	1	2	.	.	1			1	.	.	INVASIVE
188	<i>Sennasp.</i>	.	.	.	.	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
189	<i>Sennaspectabilis</i>	.	.	.	.	.	.	.	1	.	.	.	1	1	.	.	.	.	.	.	.	LC
190	<i>Sebsania sebsania</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
191	<i>Setaria sp.</i>	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
192	<i>Setaria sp. hancelat</i>	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kanpalaroad-Hoina	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarara	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	a																					
193	<i>Sidaacuta</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
194	<i>Sidacordifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
195	<i>Sidacunnifolia</i>	.	.	.	.	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
196	<i>Sidavovata</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
197	<i>Sidarthomibifolia</i>	.	1	.	.	2	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
198	<i>Sidasp.</i>	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	LC
199	<i>Solaneci</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>oan-gulatum</i>																					
200	<i>Solanum campylacanthum</i>	.	1	.	.	.	.	.	1	.	1	1	.	1	.	.	.	.	.	.	.	LC
201	<i>Solanum incanum</i>	.	1	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	INVASIVE
202	<i>Solanum macrocarpon</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
203	<i>Solanum nigrum</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC

No	Species	Kabalala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvengo	Sheena	Sheena	Status
	<i>m</i>																					
204	<i>Solanum sp.</i>	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
205	<i>Spermacoce princi</i>	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
206	<i>Sporobolus africanus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	LC
207	<i>Sporobolus festivus</i>	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	LC
208	<i>Sporobolus pyra</i>	.	1	.	.	.	.	1	1	.	.	.	.	.	1	.	.	.	.	.	1	LC

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>midalis</i>																					
209	<i>Stachytarpheta indica</i>	.	.	.	.	2	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	INVASIVE
210	<i>Synodrella nodiflora</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	LC
211	<i>Syzygium cumini</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC
212	<i>Tabebuia serratifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
213	<i>Tectonagrana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	INVASIVE

No	Spesies	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjjo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>dis</i>																					
214	<i>Te phro sia pu mila</i>	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	LC
215	<i>Te ra m nu s lab ialis</i>	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	LC
216	<i>Te ra m nu s re pens</i>	.	.	.	.	2	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	LC
217	<i>Te rm ina lia cat ap pa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
218	<i>Te rm ina lia ivo re nsi s</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lwengo	Sheena	Sheena	Status
219	<i>Thvetiaperuviana</i>	.	.	.	.	.	.	.	1	.	1	1	.	.	.	.	.	.	.	.	.	INVASIVE
220	<i>Tribulus terrestris</i>	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	LC
221	<i>Triplex procumbens</i>	.	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
222	<i>Triplex sp.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	LC
223	<i>Trifetiana</i>	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC
224	<i>Trifetiana</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katungulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>macrophylla</i>																					
225	<i>Triumfetta rhomboides</i>	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	LC
226	<i>Urena lobata</i>	.	.	.	.	.	.	1	.	1	.	.	1	.	.	.	.	.	.	.	.	LC
227	<i>Vepribilis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
228	<i>Vernonia amygdalina</i>	.	.	.	.	.	.	1	.	.	.	.	1	1	.	.	.	.	.	.	.	LC
229	<i>Vernonia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	LC

No	Species	Kabala	Masindi	Eushenyi	Fortportal	Hoina	Kabale	Kagadi	Kampala	Kasese	Katumugulu	Kiryandongo	Kyenjojo	Masindi	Mbarama	Ntungano	Rakai	Rubirizi	Lvingo	Sheena	Sheena	Status
	<i>acampanea</i>																					
230	<i>Vernonia sp.</i>	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	LC
231	<i>Vitex trifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	LC
232	<i>Zehneria scabra</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	LC

6c.

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Acacia polyacantha</i>	x	x	x	x	x	X	x	1	x	x	x	x	x	x
<i>Acacia sp.</i>	x	x	x	x	x	X	x	x	x	x	1	x	x	x
<i>Acalypha bipartita</i>	x	x	x	x	x	X	x	1	x	x	x	x	x	x
<i>Acanthus polystachus</i>	x	x	x	x	x	X	x	x	1	x	1	x	x	x
<i>Achyranthes aspera</i>	x	x	x	1	x	X	1	x	x	x	1	x	x	1
<i>Agave sp.</i>	x	x	x	x	x	X	x	1	x	x	x	x	x	x
<i>Ageratum conazoides</i>	x	x	x	x	x	X	x	x	1	x	x	x	x	x
<i>Albizia coriaria</i>	x	x	x	x	x	X	1	x	x	x	1	x	x	x
<i>Allophylus sp.</i>	x	x	x	x	x	X	x	x	x	x	1	x	x	x
<i>Alternanthera nodiflora</i>	x	x	x	x	x	X	x	x	x	x	x	x	x	1
<i>Alternanthera pungens</i>	x	1	x	x	1	X	x	x	1	x	x	x	x	x
<i>Amaranthus dubius</i>	x	1	x	x	x	1	x	1	x	x	x	1	x	x
<i>Amaranthus graesizans</i>	x	x	x	x	x	X	x	1	x	x	1	x	x	x
<i>Amaranthus levidus</i>	x	x	1	x	x	X	1	x	x	x	1	x	x	1
<i>Amaranthus spinosus</i>	x	x	x	x	x	X	x	x	x	x	x	x	x	1
<i>Artocarpus heterophyllus</i>	x	x	x	x	x	1	x	x	1	x	1	1	x	x
<i>Aspilia africana</i>	x	x	x	x	x	X	x	1	x	x	x	x	x	x
<i>Asplenium</i>	x	x	x	x	x	X	x	x	x	x	x	x	x	1
<i>Asystezia gangetica</i>	X	1	x	x	x	X	1	1	x	x	x	x	x	1
<i>Azaderachta indica</i>	x	x	x	x	x	X	x	1	x	x	x	x	x	x
<i>Barleria ventricosa</i>	1	.	x	x	x	x	x	x	x	x	x	x	1	1
<i>Bidens pilosa</i>	X	1	1	x	x	x	1	1	1	x	x	x	x	1
<i>Boophone disticha</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Bouhinia variegata</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Brachiaria brizantha</i>	x	x	x	x	x	x	x	x	x	x	x	x	1	x
<i>Brachiaria decumbens</i>	x	x	x	1	x	x	x	x	x	x	x	x	1	1
<i>Canna lilly</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Capsicum frutescens</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	1
<i>Carica papaya</i>	x	1	x	x	x	x	x	1	x	x	x	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Cassia hirsuta</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Cassia siamea</i>	x	x	x	1	x	x	x	x	x	x	x	x	x	x
<i>Casualina sp.</i>	x	1	x	x	x	1	x	1	x	x	x	1	x	x
<i>Centella asiatica</i>	1	.	x	1	x	x	x	1	1	x	1	x	1	1
<i>Chamaecrista sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Chloris gayana</i>	1	.	x	x	x	x	1	x	1	x	x	x	1	x
<i>Chloris pycnothrix</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Cissampelos mucronata</i>	x	x	x	x	x	1	x	1	x	x	1	1	x	1
<i>Cissus rotundifolia</i>	x	1	x	x	x	x	1	x	x	x	1	x	x	x
<i>Clerodendrum johnstonii</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Clerodendrum myricoides</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Commelina benghalensis</i>	x	x	x	x	1	x	1	1	x	x	x	x	1	1
<i>Commelina latifolia</i>	x	1	x	x	x	x	x	x	x	x	1	x	x	1
<i>Commelina sp.</i>	x	x	x	x	x	1	x	x	x	x	x	1	x	x
<i>Commeline benghalensis</i>	x	x	x	1	x	x	x	x	x	x	x	x	x	x
<i>Commiphora sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Conyza floribunda</i>	x	1	1	x	x	x	x	1	1	1	1	x	x	1
<i>Conyza sp.</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Conyza sumatrensis</i>	x	x	x	x	x	x	x	1	x	x	x	1	x	x
<i>Crassocephalum crepidioides</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	1
<i>Crotalaria spinosus</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Cucurbita pepo</i>	x	x	x	x	1	1	x	x	x	x	x	1	x	x
<i>Cupressus sp.</i>	x	1	x	x	x	x	x	1	x	x	x	x	x	x
<i>Cynodon dactylon</i>	x	1	1	1	1	x	x	1	1	x	1	x	1	1
<i>Cyperus cyperoides</i>	x	1	x	x	x	x	x	x	x	x	1	x	x	x
<i>Cyperus denudatus</i>	x	x	1	x	x	x	x	x	x	x	x	x	x	x
<i>Cyperus distans</i>	x	x	x	x	1	x	x	1	x	x	x	1	x	x
<i>Cyperus papyrus</i>	x	x	x	x	1	x	x	x	x	x	x	x	x	x
<i>Cyphostemma adenocaula</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Desmodium salicifolium</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	1
<i>Desmodium sp.</i>	x	1	x	x	x	x	x	x	1	x	1	x	x	1
<i>Desmodium tortuosum</i>	x	x	x	1	x	x	x	1	x	x	x	1	x	x
<i>Desmodium triflorum</i>	x	x	x	x	1	x	x	1	x	x	x	1	1	1
<i>Dichondra repens</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Dichrocephalla integrifolia</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Digitaria abyssinica</i>	x	x	x	1	x	x	x	x	x	x	x	1	x	x
<i>Digitaria longiflora</i>	1	.	x	x	1	1	1	1	x	x	x	1	1	1
<i>Digitaria velutina</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Diplocyclos palmatus</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Dyschoriste radicans</i>	x	1	x	x	x	x	x	1	1	x	1	x	x	1
<i>Dracaena fragrans</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Dyschoriste nagachana</i>	x	x	x	x	x	x	x	1	x	x	x	1	x	x
<i>Eleusin africana</i>	x	1	x	x	x	x	x	x	1	x	x	x	x	1
<i>Entada abyssinica</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Eragrostis racemosa</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Eragrostis sp.</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Eragrostis tremula</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	1
<i>Erythrina abyssinica</i>	x	x	x	x	x	x	1	x	x	x	x	x	x	x
<i>Euphorbia heterophyllus</i>	x	x	x	x	x	x	1	1	x	x	1	x	x	1
<i>Euphorbia hirta</i>	x	x	x	x	x	1	x	x	x	x	1	1	1	1
<i>Ficus benjamina</i>	x	x	1	x	x	x	x	x	1	x	1	x	1	1
<i>Ficus natalensis</i>	x	x	x	x	x	1	x	1	x	x	x	1	x	1
<i>Ficus sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Galinsoga parviflora</i>	1	1	1	x	x	x	x	x	1	x	x	1	x	1
<i>Gomphrena celosioides</i>	x	1	x	x	1	x	x	1	x	x	1	x	1	x
<i>Grevillea robusta</i>	x	x	x	x	x	x	x	1	1	x	1	1	x	x
<i>Grewia sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Gynura scandens</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Haparchneschweinfurthii</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Hygrophylla sp.</i>	x	x	x	x	x	x	x	1	1	x	x	x	x	x
<i>Hyper rhenia filipendula</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Hyperthelia dissoluta</i>	x	x	x	x	x	x	x	x	x	x	x	x	1	x
<i>Indigofera arrecta</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	1
<i>Indigofera hirsuta</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Indigofera spicata</i>	x	1	1	x	x	x	1	1	x	x	x	x	1	x
<i>Ipomoea cairica</i>	x	x	1	x	x	x	x	x	x	x	x	x	x	x
<i>Ipomoea sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Jacaranda mimosifolia</i>	x	x	x	1	x	1	x	x	x	x	x	1	x	x
<i>Jasminum pauciflorum</i>	x	x	x	1	x	x	x	x	x	x	x	x	x	x
<i>Justicia exigua</i>	X	1	x	x	1	x	x	1	1	x	1	x	x	1
<i>Kyllinga alba</i>	1	.	x	x	x	1	x	1	x	x	x	1	x	1
<i>Kyllinga sp.</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Lantana camara</i>	x	1	x	x	x	x	1	1	1	x	1	x	1	1
<i>Leonotis nepetifolia</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	1
<i>Lepistemon owariensis</i>	x	1	x	x	x	x	x	1	x	x	x	x	x	x
<i>Leucus martinicensis</i>	x	1	x	x	x	x	x	x	1	x	1	x	x	x
<i>Maesopsis eminii</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Mangifera indica</i>	x	x	1	x	x	1	x	1	1	x	1	1	x	1
<i>Manihot esculenta</i>	x	x	x	x	x	x	x	1	x	x	1	x	x	1
<i>Markhamia lutea</i>	x	x	x	x	x	1	x	1	1	1	x	x	x	1
<i>Marsdenia rubicunda</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Melinis repens</i>	x	x	x	x	1	x	x	x	x	x	x	x	x	x
<i>Milicia excelsa</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Mimosa pigra</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Mimosa pudica</i>	x	x	x	x	x	x	x	1	1	x	x	x	x	1
<i>Momordica foetida</i>	x	x	x	x	x	x	x	1	x	1	x	x	x	x
<i>Musa sp.</i>	x	x	x	x	x	1	x	x	x	x	x	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Ocimum americanum</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Ocimum gratissimum</i>	x	x	x	x	x	x	x	1	x	x	1	x	x	1
<i>Oxalis coniculata</i>	1	.	x	x	x	x	x	1	x	x	1	x	x	x
<i>Oxalis latifolia</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Oxygonum sinuatum</i>	x	1	x	x	x	x	x	x	1	x	1	x	x	x
<i>Panicum maximum</i>	1	.	1	x	x	x	1	1	1	1	1	x	1	1
<i>Paspalum scrobiculatum</i>	x	1	1	x	1	x	x	x	x	x	x	x	x	x
<i>Paspalum sp.</i>	x	x	x	x	x	1	x	1	x	x	x	x	1	x
<i>Pavonias sp</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Persea americana</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Phyllanthus pseudoneuri</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Phyllanthus sp.</i>	x	x	1	x	x	x	x	1	x	x	x	x	x	1
<i>Phytolacca dodecandra</i>	x	x	x	x	x	x	1	x	1	x	1	x	x	x
<i>Pinus sp.</i>	x	x	x	x	x	x	x	x	x	x	1	x	1	1
<i>Psidium guajava</i>	x	1	x	x	x	x	x	x	1	x	x	x	x	x
<i>Syzygium cuminii</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Psydrax schimperianum</i>	x	x	x	1	x	x	x	x	x	x	x	x	x	x
<i>Pteris sp.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Rhynchosia minima</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Rhytginia beniensis</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Ricinus communis</i>	x	x	x	x	x	x	x	x	x	1	1	x	x	x
<i>Rubia cordifolia</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Sansvieria dawef</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Secamone africana</i>	x	x	x	x	x	x	x	x	x	x	1	x	x	x
<i>Senna hirsuta</i>	x	x	x	x	x	x	x	1	1	x	x	x	x	1
<i>Senna siamea</i>	1	.	x	x	x	x	x	1	1	x	1	x	x	1
<i>Senna spectabilis</i>	x	x	x	x	x	1	x	x	x	x	x	x	x	x
<i>Setaria homonyma</i>	1	.	x	x	x	x	1	x	x	x	x	x	x	x
<i>Setaria poiretiana</i>	x	x	x	x	x	x	x	x	1	x	1	x	x	x

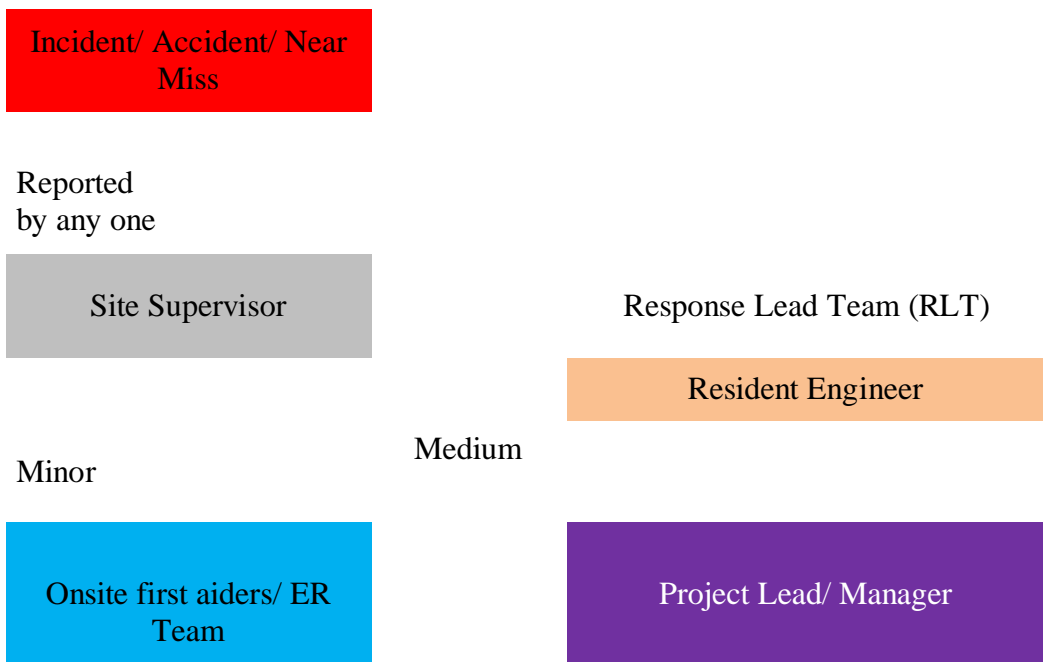
Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Setaria sphacelata</i>	x	x	x	x	x	x	x	x	x	x	x	x	1	x
<i>Sida acuta</i>	x	1	1	x	x	x	x	1	x	x	x	x	x	1
<i>Sida alba</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Sida cunneifolia</i>	x	x	x	x	x	x	x	1	x	x	1	x	x	x
<i>Sida ovata</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Sida rhombifolia</i>	x	1	x	x	1	1	x	1	x	x	1	x	x	x
<i>Solanecio angulatus</i>	x	x	1	x	x	x	x	x	x	x	1	x	x	1
<i>Solanum sp</i>	1	1	x	x	x	x	x	1	x	x	1	x	1	1
<i>Solanum incanum</i>	x	x	x	1	x	x	x	1	x	x	x	x	x	1
<i>Solanum nigrum</i>	x	x	x	x	x	x	x	x	1	x	1	x	x	1
<i>Solanum sp.</i>	x	x	x	x	x	x	x	x	x	1	x	x	x	x
<i>Sorghum arundinaceum</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Spermacoce princii</i>	x	x	x	x	1	x	x	x	x	x	x	x	x	x
<i>Sporobolus pyramidalis</i>	x	1	x	x	x	x	1	x	1	1	x	x	1	1
<i>Sporobolus rengii</i>	x	x	1	x	x	x	x	x	x	x	x	x	x	x
<i>Stachytarpheta indica</i>	x	1	x	x	x	x	x	x	1	x	x	x	x	x
<i>Synodrella nodiflora</i>	x	x	x	x	x	x	x	x	x	x	x	1	x	x
<i>Syzygiumcumini</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	1
<i>Tagetes minuta</i>	x	x	x	x	x	x	1	1	1	x	1	x	x	x
<i>Tephrosia pumila</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Teramnus labialis</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	1
<i>Teramnus repens</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Terminalia brownii</i>	1	.	x	x	x	x	x	x	x	x	x	x	1	x
<i>Thevetia peruviana</i>	1	.	x	x	x	1	x	x	x	x	1	x	x	1
<i>Tridax procumbens</i>	x	x	1	1	x	x	x	x	x	x	x	x	x	1
<i>Tridax sp.</i>	x	x	x	x	x	x	x	x	x	x	x	x	1	x
<i>Triumfetta annua</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Triumfetta rhomboidea</i>	x	x	x	x	x	x	x	1	1	x	x	x	x	1
<i>Urena lobata</i>	x	x	x	x	x	x	x	1	x	1	x	x	x	x

Species	B u w a m a	K a l i s i z o	K a m p a l a	L u g a z i	L u k a y a	L u w e r o	L y a n t o n d e	M a s a k a	M i t y a n a	M p i g i	M u b e n d e	M u k o n o	N a k a s o n g o l a	W a k i s o
<i>Vernonia amygdalena</i>	x	x	x	x	x	x	x	x	1	x	x	x	x	x
<i>Vernonia laciopus</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x
<i>Wissadra rostrata</i>	x	1	x	x	x	x	x	x	x	x	x	x	x	x
<i>Zornia pratensis</i>	x	x	x	x	x	x	x	1	x	x	x	x	x	x

Appendix 7: Emergency / Incident Response System



INCIDENT RESPONSE SYSTEM



Nearest Health facility

Major

Project Coordinator and Directors

External Parties (Lead agencies,
media, development partners,
community leaders etc...)

Appendix 8: Stakeholder consultation records

#	Name	Position	Contact
	Wamani Ivan	In-charge Posta Mityana	0782757979
	Bbira Joseph	Officer Mityana District	0751929693
	C/ASP.Obbu Franco	Mubende Police	0700159270
	Katemba Lamson	IO Mubende	0700239956
	Mukasa Joseph	EO NIRA Mubende	0774555549
	Businge Peter	OA-Mubende	0705338134
	Col.w. Rubarema	DPA MRC	0772681318
	Asiimwe Raymond	A.P.O in Charge Mubende	0701416251

#	Name	Position	Contact
	Kiiza Elison	Administrator MWE	0751585333
	Pule Johnson	Team Leader	0772441677
	Harriet Atim	NFA Sector Manager	0772378290
	Ibrahim walusimbi	Area Manager NWSC Lira	0783484717/ 0751115861
	Martha Promise	TIP industries, URA building Lira	078339404
	Nakyanzi Sarah	Receptionist, UNBS Lira	0779345998
	Christine Lamon	Manager Lira Post Officer	0752620056
	Agenonga Charles	Nakasongola Police Station	0787098000
	Kiiza Godfrey	Luwero Police Station	0787609199
	Kamtimba beti	Health inspector Luwero	0774441160
	Asio hellen	Neighbour (Post Office)	0774575102
	Sejjemba Francis	Bodaboda rider	0779183269
	Ogwang Lawrence	Lab Tech Dokolo\ (Lab Manager)	0782418166
	Odeke Simon	Technical Supervisor NWSC-Luwero	Odekesimon26 @gmail
	Violah Namuwonge	Trainee	0702895411
	Benon Niyoyita	Eng. NWSC Luwero	0774564015
	Asimwe Rosyln Grace	Accts Asst(for chief magistrate) Luwero	0772410649
	Draru Ambrose	Ag. Bank Manager BOU	0772758447
	Mwanje Alex	Station Head-URA Masaka	0717440693
	Kigozi Martin	Physical Planner Masaka Municipal Council	0700886879
	Nabadda Pauline	Environment Officer Masaka Municipal Council	0753310966
	Byamukama Alex	Asst.Post Officer Masaka	0772336121
	Mugoya Yudaya	Oc Kalisizo Police Station	0750308145
	Sp Musa Kayongo	DPC	0750559777/ 0782470222

#	Name	Position	Contact
	C/ASP Agoli Innocent	Oc Station	0754680466 0787651479
	Dabanja Geofrey	DCDO	0772355182
	Obed Rekyeraho	Kiryadongo-Police Station	0774807831
	Akello Stella Maris	Admin Asst NDA Lira	0772575455
	Abur Josephine	Secretary Lira School of Nursing	0781282739
	Larwonyere Martin	District Prisons Commander Lira Luwum	0772893556
	Saverino Sserwada	Accts Asst IGG- Lira	0772868881
	Ezra Mucunguzi (ASP)	Deputy OC Lira	0775040571
	Otike Pabious	DNRU-Lira	0772453435
	Okello Tom Richard	SLO- Lira	0772645922
	Sp. Tubanone Joel	DPC Lira	0714667902
	AIP Bigirwa	OC Traffic Lira	0772439923
	Maate John Baluku	Sr. Immigration Officer	0773252358
	Sumuel Okello	DTTO- Dokolo	0774789239
	Okello Anthony	Otubo, HCIII Askari Kaberamaido	0785279962
	Dan Lukyamuzi	SO/PPDA	0791052463
	Patrick Katongole	Officer/PPDA	0772832039
	Stella lanyao	Adm-PPDA	0772437965
	Walter Ojok	Officer-PPDA	0774264074
	Simon Mugabe	PPDA	0783025726
	Lanyoro Paska Sheka	Immigration Officer	0773167852
	Allan Okello	RPC (Prisons) North	0772871167
	Oyumdu B Edward	SAS Kiriandongo	0785984349
	Serwyange .K. ALI	Askari Kitwara HCII	0777995642
	Ogwang Nicholas	for Regional Human Rights Officer-Gulu UHRC	0779009991

#	Name	Position	Contact
	Emmanuel Koni	Commercial Officer NWSC- Gulu	0772551978
	Alele Sarah	Regional Supervisor Posta- Gulu	0781446850
	ASP Ayiki Joseph	District Police Commander- Gulu	0714667893
	Akello Filder Mary	IMA/OPM- Gulu	0772760011
	Kakuru Ambrose	OPA/PPDA-Gulu	0777391328
	Onen Cosmas	Health Inspector/ Environment Focal Person- Gulu	0784230019
	Kobemu Gerald	Ag Oc Gulu Main Prison	0788219334
	Ojambo Albert	DITO-NIRA	0782050238
	Ojera Kennedy	DISO Gulu	0787899897
	Wambede Titus	Immigration Officer DCIC	0773327464
	Amuru Shaffi Aaron	Ministry of Justice & Constitutional Affairs –Gulu	0779300000
	Patrick Omia	Office of the DPP-Gulu (R.S.A)	0794332295
	Asiimwe Harriet	Election Asst. Kiryandongo	0782191911
	Lodad	Kiryandongo	
	Matovu Geoffrey	Regional Inspectorate Officer-IG Office Gulu	0782751532
	Omony Jimmy Aber	Gulu	0784778164
	Achila Lewiny .L.	Gulu	0755142737
	Lanyero Zahara	Bookshop owner along Jomu Kinyatta rd Gulu	0781737373
	Okello David	Business man (Shoe selling and Mobile Money) Gulu	0782088736
	Odongo Francis	LCI Awere Sub Ward Gulu	0772655972
	Oluba Bernard	Boda-boda Gulu	0777329417
	Ojuru sylesto	LIMU Gulu	0779388529
	Bamuteeze grace	ICT-Officer Police Gulu	0714668044/ 0784654998
	Ochen Tonny .W.	HOD-ICT-Lira	0773746210

#	Name	Position	Contact
	Talwana .B. Nathan	Principal Lira	0772374432
	Otim jimmy	Estates Officer Lira	0772001387
	Ediru john	Ass. Lecturer Electrical Lira	0777035669
	Obonyo geoffrey	Police Officer-Lira	0772166905
	Ecaa raphael	Gwokiri boda boda stage	0789215184
	Okello Geoffrey Ogwang	Chairman LCI Anywalozino (V)-Lira	0772957884/ 0752951884
	Okello Tom Joshua Olim	Sen. Accounts Asst- Lira	0772578824
	Asp Kule Jacob	DPC Nakasongola	0778578294
	Kuteesa Justine	Business growth manager-post bank Nakasongola	0776668000 Nakasongola
	Ivan Mwebaze	Credit officer Nakasongola	0783466241
	Oyara Paul	Asst manager credit post bank	0774983415
	Dungu Edward	Credit officer	0787474067
	Babirye Dorothie Evans	Chairperson CUWS	0772596018
	Kaggwa Robert	HPDU MDLG	0772575249
	Sam .O. Akankwasa	DISO Nakasongola	0392841920
	Sekitende Emmanuel	Asst. Engineering officer Nakasongola	0772975006
	Ntege Umar	Town Clerk Nakasongola	0772321266
	Kazibwe .G. William	Mayor Nakasongola T/C	0782810273
	Nakate Sarah	DIO/CTC	0782438396
	Nabwore .J.	Physical. Planner Nakasongola	0792419068
	Col. David Isimbwa	2IC AD DIV COMD UPDF	0782627045/ 0392701531
	Seruyange Robert	HMIS PP	0772990266
	Lugobe Samuel	SCO-Kakage H/C III	0782567213
	Sentongo Geoffrey	Business man	0772461907

#	Name	Position	Contact
	Kusubira Godfrey	Boda boda	0773627045
	Kakembo Wilberforce	Boda boda	0774522698
	Kirabo Mathias	Boda boda	0787684798
	Sekandi Kenneth	Boda boda	0778705359
	Kayise George	Boda boda	0759122633
	Wandira Moses	Boda boda	0774878878
	Tom Sekakoni	Business man	0774543375
	Besigye Jimmy	Business man Business	0772897013
	Maanigamukama R	Town clerk Kiryandongo	0772622918
	Tumusiime Herbet	Physical planner Kiryandongo	0774493974
	Muganyiri Lydia	Senior Accs Asst Kiryandongo	0772868375
	Achola Jackline	Community Devt Officer Kiryandongo	0772246911
	Turyamwijuka Julius	Branch manager Gulu	0782317157
	Alimocan Margret	Pool stenographer Gulu	0785377201
	Mukongezi Evelyn	Physical planner Gulu	0774157328
	Jalwiny Sulimani	Town clerk Kumi MC	0772613634/ 0755613634
	Ainyo Grace	SCDO Kumi	0782815315
	Achom Mary Florence	Commercial Officer Kumi	0784898376
	Ikiring Jessica	PSWO Kumii	0776458282
	Sylvia		0778239152
	Mukobi Asanasio	Magistrate Grade I	0782533089
	Wasswa Harold	Deputy O/C Kumi Government Prisons	0782209118
	Otai Levi	Kumi Government Prison	0782802144
	Kamoga Hamza	District Physical Planner	0703366047
	Wambwa Dewes	C.D.O	0776596498

#	Name	Position	Contact
	Lwebangisa Winfred	Cleaner	0773231079
	Mugabi Allan	Resident	075215237
	Belinda Doreen	Ag. SLO Mukono	0776847004
	Namuyomba Josephine	Sec Dcdo Mukono	0755010492
	Grace Nabukela	C/P District Mukono	0788783503
	Mujuni William	DNRO Mukono	0772414509
	Kalyango Gerald	Boda rider	0774491498
	Muyinda Shaban	Boda rider	0753932998
	Sselyaz Geoffrey	Boda rider	0706686635
	Ssekumba Isaac	Boda rider	0702974877
	S.K Mboga	Boda rider	0758445580
	Ojok Charles	Traffic Officer	0782413341
	Masengere George	Senior Ev't Officer	0772956502
	Namutosi Salama	Ag DPC-Buikwe	0714667824/ 0704711614
	Nalumansi Margret	LCI-Lugazi Police	0782500694
	Walusimbi Andrew	Senior Labour Officer-Jinja	0702616524
	Mugere Aramanzan	Cyclist at Muwumba Health Centre III	0781588362
	Sembera Ivan	Cyclist at Muwumba Health Centre III	0753091063
	Kyega Johnson	Cyclist at Muwumba Health Centre III	0752249707
	Kyangwa Ivan	DCDO	0772687015
	Gabula Habib	Boda	0775306179
	Lubaale Moses	Boda	0753023683
	Bazibu Robert	Boda	0754583689
	Tusubira Moses	Boda	0781436511
	Kazibo Isahaka	Boda	0779804857
	Musoke Nassan	Boda	0785950095

#	Name	Position	Contact
	Tibenda Allan	Boda	0777512161
	Vicky Kakaire	Municipal Environment Officer	0772386304
	Kyalisiima William	Health Inspector Central Division	0782652883
	Nabihamba .E.	Envt office	0776945046
	Buyinza Sula	Population Officer	0703873465
	Ato Willie	DVS Supervisor	0715144080
	Hyuha Joshua	Admin CSCO	0772061201
	Kenneth Atim	Principal Policy Analyst	0776404707
	Sempa Bernard	Physical planner	0701214763
	Balaba Edward	Environment Officer	0772449475
	Mugabi Andrew	PCAO	0774140174
	Najjuma Sarah	District environment officer	0774679653
	Wakabi Deo	ADWO/M	0781454396
	Omulongo Noah	P.M Kigulu Chiefdom	0771626377
	Ahebwa Grace	Iganga Chief Magistrates Court	0706731561
	Bwayo Edwin William	Iganga court	0702122281
	Asp Khirya Hassan	RPC	0753997556
	Sebandeke Herbert	Sen. Asst. Eng. Officer Roads	0757705110
	Mawanda Joseph	System Adm & Comp Tech	0755050683
	Zirabamuzale Christine	Joyce Principal Iganga School of Nursing & Midwifery	0772330494
	Ibrahim Saleh	Computer Instructor	070521773
	Muwanguzi Irene Flavia	Nursing Officer Iganga Hospital	0781567150
	Kiyemba Charles	Office Superintendent	0752635390
	Tugume Ezra	DPC Busia	0754920215
	Odwori Victor	Mail Handler Posta Uganda	0779020221
	Kateeba Godfrey	Town Clerk Busia Municipal Council	0772496926

#	Name	Position	Contact
	Oluka Peter	Physical Planner	0753543555
	Namuddu Latifah	Resident	
	Sarah Akwi	NWSC-Busia	0752426661
	Aoe Mary Everlyne	Dist Eenvt Officer-Tororo	0783810003
	Dr. Obbo Boniface	D.V.O- Tororo	0782628320
	Okaoe Rebecca	RSSA	0783334070
	Aroba Michael	Driver	0701900012
	Igooyi Aduwaba	Records	0794332282
	Emojong Alex	Cleaner	0783314179
	Ongu Pascal	Police officer	0774054466
	Sp Katunda David	DPC Tororo	0782394444
	Dr. Abel Kakuru	Project Manager IDRC Tororo District Hospital	0783545585
	Patrick Tumwebaze	IDRC- Research Lab. Manager	0750555737
	Onyango Jerome	District Labour Officer-Tororo	0772619787 0702619782
	Aketch Anna Patricia	Tororo court	0789754092 0703245592
	Sendagire Meddy	Tororo court	0788777402
	D/ASP Kinyozi .C. Abdallah	For DPC Bukedi	0787530632
	IP Khisa Milton	Regional ICT Officer Bukedi Police	0776999000 0711042014
	Letaru Gloria	Branch Manager NWSC-Tororo	0751120658 0786039771
	Edson Atwine	Station In-charge	0772990761
	Oketcho Jessy Jackson	Post Officer-Tororo	0777828576
	Sheila Apolot	Regional Head IG - Tororo	0772911787
	Onencan Saidi	Ag. Station Manager	0782072041
	Kakute Wilson	Boda Nabidongha C Iganga Town	0782514653

#	Name	Position	Contact
	Isabirye Moses	Boda Nabidongha C Iganga Town	0788490188
	Bangi Rebecca	Boda Nabidongha C Iganga Town	0788893006
	Wasalaine Moses	Boda Nabidongha C Iganga Town	0782977582
	Musenza Ahmed	Boda Nabidongha C Iganga Town	0705629157
	Solomon	Boda Nabidongha C Iganga Town	0704444737
	Buyinza Brian	Boda Nabidongha C Iganga Town	0705229133
	Abalo William	Registration Officer-URSB	0782607013
	Mukisa Eric	State Attorney	0772452140
	Dennis .P. Namalu	Records Officer Ministry of Justice Mbale	0782644931
	Samuel Akampurira	Auditor OAG Mbale	0701833872 0777878410
	Mwine Akim	Auditor OAG Mbale	0772648551
	Namuge Rose	Office Attendant DPP's Office-Mbale	0783674470
	Wataka Moses Wabusa	Office Cleaner-Mbale	0789123665
	Honesty Peterson	Systems Admin High Court Mbale	0702423571 0778535934
	Farouk Mpaeso	Police Officer	0700927340
	Kisambira Nulu	Senior Asst Town Clerk	0701244276
	Kaguga Faridah	IT Officer	0776335600
	Nakibuuka Irene Lydia	Physical planner	0782715545 0700275901
	Joseph Ssekyewa	Officer customs (UKPT)	0785784679
	Akiyo Michael Kasaija	Supervisor Customs Busia (URA)	0776771936
	John Kisitu	UNBS-Busia	0702270420
	Asp Kentaro Annah	OC Customs	0771851022
	Were Wilson	Immigration Officer	0752429300
	Kimmanga Micheal	MAAIF Busia	0782244906
	Nyanzi Davis	IT Officer NIRA-Mbale	0782108867

#	Name	Position	Contact
	Kakaire Mubarak	URA-Station Head Mbale	0717440287
	Makami Betty	Records Asst Mbale	0775273399
	Nyaribi Rhoda	Environment Officer	0772693722
	Masaba Johnson	Asst Engineering Officer	0782588556
	Nakibafu Fred	Physical Planner	0777912155
	Kabol Micheal	Accounts Asst	0784525050
	Orama Wilson	Post Officer	0774578851
	Asp Hadi Serko	OC Traffic Mbale	0772468886
	Steven Masiga	Coordinator Mak. University Mbale Centre	0782231577
	Namubiru Mariam	Magistrate Grade I Busia	0775072696
	Ngolobe Nathan	Boda stage Chief Magistrate court area Busia	0779824403
	Wabwire Bernard	Boda stage Chief Magistrate court area Busia	0786909758
	Makaga Robert	Boda stage Chief Magistrate court area Busia	0789343954
	Justus Bwire Abdul	Boda stage Chief Magistrate court area Busia	0779739950
	Nzimuli Emmanuel	District Physical Planner	0774642447
	Tayebwa James	Weigh Bridge Operator-UNRA	0702955131
	Awor Rhoda Semmy	Ag. In-charge/SNO	0772339520
	Orude Francis	Medical Records Asst	0772776106
	Omongot Alex	Engineering Assistant	0773955955
	Ayub A Kisubi	Town Clerk Bugiri	0702279072
	Mugala Martha	MCDO	0772313362
	Bukenya Jude	D/CAO	0782511427
	Wanyama G.M	DAS	0772832141
	Wafula George	PHRO	0772662961

#	Name	Position	Contact
	Hildah Apolot	NWSC	0751114635
	Ajilong Loyce	NWSC	0778824007
	Akol Vincent	CDO Bukedea	0772301153
	Elimu Emmanuel	DCDO	0772323651
	Stella Atim	Billing and Performance Analyst NWSC	0751111469
	Okotel Patrick	Manager	0782128872
	Ssonko George	Station Manager UNRA-Mbale	0775123216
	Ogwang Humphrey	Branch Supervisor	0772968802
	Kongai Harriet	Receptionist	0782965391
	Nsereko Ronald	RC/AR Bududa	0772389538
	Hasakya Annita	Mbale Reg. Blood bank	0782611554
	Jamada Chebej	Asst. Warden-UWA MENP	0776613553
	Namara Edson Micheal	Staff Surveyor Mbale-DLG	0782505715
	Moanja Baker	SCDO Mbale	0772881836
	Nakayenze Anna	Senior Environment Officer	0772555387
	Bamutura Jolly Robert	DPC/OC Mbale (M) Prison	0718495595 0772670849
	Mutseesa .A.	IT personnel	0700854766
	Emudog moses	Physical Planner Ag. DNRO Bukedea	0782068665
	Okalany .G. Kenneth	Ag. Tax Officer	0783075754
	Osomei Stephen	THI-BTC	0782104517
	Imem Deo	Kumi District Local Government	0779255335
	Aluga Berna	Sec Water	
	Asp Ojok Stephen	DPC Kumi	0782112216
	Nandutu Juliet	Maintenance	0781587710
	Kasada Abdu	Cleaner (Exterior)	0775657926
	Chiwuso Dennis	Boda-boda Mount Elgon Stage	0755795362

#	Name	Position	Contact
	Wokadala Francis	Boda-boda Mount Elgon Stage	0778901641
	Okalang Nimrod	Boda-boda Mount Elgon Stage	0774180709
	Ben Moses Orena	Mt Elgon Hotel	0774724346
	Joshua W	Mt Elgon Hotel	0773407240
	Sebuhinja Richard	Head, Inspectorate of Govt Mbale	0772317932
	Katende Muhamed	Masaba Wing boda boda stage	0773967072
	Kisyankungu Abdallah	Masaba Wing boda boda stage	0788956677
	Mudebo Enos	Masaba Wing boda boda stage	0778695949
	Okuda Mathew Okello	Principal Mbale School of Nursing and Midwifery	0774987212
	Magonzoua Amos	Resident of Bukedea	0771803638
	Osekany Moses	Resident of Bukedea	0787186800
	Amerikiro Caroline	Resident of Bukedea	0774693888
	Otim Moses	Resident of Bukedea	0773031182
	Okwi Julius	Car Driver Speed Three Stage Kumi	0774602265
	Okello Emma	Car Driver Speed Three Stage Kumi	0774696489
	Ibucha Gerald	Bukedea Health Centre Grade IV Boda Stage	0785957232
	Ongodia Patrick	Bukedea Health Centre Grade IV Boda Stage	0786524082
	Elungat Vincent	Bukedea Health Centre Grade IV Boda Stage	
	Alex Okirigi	DCDO Kumi	0782458282
	Samuel Opio	Boda Ongino Stage Kumi	
	Okwir Sam	Boda Ongino Stage Kumi	
	Johntee Anyide	Boda Ongino Stage Kumi	0783971802
	Alex Francis Otelu	Boda Ongino Stage Kumi	0776694056
	Anoku Richard	Taxi park/ stage Kumi	
	Anguria .S	Driver Kumi	0774121242

#	Name	Position	Contact
	Okwalinga Juma	Driver Kumi	0777601409
	Nabulime Sarah	Senior Hospital Administrator- Bugiri	0772389923
	Nabeta Noah	Technician Bugiri Hospital Bugiri	0750824003
	Kirunda Fahad	IT Officer Bugiri	0702974417
	Kauma Benadet	DEO Bugiri	0774142577
	Babirye Jane	SCDO Bugiri	0772660552
	Kengonzi Adrine	Assistant Library Officer Bugiri	0704301804
	Saturday Wilson	Officer Bugiri Hospital Police Post	0783518614
	Yolamu	Bugiri hospital	0784033554
	Kafuko Muhammadu	Bugiri	0754440483
	Balineine Moses	“	0754472794
	Obto Peter	District HQ Boda Stage	0783344006
	Ibra Igoma	District HQ Boda Stage	0786703580
	Gavamukulya Alex	District HQ Boda Stage	0781093513
	Odo Geoffrey	District HQ Boda Stage	0772035127
	Mr. Obulejo	Kibuuli Training School	0714435159
	Joseph Tweheyo .B.	Ag. Water Production Manager	0752919828
	Brian Wabajje	IT Assistant	0752919112
	Paul B R	Building Inspector Makindye Division	0704609204
	Bitamazire Patrick	Head of Stations URA Kampala South	0717440213
	Edward Luande	URA Kampala South	0717442608
	Hellen	Branch Manager NWSC Nakawa	0752919715
	Charlene K	Courts of Judicature SAD Magistrate	0774262340
	Kesi James T	CLO Kabalagala Police	0772988577
	Akello Edith	B. Engineer NWSC Najjanankumbi	0752919686
	D/ASP Sembera Isaac	OC CID Old Kampala Police	0700256867
	D/AIP Kimutwa	OC Economic Department	0752621330

#	Name	Position	Contact
	D/SGT Namukasa	Nakulabye Police Station	0782918879
	ASP Ampurire Kenneth	OC Kawempe	0701086703
	D/CPL Kisule .S.	OC Barracks Kawempe	0713044704
	Allen Kyomugisha	Supervisor Domestic Services URA Bwaise	0706292408
	Penninah Nabireeba	Engineer NWSC Kyengera	0752916787
	Mubangizi Charles	Intelligence Officer Mutundwe Police Station	0701751437
	Mugenyi Shaban	Oc Mutundwe Police Station	0703606936
	Kakembo S	CLO Uganda Police Ntinda	0782811179
	Collins Mwijuki	Ag Exec Secretary National Women's Council Ntinda	0772957534
	Othieno Daniel Kirya	Teacher School of the Deaf	0772980129
	Christine Kajumba	Social Worker MGLSD (Children's Centre Naguru)	0776468486
	Karemani Jamson	Chief Magistrate (Nakawa)	0772443838
	Namukasa Lillian	National Council for Disability Ntinda	0772692348
	Dorothy Nalule	Secretary National Youth Council Ntinda	0782763557
	Kyomugisha Mary	In-charge Naguru Remand (PWO)	0753646151 0772591791
	ASP Azira G	Ggaba Police	0718851212
	Wasswa Denis Katerega	Office Supervisor Mengo Court	0775529164
	Joy Badibye	Head Finance and Planning Dept-LDC	0772405933
	Prossy Mbabazi	E-service Uganda National Health Laboratory Services Old Butabika Rd	0772494618
	Businge .J. Mozey	In-charge Kiswa HC III Bugolobi	0794661124
	Herbert Kato	Electrical Engineer KCCA (Operation) Yard	0794660742

#	Name	Position	Contact
	Esther Nanyonga	Office of the Director of Public Prosecutions (DPP) - Naguru	0790917139
	Apollo Omoding	Branch Manager NWSC Bungga	0752919060
	Martin Wagabaza	Admin NSSF Bakuli	0783629901
	Mugisha Derrick Marvin	Data and Information Clerk NTRL	0783458097
	Raymond Kalyango	Eng. Bugolobi Sewage Treatment Plant	0704982098
	Process Ahabwe	Principal Engineer NWSC	0752919700
	Enid Kyomugisha Balaba	NSSF-Kireka Branch Supervisor	0772482707
	Kisawuzi Eliasa	Registrar Judicial Training Institute	0750862346
	Nabbanja jameo	EO Wakiso	0788346448 0702441732
	Nkurunziza Gragano	OC Wakiso	0701813165 0718851257
	Mambu Saul	NWSC- Wakiso	0752919403
	Tayebwa Michael	OC Nansana	0701509735 0718851381
	Alinda Evelyn	OC Nabweru	0718851386
	Joseph Mulinde	Commercial Officer	0774100359
	ASP Kakaire David	OC Traffic Najjera	0758583848 0782583848
	Namulwanya Grace	Traffic Officer	0776285888
	Asiimwe Dorcus	Prisons	0703617081
	Kiryia Steven	OC Matugga P/S	0701841854
	Nabanoba Robinah	Secretary DPP Kira	0779178501
	Kasasa Denis	Buwambo H/C IV	0772009130
	Kiwanuka Agnes	CDO's Office Entebbe	0783089870 0702089870
	Ocaya C	HRO DWRM	0774110639

#	Name	Position	Contact
	Dr. Patience Rwamigisa	Commissioner MAAIF	0772457842
	Kisakye Catherine	O/S Kira Chief Magistrate's Court	0782822194
	Julius Kato Kavuma	BM-NWSC Matugga	0702212710
	Maliyamungu Jamali	Accountant	0703820067
	Mpoza Esau	SEO Wakiso	0782688709
	Tom Mbanira	BM Nansana Water Office (NWSC) Wakiso	0752919214
	Katwesigye Brenda	Entebbe UPPC- Wakiso	0786177332
	Lwanga .M. Yunia	HM Entebbe S.S Wakiso	0752645693 0772647640
	Kiyingi Timothy	Entebbe S.S Wakiso	0706750950
	Lukwago Rajab	Admin/ Asst Sec UVRI Wakiso	0702511202
	Kambawa Timothy Wamala	Network Admn UVRI Wakiso	
	Muhumuza Celestine	Senior Labour Officer, Wakiso District	0774089323 0700299836
	Ndagire Lillian	SCDO-Nansana Municipality Wakiso	0774024840
	Nugawa Ritah	SDO's Office Wakiso	0779840584
	Ajuna Doreen	Magistrate Wakiso	0772526112
	Asalu Edward	Chief Warden Ruburizi	0772510988
	Charles Lwanga	Parish Chief Ruburizi	0701716167
	Kazoora Brodies Manuireki	Sub County Chairperson Ruburizi	0772865108 0706219185
	Asimwe Annita	Front Desk Asst Ruburizi	0701618663
	Agubanshangora Sylvester	District chairperson Ruburizi	0772412619
	Mugizi Obed	ACAO Ruburizi	0782317811
	C/ASP Odong Tobin	OC Station Rubirizi District Police	0705210153

#	Name	Position	Contact
	Mwesigire Willy	Town Clerk Rubirizi T/C	0753545301 0772545301
	James Obua	Branch Manager NWSC-Kyenjojo	0752929340 0751119525
	Rwampunda Bruce	Senior Admin Kyenjojo Hospital	0702196196 0772556208
	Kabahamya Annet	Court Clerk Kyenjojo	0771444940
	Muhumuza Asuman	Mag-grade one- Kyenjojo	0757044949
	SP Kawalya	DPC Kyenjojo	0772444385
	ASP Ajio Ann		0754573307
	SP Kibande Jonathan	District Prisons	0772926947
	Juliet Akugizibwe	Senior Internal Auditor for Town Clerk	0771472706
	Nyangoma Kezia Julius	SCDO Kyenjojo District	0701693251/ 0772693251
	Musinguzi Jonan	District IT Officer NIRA-Kabarole	0782741899 0750180872
	Kananura Kato Richard	Staff EC	0787255889
	Baluku Calvin	Community Development Officer-KMC	0774115569 0753430554
	Ndliwadda Margaret	Commercial & Customer Care Officer CCO	0703502877
	Tibara Rusia	Agg. Programme Officer-Ngeya FM UBC	0776201472
	Naijuka Charles Duncan	NIRA-EC-Office Kasese District Officer	0774252391
	ASP Kokole Omar	DPC Kasese Municipality	0775080195
	Luswata Tonny	Systems Admin	0774761103
	Opolot John	Area Manager NWSC	0751128839
	Awor Albina	Mubende Municipal Council Town Clerk	0772903133
	Nankabirwa Mary	Mubende Municipal Council Environment Officer	0777474076

#	Name	Position	Contact
	Kazibwe Samuel Paul	CDO Mubende	0772328563
	Kellen Kobusinge	Senior treasurer Kyegegwa	0782565375
	Twine E	Sub County Chief Kyegegwa	0787209696
	Kamazima Shivan	DMO-Kyegegwa	0774368977
	Opira Kenneth	Police Officer Kyegegwa	0772372630
	Nyakabwa Augustine	Probation Officer Kyegegwa	0772395429
	Kibikwamu Robert	Prisons Kyegegwa	0782634724
	Naluwooza Oliver	Sec RDC Kyegegwa	
	Lwamba Joseph	Court supervisor Kyegegwa	0700554600
	Charles Sseku	Area Manager NWSC Mityana	0705444807 0787717148
	Mulongo Jimmy	Shift Overseer NWSC- Mityana	0751128360 0787231258
	Nakawuka Juliet	Deputy Town Clerk Mityana	0772456078
	Akello Tabitha	SNO Kyegegwa HCIV	0783442509
	Mutebi Michael Kabwama	C/Man Division A Entebbe Wakiso	0703601960 / 0778125258
	Tigo Malomu Edrisa	Publicity NRM Entebbe	0753805496
	Alupo Doreen	Post Officer Entebbe Post Office	0704454337
	Sandra Yiga Namatovu	Officer URA – Entebbe DT	0774336611
	Lubwama Gyaviira	Post officer	0782311241
	Kukunda Jancen	Immigration	0784714818
	Akurut Ruth. C	Immigration	0781094537
	Kusemererwa Mary	Pool Stenographer	0782960219
	Nyandera Darlison	NFA Hoima	0781436635
	Brenda Aleesi	RM NSSF Hoima	0701038439
	Lahuma Mustafa	NIRA - Officer	0775714517

#	Name	Position	Contact
	Kajumba Harriet	Regional Office Electoral Commission	0775970091
	SP Odero Martin	Deputy commandant Police Training School Kabalye Masindi	0714667720
	Asp zilamuke Loy	Ag DPC OC Traffic Masindi	0783587683
	Kugonza. B. Christine	N/a	0782990137
	Nyangoma Joseline	DNRO Hoima	0772628153
	Luzumwa Nathan	CAO Hoima	0772868383
	Atulinde Alfred	Deputy RIO Hoima	0782780977
	Angara Ronald	I/C Duties Hoima	0772555748
	Anguso David	O/S Hoima	0774599496
	Kwesiga Khalifan	DITO – NIRA Masindi	0774219785
	Lifua Paul	Relationship Manager Masindi	0777736442
	Isingoma Godfrey	Masindi	0772871568
	Rodney Ngobi	Asst ICT – MZO Masindi	0704783260
	Chaudry Kibirango	ICT	0703319914
	Apio Grace		0782813891
	Baguma Simon	Hospital Admin Masindi	0782225280
	Dr. Balegomya George	Medical superintendent Masindi	0772650582
	Yia ovua Thomas	Academic registrar Masindi	0772383391
	Mr. Natwaruma Henry	Masindi (main)	0782576080
	Albert Musinguzi	Ag Area Manager	0751125763 / 0785134583
	Susan Majugo	URA Station Head Hoima	0717442026
	Bitamale. A. Isaac	SCDO – Hoima DLG	0782166885
	Everce Ramuji	Admin. Assistant NDA	0465440688
	Murusura Albert	Office Assistant	0789846590
	Twesiime Gideon	Regional Representative – NMS Hoima	0702920137

#	Name	Position	Contact
	Opio Pader	OC Hoima Prisons	0702547035
	ASP Kapule. A	D/OC Msk Prisons Masaka	0779071299
	Brenda Mirembe	NSSF Masaka Ag. Business manager	0752502796
	Chris Endreonzi	Senior auditor Masaka OAG	0792346000
	Kobusingye Viola	Systems Administrator Mpigi High Court	0706730690
	Dr. Jubileb John Abwooli	Senior medical officer Mpigi HC IV	0772523054
	Kakaire Godfrey	Senior Clinical Officer Buwama HC III	0772639608
	Namugwanya Irene	Senior Clinical Officer Lukaya High	0782515111
	Naume Kihembo	Accounts Assistant / Inventory NWSC	0702290598
	Mugenyi Joseph	Area Manager NWSC – Masaka	
	Eric Akoki	Senior accountant Nwsc Masaka	0704146935 / 0791239204
	Hillary Anziku Juruni	Deputy Head Inspectorate of Gov't Masaka	0752327935
	Lwanga Francis	Prisons (O/C) Ntungamo	0700732156 / 0773459371
	Okure Samuel	Prisons Ndorwa	0787893613 / 0750059966
	Mwangwa Jones	Director ICT	0782733865
	Asaba Augustine	BGM Post Bank Kabale	0703790567 / 0782723383
	Masiko C	Kalisizo hospital	0702815393
	Nantege Josephine Phionah	For SCDO Kyotera Town Council	0780415241
	Fred Kasigwa	Environment Officer	0784425001
	Dennis Tusiime Rwatoro	Systems Administrator	0773251985
	Musaazi Yusufu	Mail handler Post Office MSD	0702169808 / 0776622001
	Kimera Herbert	Assistant Manager Operations	0774426340 / 0705454200

#	Name	Position	Contact
	John Matovu	SPO Mpigi	0752695545
	Ssewadda Patrick. T	Mpigi	0772595016
	Sserumaga Farouk	E. O. Mpigi	0700396843
	Nakawombe Harriet	E A Mpigi	0782548084 / 0752636913
	Kato Edward	E.O Mpigi	0752937955
	Sarah Nakandi	SAS Buwama	0772355388
	Muwanga G	LC III Chairman Buwama	0782837402
	Rose Nakyejjwe	Deo Masaka	0704556781
	Joseph Tusiime	WSS / TL	0772462267
	Jjuuko Elias	DWO Masaka	0772899754
	Kidega Henry (ASP)	Officer in charge – Ug Prison Ssaza	0705998664 / 0783660069
	Nakawungu Mary	Registration Officer –Nira Masaka	0702290940
	Dr. Freddie Mukasa Kibengo	Acting Station Head MRC – UVRI – Masaka	0772435251 / 0702435251
	Dr. Sylvia Kusemererwa	Scientist MRC / UVRI – Masaka	0782269100
	Kisekka Janat	Vice Masaka DLG	0703151719
	Sewante. M. Kaliphan	PAS – Masaka MLHUD Zonal Office	0772367093
	Sharon Athieno	BM NWSC Kalisizo	0752916902
	Atuhaire Moris	E.A Lyantonde	0774676751
	Muhwezi Stephen	Physical planner Ntungamo MC	0774208686
	Ankuzire Frank	Ag. Municipal Engineer Ntungamo MC	0775871565
	Solomon Kobwemi	Business Manager NSSF	0704249115
	Tumuheise Vicky	Election Assistant EC	0706962597
	Christable Atukunda	Deputy RIO Kabale	0775381030
	Robert Ndumu	Accountant Kabale	0772400258

#	Name	Position	Contact
	ASP Okumu Akerey	OC Station Rakai	0783328054
	Kyeyune Soweed	DCDO	0774168080
	Mwebembezi Levi	Business Growth Manager	0782674031
	Mutamba Mabel	Deputy Returning Officer – EC - Ntungamo	0782679931
	Mugizi Glory	District IT Officer NIRA – Ntungamo	0782617790
	Ahimbisibwe Alfred	Environment Officer Kabale MC	0772328451
	Bosco Bainamazima	Bank of Uganda - Kabale	0702475095
	Byarugaba Louis	Rushoroza HC IV	0705725617
	Twongho Moses	Mbarara Prison	0750737010
	Alihi Peter SAP O/C	Mbarara Prison	0782504808
	Atukwatse Sarah	DDA – Mbarara	0705971446
	Byamukama. P. K	DDA – Mbarara	0700272078
	Byamunyo Andrew	DMO Mbarara	0772479318
	Okola Isaac	District Environment Officer Dokolo	256783440481
	Mutagambwa Drake	Ast. Officer in charge Nakasongola prison	0787991956 / 0700373141
	Mwesige Peter	Branch Manager NWSC	0780210522
	Nakiirya Esther	NWSC – Nakasongola	0784485393
	Gateete Teopista	DNRO / Luwero	0772605165
	Kayonga Scovia	Env't Officer / Luwero	0772020686
	Floza Kobusingye	NWSC – Luweero	0751130152
	Pontius Byamgaba	Director (MUBS)	0772333169
	Besigye Sylvester	Guild president (MUBS)	0785656360
	Kayumbu William	District Community Dev't Officer (DCDO)	0701949233
	Namuyimba Patricia	Centre admin UMI – Mbarara	0772315912

#	Name	Position	Contact
	Niwagaba David S	Senior Environment Officer Mbarara DLG	0775191747
	Daniel Serunjogi	Deputy Regional Inspectorate Officer	0702022331
	Nalukwago Sarah. Z	Electoral Assistant Mbarara	0780123612
	Nkwasiibwe Brian	Enrolment Officer Mbarara NIRA	0703621672
	Osede Patrick	Supervisor Mbarara region	0783967901 / 0751419402
	Kisakye Lydia	Mail Runner Wobulenzi	0778447684
	Mugarura Ronald	DPC Mpigi	0701924201 / 0714667810
	Ivan Aheebwa	Post Officer Mpigi	0773143568
	Lucy Frances Amuten	CAO Mpigi	0772617898
	Kasango john	OC Station	0700818778 / 0718509611
	Tumusiime Dinah	Physical Planner Buwama	0702853043
	Max Ssempeera	COR NWSC Kabale	0704569774 / 0751118714
	Twinomuhangi George	NARO Mbarara CHR/AO	0702682835 / 0712682835
	Atkia Mike Angura	Auditor	0782499464
	Musingwire Jeconious	DNRO / NEMA Mbarara	0772482352
	Tuhame Cyric		0772669383
	Mugisha. P. K	Sen. Acc. Asst	0703022999
	Okurut Faustino	OC CID Uganda Police Dokolo	0718015644 / 0772883104
	Ojom Donny	Tech. Sup NWSC Dokolo	0782742900
	Odwee Jasper	Plumber NWSC Dokolo	0789856648
	Akello Judith	Police Officer OC Station	0787016644

#	Name	Position	Contact
	Emou Patrick	I/C CID OtubOi Police Station Kaberamaido	0702309243
	C/ASP Kanabahita Emmanuel	OC Nsambya Central Police Station	0774301117
	Mika Baroch	Labour Officer KCCA Makindye Division	0794661264 / 0782620120
	Godfrey Oluka	Environment Officer – KCCA Rubaga Division	0782735365
	ASP Obotol Patrick	Bosco O/C Station Kawaala	0713117985
	Asiimwe Abel	Town Clerk	0794661245
	ZaIna Musoke	Branch Manager, NWSC - Bwaise	0752979450
	Oyet Julius	OHSO / HR	0772301707
	Chandiru Grace	OC CID Busega Market Police Station	0703562918
	Kibiro Zakalia	O/C Lungujja Police Station	0782536277
	Margret Odongo	UNRA, Hr Admin Training	0774137110

Appendix 9: TORs approval



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

NEMA/4.5

7th December, 2017

Mr. James Saaka
The Executive Officer,
NITA-UGANDA,
Palm Courts,
Plot 7A, Lugogo Bypass,
P.O BOX 33151,
KAMPALA-UGANDA.

NEMA House
Plot 17,19 & 21, Jinja Road.
P.O.Box 22255, Kampala, UGANDA.

Tel: 256-414- 251064, 251065, 251068
342758, 342759, 342717

Fax: 256-414-257521 / 232680

E-mail: info@nemaug.org

Website: www.nemaug.org

RE: REVIEW OF THE SCOPING REPORT AND TERMS OF REFERENCE FOR UNDERTAKING ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED EXTENSION OF THE GOVERNMENT NETWORK (LAST MILE) TO MINISTRIES, DEPARTMENTS AND AGENCIES (MDAs), LOCAL GOVERNMENTS (LGs) AND OTHER TARGET USER GROUPS (TUGs).

This is in reference to the Terms of Reference (TOR) for carrying out the Environmental Impact Assessment (EIA) for the above mentioned proposed project, which you submitted to this Authority, on 21st November, 2017, for review and approval. This Authority has finalized the review and grants formal **APPROVAL** of the said Scoping Report and TORs.

In addition, you are advised to consider the aspects below during the conduct of the environmental impact study and the preparation of the EIA report.

- (i). Carry out comprehensive consultations with all the relevant key stakeholders including the Uganda Communication Commission, District Local Governments, Occupational Safety and Health Department (Ministry of Gender, Labour and Social Development), the Uganda National Roads Authority (UNRA), the local community in the project area; and the views of the stakeholders consulted should be well documented and appended to the EIA report.
- (ii). Ensure that a detailed description of project components and activities covering both the construction and operational phases of the project are provided, including the size of the workforce. The description should also include **details on the respective mode of installation of the fiber cables**. This will help in the assessment of impacts of the project.

A handwritten signature in blue ink, appearing to be 'SAKA', is located at the bottom right of the page.

- (iii). Provide detailed baseline information and data on the project area, as well as, a set of coloured photographs depicting the current status of the project site.
- (i). Provide clear and well labeled location and google maps that are coloured (preferably *each covering A-4 size paper*) that shows clear boundaries of the project site in relation to its environs.
- (ii). Conduct a geo-technical investigation study for the project site; and, append the results of the geo-technical investigation to the EIA report.
- (iii). Provide a clear and legible copy of the site lay-out plan (*preferably on A-3 sized paper*). **This should include the estimated distance covered by the optical cable in each of the districts.**
- (iv). Carry out a comprehensive evaluation of negative environmental impacts associated with the proposed project activities; and, propose mitigation measures to minimize the identified negative impacts.
- (v). Provide detailed mitigation and environmental management and monitoring plans that relate to the identified environmental impacts of the proposed project.
- (vi). Append to the EIA report authentic copies of land ownership and acquisition documents. In this **case consent from Uganda National Roads Authority for the use of the road reserves.**
- (vii). Consider any other critical environmental concerns that were not initially foreseen during the preparation of the Scoping Report and TOR, and include an evaluation of such concerns, in the EIA report.
- (viii). Include the total project (investment) cost, covering all aspects of the project components.

This is, therefore, to recommend that you proceed with carrying out the EIA for the above project. We look forward to your cooperation and receipt of comprehensive copies of EIA, for our further action.

Please note that the approval of the Scoping Report and TORs DOES NOT give you permission to start implementing any of the proposed project activities. This is not a Certificate of approval.

Aidan J. Asekenye
FOR: EXECUTIVE DIRECTOR

Appendix 10: Resolution of Parliament to Borrow Funds for the Project from International Development Association



PARLIAMENT OF UGANDA OFFICE OF THE CLERK TO PARLIAMENT

Parliament House, P.O. Box 7178, Kampala Uganda.
Telephone: 0414-377000/377150/377152 Facsimile: 0414-346826 E-mail: clerk@parliament.go.ug
Plot Nos. 16 - 18 Parliament Avenue.

In any correspondence **AB: 263/493/01**
this subject please quote No. _____

26th November 2015.

Hon. Minister of Finance,
Planning and Economic Development
KAMPALA

RESOLUTION OF PARLIAMENT

Please find attached herewith a Resolution of Parliament Authorizing Government to borrow up to SDR 54,400,000 (Special Drawing Rights Fifty Four Million Four Hundred Thousand) from the International Development Association (IDA) to support the Regional Communications Infrastructure Program (RCIP) Phase V.

This Resolution was passed on 25th November 2015.


Jane L. Kibirige (Mrs.)
CLERK TO PARLIAMENT

- c.c. Rt. Hon. Speaker of Parliament
- c.c. Rt. Hon. Deputy Speaker of Parliament
- c.c. Rt. Hon. Prime Minister/Leader of Government Business
- c.c. The Leader of the Opposition in Parliament
- c.c. The Government Chief Whip
- c.c. The Chief Opposition Whip
- c.c. Hon. Minister of Information, Communication and Technology
- c.c. Permanent Secretary, Ministry of Information, Communication and Technology



THE REPUBLIC OF UGANDA

RESOLUTION OF PARLIAMENT

TO AUTHORISE GOVERNMENT TO BORROW UP TO SDR 54.4 MILLION (US \$75.0 MILLION) FROM THE INTERNATIONAL DEVELOPMENT ASSOCIATION (IDA) TO SUPPORT THE REGIONAL COMMUNICATIONS INFRASTRUCTURE PROGRAM (RCIP) PHASE V

WHEREAS a Financing Agreement for Special Drawing Rights Fifty Four Million Four Hundred Thousand (SDR 54,400,000), is to be concluded between the International Development Association (IDA) of the World Bank Group, and the Government of the Republic of Uganda, for purposes of financing the Regional Communications Infrastructure Program (RCIP) Phase V.

AND WHEREAS under Article 159 (1) of the Constitution of the Republic of Uganda, Government is authorised to borrow money from any source, subject to other constitutional provisions.

AND WHEREAS under Article 159 (2) of the said Constitution, borrowing by Government has to be authorised by or under an Act of Parliament.

AND WHEREAS in line with the above stated Constitutional requirements, Government has laid before Parliament the terms and conditions of the stated loans/facilities for their approval and authorization;

NOW THEREFORE, be it resolved by Parliament that the Government is hereby authorised to secure the said financing of SDR 54,400,000 from the International Development Bank (IDA) of the World Bank Group for the purposes and upon the terms and conditions therein stated.

I certify that this resolution was passed by Parliament on **25th** Day of **November** 2015.

Jane L. Kibirige (Mrs.)
CLERK TO PARLIAMENT

CLERK TO PARLIAMENT





Appendix 11: General Site Descriptions - Project Area Photographic and Noise Presentations





The information provides guidance for future expansions within the districts to other beneficiaries. To ease monitoring efforts, noise levels for various sites were recorded during the assessment. The project implementation team shall mainly carry out manual works with limited motorized drilling for excavations under tarmac routes. Project teams shall be inducted on noise and related impacts with clear description of areas where this could be of high significance like at Health Centre facilities and offices. Given the manual nature of most of the works, no license to emit noise beyond permissible levels shall be required during project implementation. Sound machine maintenance shall be carried out for the borrowing machinery to reduce on project related noise emissions. Details on GPS coordinates, photographic registers and noise measurements that provide general guidance during project implementation are subsequently provided.

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Jinja 3/11/2017	Jinja LG Head quarters	N 00 ⁰ 25.238, E 033 ⁰ 12.304	54.9	Conversations, vehicles and motorbikes, birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	HQ-municipal	N 00 ⁰ 25.317, E 033 ⁰ 12.430	59.1	Conversations, vehicles and motorbikes, birds and wind
	DRS-Disaster Recover Site	N 00 ⁰ 25.182, E 033 ⁰ 12.422		
	To civil service college	N 00 ⁰ 25.106, E 033 ⁰ 12.655	44.8	Conversations, vehicles and motorbikes, birds, wind and machinery (used in ongoing heavy equipment usage training)
	Civil Service College	N 00 ⁰ 25.182, E 033 ⁰ 12.422	51.8	Machinery during training sessions, vehicles and motorbikes conversations and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>There was already a line by the main road from which connections shall be tapped. Most areas of interest are along Busoga Avenue to Kyagwe Road. The area visited mainly had a health centre, banking facilities, two boda-boda stages, hotels, residential area and a kiosk. With project expansion in plan, these shall however be moved to other MDAs within Jinja that have busier traffic. The ESIA looked at the aspect of traffic in detail and the controls shall be applied in these areas. Many exotic ornamental plants at the civil service college. The stretch between the DRS and the civil service college shall necessitate a new connection. Consideration should be made on aspects of the host environment or look at utilizing the newly installed lines by MTN. Excavations to be made from the existing line from the Main DLG Headquarters connecting to the Disaster Recovery Centre. The Civil Service College shall be connected from the Disaster Recovery Centre from GPS points N 000 25.106, E 330 12.655. There was an OFC connection for MTN near the facility. Utilizing this could reduce on NITA-U foot print in the area. Below is a pictorial register for a few selected points in this area:</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Photo taken from Muwumba HCIII directly facing the DLGHQs. Source: ESIA field photo</p>			 <p>Inside the Muwumba HCIII and the DCDO offices compound Source: ESIA field photo</p>
	 <p>Jinja DLGHQs. Source: ESIA field photo</p>			





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Route to Jinja Municipal Council. <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Data Recovery Centre. <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Team scouting route to the Civil Service College. <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Civil Service College-Notice the paved grounds. <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Iganga 31/10/2017	Iganga Municipal Council	N 00 ⁰ 36.498, E 033 ⁰ 28.754	54.42	Vehicles and motorbikes, birds, music and conversations
	Production & natural Resource departments.	N 00 ⁰ 36.440, E 033 ⁰ 28.834	53.4	Vehicles and motorbikes and conversations
	Busoga Kingdom/ Works Offices	N 00 ⁰ 35.344, E 033 ⁰ 88.935	51.2	Vehicles and motorbikes and birds
	Chief Magistrate's Office area	N 00 ⁰ 36.271, E 033 ⁰ 28.966	55.5	Vehicles and motorbikes, conversation, music (along Kazibwe road) and birds
	Busoga University	N 00 ⁰ 35.441, E 033 ⁰ 27.645	34.9	Birds and periodic vehicles and motorbikes movements
	Iganga School of Nursing and Midwifery	N 00 ⁰ 35.523, E 033 ⁰ 27.260	48.3	Birds and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Iganga Hospital	N 00 ⁰ 36.997, E 33 ⁰ 29.086	63.8	Birds, vehicles and motorbikes and conversations

Some areas like the Iganga Municipal Council have other ground cable le ESIA team as per marker posts. The area also has septic lines that shall need to be taken into consideration for any excavations around. There also a number of businesses that in the project area like kiosks, microfinance institutions, road vendors among others. Roads to be potentially impacted include Saza road, Kazibwe road, access route to Nawansinge Village from CMS, Tororo road among others. Provision for routing inside that may need to be avoided during excavation works. The project may have to provide for routing inside the shared compound as opposed to continuing with the road reserve after supplying the Works offices. Site shall be accessed at the branch off from CMS to Iganga Girls School. Road reserves also serve as gardens with the land belong to both institutions and individuals. Project teams should ensure that local leadership and plants owners are informed about the activities prior to execution.

A number of sites are remotely situated call for consideration of resident cultures. A number of sites also lacked road reserves or had roadside gardens. Site along Tororo Road is a busy area with continuous traffic. Road reserve section towards the hospital has a number of roadside vendors that shall need prior communication.





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 <p>Chief Magistrate's Court Iganga</p>
				 <p>Uganda Police offices</p>



Works office area, notice the garden within the compound

Kiosks along Kazibwe road bordering the Chief Magistrate's court

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Busoga Kingdom - Kigulu Chiefdom office <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Environment Officer's Office area <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Current road reserve condition on routes from the Iganga Municipal Council to the works, Police and Chief Magistrate's court area <i>Source: Last Mile ESIA Field Photos 2017</i></p>			

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Iganga Municipal Council Head Office <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Road reserve section outside the Iganga Municipal Council Head Office <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Equipment parked awaiting servicing/ repair <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>A collapsed cable route marker at Iganga Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Iganga Hospital Area <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Kiosks outside Iganga Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Iganga School of Midwifery</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 Busoga University Office Block <i>Source: Last Mile ESIA Field Photos 2017</i>
Bugiri 1/11/2017	Bugiri Hospital	N 00 ⁰ 34.385, E 033 ⁰ 44.581	46.5	Conversations and vehicles and motorbikes
	DLG HQs	N 00 ⁰ 33.130, E 033 ⁰ 45.050	41.2	Conversations and birds
	Works Block	N 00 ⁰ 34.381, E 033 ⁰ 44.582	44.1	Conversations and birds
	Bugiri District Library	N 00 ⁰ 34.399, E 033 ⁰ 44.682	60.6	Conversation, vehicles and motorbikes and music from the neighborhood and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Municipal	N 00 ⁰ 33.891, E 033 ⁰ 45.287	62.9	Conversation, vehicles and motorbikes and music from the neighborhood and birds



Facilities in the area have a number of economic activities going on especially near the Town Centre. The hospital neighbors Ayeera pharmaceuticals 'U' ltd, number of kiosks and a boda boda stage outside the gate. There is also a rain gauge or weather station and a number of trees in the hospital compound, these areas should be avoided during excavation works. At the district offices, there are halls, meeting places and a boda-boda stage. It is also in the same locality with the prisons and police. Excavations should be backfilled immediately and noise pollution minimized. Some points like the Municipal and the Library should be easy to connect given their proximity to the main road and no permanent structures in front of them. Below is a pictorial register for some of the facilities in Bugiri.



Bugiri District Public Library
 Source: Last Mile ESIA Field Photos 2017





Bugiri District LGHQs
 Source: Last Mile ESIA Field Photos 2017





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 Bugiri Municipal Council Offices <i>Source: Last Mile ESIA Field Photos 2017</i>
Busia 1/11/2017	One stop centre	N 00 27.937, E 034 05.901	56.7	Trucks, conversation and birds
	Chief Magistrates Office	N 00 ⁰ 27.822, E 034 04.842	39.4	Vehicles and motorbikes, conversation and birds
	Busia DLGHQ	N 000 27.709, E 0340 04.817	45.5	Vehicles and motorbikes, conversation and birds
	Municipal Council and NWSC	N 00 ⁰ 27.876, E 034 ⁰ 05.138	56.3	Vehicles and motorbikes, conversations and music
	Police	N 00 ⁰ 27.967, E 034 ⁰ 05.310	54.6	Vehicles and motorbikes, conversations and music



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	UNRA-weigh Bridge	N 00 ⁰ 31.464, E 033 ⁰ 57.987	63.1	Vehicles and motorbikes, conversations and birds

Project implementation teams shall need to consider traffic flows in the area. Aspects of road integrity should be provided for prior to excavation works given the number of heavy trucks that utilize this point and businesses in the area. Some of the access routes are not UNRA roads and therefore care should be taken during project implementation, a number of gardens and shops are present along these areas.

Some of the offices like the Municipal and NWSC offices are located along roads like Adongole road that have limited space for pedestrians. A couple of school going children were seen moving along such routes while a number of buildings and businesses are close to the road. Residents and local leaders should be informed and guidance sought prior to excavation works here and in all project areas with similar attributes. Traffic management shall be given utmost attention throughout the project areas. Main roads also have a number of stopping points for taxis and boda boda stages. Below is a pictorial register for some of the areas.





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Chief Magistrate's Office Busia <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Access route to Chief Magistrate's Office Busia. Notice the gardens along the road reserves <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Busia District LG Administrative Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Entrance to Busia NWSC and Busia Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>School children walking past Busia Municipal Council <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Typical example of potential access routes to the Municipal and NWSC offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Busia One Stop Centre <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 Busia Police location at the right hand of the junction <i>Source: Last Mile ESIA Field Photos 2017</i>
Tororo 1/11/2017	District LGHQs	N 00 ⁰ 41.290, E 034 ⁰ 11.324	47.8	Conversations and birds
	DEO/RDC area	N 00 ⁰ 41.291, E 034 ⁰ 11.424	49.0	Conversations, vehicles, motorbikes and birds
	Chief Magistrate	N 00 ⁰ 41.315, E 034 ⁰ 11.374	48.3	Conversations, vehicles, motorbikes and birds
	State Attorney	N 00 ⁰ 41.369, E 034 ⁰ 11.339	49.5	Conversations, vehicles, motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Tororo Police	N 00 ⁰ 41.389, E 034 ⁰ 11.341	50.3	Conversations, vehicles, motorbikes and birds
	RPC	N 00 ⁰ 41. 367, E 034 ⁰ 11.202	53.6	Conversations, vehicles, motorbikes and birds
	Veterinary office	N 000 41.379, E 0340 11.251	51.1	Conversations, vehicles, motorbikes and birds
	UNRA	N 00 ⁰ 41.416, E 034 ⁰ 11.277	52.6	Conversations, vehicles, motorbikes and birds
	Tororo Hospital	N 00 ⁰ 41.648, E 034 ⁰ 11.177	44.7	Conversations, vehicles, motorbikes and birds
	IGG-Busia	N 00 ⁰ 41.737, E 034 ⁰ 11.153	40.7	Conversations, vehicles, motorbikes and birds
	NWSC	N 00 ⁰ 41.416, E 034 ⁰ 11.277	52.4	Conversations, vehicles, motorbikes and birds

The District LGHQs offices in are located in the same locality with the DEO, RDC offices. Other offices in Tororo are also located along the same road networks especially Uhuru Drive which makes connection easy. However, offices like the IGG and facilities like Tororo Hospital are located further off this road. The Inspectorate of Government Offices are located in a residential area that seemed not to have known road reserves. Connection to this area shall need more attention and involvement of local leadership and other relevant government agencies. Below is a pictorial register for some of the sites.

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Tororo Hospital Source: Last Mile ESIA Field Photos 2017</p>			
	 <p>Resident State Attorney Offices Tororo Source: Last Mile ESIA Field Photos 2017</p>			




District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Tororo Central Police Station <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Inspectorate of Government Tororo Regional Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>The Uhuru Drive Road along which most of the offices are located. <i>Source: Last Mile ESIA Field Photos 2017</i></p>			

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Mbale 2/11/2017	DPP Office	N 01 ⁰ 03.856, E 034 ⁰ 12.099	40.4	Vehicles and motorbikes conversations and birds
	UWA-Mbale Mt Elgon National Park (MENP) Offices	N 01 ⁰ 04.033, E 034 ⁰ 11.585	53.4	Vehicles and motorbikes conversations and birds
	Inspectorate of Government	N 01 ⁰ 03.977, E 034 ⁰ 11.498	45.7	Vehicles and motorbikes conversations and birds
	High court Mbale	N 01 ⁰ 04.208, E 034 ⁰ 11.058	52.4	Vehicles and motorbikes, conversations and music
	NIRA	N 01 ⁰ 04.229, E 034 ⁰ 11.014	58.7	Vehicles and motorbikes, conversations and music
	Mbale Municipal	N 01 ⁰ 04252, N 034 ⁰ 10.983	50.6	Vehicles and motorbikes, conversations and music
	Mbale CPS	N 01 ⁰ 04.340, E 034 ⁰ 10.820	58.4	Vehicles and motorbikes, conversations and music





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Mbale Regional Referral Hospital	N 010 04.565, E 0340 10.596	58.3	Vehicles and motorbikes, conversations and music
	Mbale School of Nursing and Midwifery	N 01 ⁰ 04 747, E 034 ⁰ 10.392	44.9	Vehicles and motorbikes, conversations and birds
	Uganda prisons	N 01 ⁰ 04.333, E 034 ⁰ 09.473	39.3	Vehicles and motorbikes, conversations and birds
	E.C Mbale	N 01 ⁰ 04.417, E 034 ⁰ 10.209	43.6	Vehicles and motorbikes, conversations and music
	District administration	N 01 ⁰ 04.152, E 034 ⁰ 10.183	54.7	Vehicles and motorbikes, conversations and birds
	NWSC	N 01 ⁰ 04.37, E 034 ⁰ 10.793	50.8	Vehicles and motorbikes, conversations and birds
	MWE	N 010 04.114, E 0340 10.813	51.6	Vehicles and motorbikes, conversations and birds
	UNRA	N 01 ⁰ 04.180, E 034 ⁰ 10.841	58.3	Vehicles and motorbikes, conversations birds and music





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NSSF	N 01 ⁰ 04.243, E 034 ⁰ 10.915	51.8	Vehicles and motorbikes, conversations, birds and music
	UNBS	N 01 ⁰ 04.290, E 034 ⁰ 10.819	58.5	Vehicles and motorbikes, conversations and music
	BOU	N 01 ⁰ 04.23, E 034 ⁰ 10.785	61.4	Vehicles and motorbikes, conversations and music



The DPP's office is located at the furthest South west point amongst the offices to be connected along Bunghoko road. Excavations shall be carried out on the right hand side of the road as connections are made to various points including the IG's office, UWA Mbale (MENP office) which will be excavated on the right hand side as one heads to Mbale Town. This line shall stretch past Republic Street up to the School of Midwifery and on Palliisa Road. A number of branch-off excavations shall be carried out to cover BOU, UNRA, NWSC, Mbale Hospital, Mbale Municipal Council among others. Utilization of none-surface destructive approaches shall be vital if excavations are to be carried out due to the newly completed road networks in the district. A number of businesses are located along this road with shops, offices and boda boda stages. One major hotel (Mt Elgon Hotel) is also located along this stretch.



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>DPP Mbale offices. One of the furthest point to be connected <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Route to republic street <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Mt Elgon Hotel will potentially be disturbed. Trees to be avoided and timely backfilling carried out <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>UWA-Mbale offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Office of the inspectorate of Government <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>T- Junction that shall lead to URSB and Mbale High court <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Mbale NIRA offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Mbale Municipal Council view along Republic Street. <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Mbale Municipal Council Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Section of republic street with Police, MAK branch, Posta Uganda among others <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Turn-off Republic Street AT Uganda Police Mbale to BOU <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Mbale Regional Referral Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Mbale School of Nursing and Midwifery <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Inside Mbale School of Nursing and Midwifery <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Mbale NSSF Offices after turnoff from Republic street <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Route from NSSF to UNRA, MWE and NWSC</p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Mbale District Administration Office Block <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>BOU Mbale Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>
Bukedea 2/11/2017	DCDO's office	N 01 ⁰ 20.722 E 034 ⁰ 03.146	46.0	Conversations and birds
<p>Most of the offices are located in the same area branching off from GPS point N 01⁰ 20.418, E 034⁰ 03.110 at the main road junction. A pictorial register of the area is subsequently provided.</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Signposts to the area that houses all Bukedea District offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>One of the District blocks <i>Source: Last Mile ESIA Field Photos 2017</i></p>
Kumi 3/11/2017	Kumi District Administration Block	N 01 ⁰ 29.352, E 033 ⁰ 56.322	43.0	Conversations, distant vehicles and motorbikes and birds
	Municipal	N 01 ⁰ 29.258, E 033 ⁰ 56.312	44.6	Conversations, vehicles, motorbikes and birds
	Kumi Health Centre Grade IV	N 01 ⁰ 29.287, E 033 ⁰ 56.156	53.3	Conversations, vehicles, motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Police	N 01 ⁰ 29.261, E 033 ⁰ 56.080	58.3	Conversations, vehicles, motorbikes and birds
	NWSC	N 01 ⁰ 29.046, E 033 ⁰ 56.005	45.0	Conversations, vehicles, motorbikes and birds
	EC-Kumi	N 01 ⁰ 29.531, E 033 ⁰ 5. 472	48.1	Conversations, vehicles, motorbikes and birds
	Works	N 01 ⁰ 29.500, E 033 ⁰ 56.226	38.1	Conversations, vehicles, motorbikes and birds

Kumi District Administration Block area has a number of offices within its locality along Soroti road. At the junction accessing Kumi HCIV, there is a Kumi-Mbale taxi stage GPS coordinates N 01⁰ 29.334, E 033⁰ 56.210 that could be impacted by the project and a special hire stage a few meters away. This route shall provide connections to Kumi police, NWSC and the HCIV. A pictorial register for some of the sites in Kumi is subsequently provided.

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Kumi District Administration Block <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Kumi Municipal Council Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>The Kumi-Soroti Highway <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Branch off from the Kumi- Soroti Highway to Kumi HC IV <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 General outlook along access route to the Water office <i>Source: Last Mile ESIA Field Photos 2017</i>
Kiryandongo 7/11/2017	Electoral commission	N 01 ⁰ 52.523, E 032 ⁰ 03.651	51.2	Conversations, vehicles, motorbikes and birds
	Sub county Head quarter	N 01 ⁰ 46.197, E 032 ⁰ 06.886	42.2	Conversations, vehicles, motorbikes and birds
	State Attorney & Courts of Judicature along Gulu highway	N 01 ⁰ 52.652, E 032 ⁰ 03.709	56.3	Conversations, vehicles, motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Central Police Station	N 01 ⁰ 52.697, E 032 ⁰ 03.762	56.0	Conversations, vehicles, motorbikes and birds
	LGDHQs	N 010 52.678, E 0320 03.832	53.4	Conversations, vehicles, motorbikes and birds
	Kiryandongo General Hospital	N 01 ⁰ 52.717, E 032 ⁰ 03.739	60.4	Conversations, vehicles, motorbikes and birds
	Town Council & Resource Centre	N 01 ⁰ 53.121, E 032 ⁰ 03.747	40.7	Conversations, vehicles, motorbikes and birds
	Kiryandongo Technical Institute	N 01 ⁰ 52.863, E 032 ⁰ 03.913	58.2	Conversations, vehicles, motorbikes and birds
18/05/2018	Uganda Petroleum Institute Kigumba (UPIK)	N 01 ⁰ 48.588, E 031 ⁰ 58.373	41.9	Conversations, vehicles and motorbikes

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Uganda Cooperative College Kigumba	N 01 ⁰ 48.494, E 031 ⁰ 58.285	39.2	Conversations, vehicles and motorbikes

Most of the sites are located along Gulu road/ highway apart from the new municipal offices and the Sub County offices that are a distance. Sections of interest include the Silver wetland along the route to the Sub County Head Quarters which shall necessitate special attention during project implementation. Options of utilizing existing infrastructure if available could be of benefit to this area and areas with similar attributes in the project. Institutes like UPIK utilize iWAY Africa services for internet, NITA-U should look at the migration from third party service providers and ensure smooth transition for such institutes.



current office of the District Registrar
Source: Last Mile ESIA Field Photos 2017



Silver wetland, route to the Sub County Head Quarters
Source: Last Mile ESIA Field Photos 2017


District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Sub County Head Quarters <i>Source: Last Mile ESIA Field Photos 2017</i></p>			
	 <p>Gulu Road along which most offices are located <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Kiryandongo General Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>
Gulu 8/11/2017	Gulu UHRC	N 01 ⁰ 52.867, E 033 ⁰ 03.908	45.4	Conversations, vehicles, motorbikes and birds





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Gulu hospital	N 02 ⁰ 46.591, E 032 ⁰ 17.939	58.6	Conversations, vehicles and motorbikes, music and birds
	Inspectorate of Gov't Gulu Regional Offices	N 02 ⁰ 46.176, E 032 ⁰ 18.609	47.6	Conversations, vehicles and motorbikes, and birds
	NFA-Gulu	N 02 ⁰ 46.382, E 032 ⁰ 18.276	40.5	Conversations, vehicles and motorbikes, and birds
	NWSC Gulu	N 02 ⁰ 46.430, E 032 ⁰ 17.853	60.2	Conversations, vehicles and motorbikes and music
	Posta Uganda	N 02 ⁰ 46.618, E 032 ⁰ 17.829	60.9	Conversations, vehicles and motorbikes and music
	Uganda Police Gulu	N 02 ⁰ 46.624, E 032 ⁰ 17.860	54.0	Conversations, vehicles and motorbikes and music
	Gulu General Referral Hospital	N 02 ⁰ 46.643, E 032 ⁰ 17.88	48.4	Conversations, vehicles and motorbikes and music





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Uganda Police Regional Quarters Resident State Attorney Gulu	N 02 ⁰ 46.724, E 032 ⁰ 17.818	56.0	Conversations, vehicles and motorbikes and music
	Electoral commission	N 02 ⁰ 46.799, E032 ⁰ 17.874	50.6	Conversations, vehicles and motorbikes and birds
	Prime Minister's Office	N 02 ⁰ 46.868, E 032 ⁰ 17.956	40.0	Conversations, vehicles and motorbikes and birds
	Ministry of Internal Affairs. Directorate of Citizenship & Immigration Control	N 02 ⁰ 46.911, E 032 ⁰ 17.956	45.0	Conversations, vehicles and motorbikes and birds

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Gulu Regional Blood Bank	N 02 ⁰ 46.828, E 032 ⁰ 17.781	54.8	Conversations, vehicles and motorbikes and birds
	RDC NIRA & DISO	N 02 ⁰ 46.790, E 032 ⁰ 17.780	47.2	Conversations, vehicles and motorbikes and birds
	Gulu Municipal council	N 02 ⁰ 46.748, E 032 ⁰ 17.741	54.1	Conversations, vehicles and motorbikes and birds
	Gulu District Head Quarters	N 02 ⁰ 46.644, E 032 ⁰ 17.784	57.8	Conversations, vehicles and motorbikes and birds
	BOU	N 020 46.623, E 0320 17.739	53.7	Conversations, vehicles and motorbikes and birds
	Regional Prisons Commander	N 02 ⁰ 46.618, E 032 ⁰ 17.740	53.6	Conversations, vehicles and motorbikes and birds



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>The Gulu UHRC commission is planning to shift to a new location next to Gulu Hospital (Gulu LGHQs former cemetery) which calls for temporary planning if these are to be connected and permanent connections to their new home.</p> <p>At the time of the ESIA, there were signs of recent excavations (Gulu Mathew Lukwiya Wards side) under another government project. With many established businesses in the area, project execution teams shall need to ensure that appropriate communication and coordination is carried out with all relevant stakeholders prior to excavation (whether poles or trenching). A number of offices like the Uganda Police Regional Head Quarters, Resident State Attorney, Uganda Blood Transfusion, NIRA, RDC's office among others are within the same locality, an aspect that shall ease connections. Lines within town shall have to consider road side activities like markets and vendors so as to limit business interruptions. Most activities shall take place along Upper Churchill Drive, Elizabeth Road, Lower Churchill road and Airfield road. A pictorial register for some of the sites is subsequently presented.</p>				





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Inspectorate of Government Offices Gulu <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>NFA Gulu, trees to be avoided <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>General outlook of some of the streets in Gulu Town <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>General outlook of some of the streets in Gulu Town <i>Source: Last Mile ESIA Field Photos 2017</i></p>





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>NWSC Gulu <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Route to NWSC offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Posta Gulu <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Gulu CPS <i>Source: Last Mile ESIA Field Photos 2017</i></p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>General outlook of some of the streets in Gulu <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Gulu Regional Blood Bank <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Access route to BOU <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Access route to BOU and Gulu District Council Head Quarters <i>Source: Last Mile ESIA Field Photos 2017</i></p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Lira 9/11/2017	Uganda Technical College	N 02 ⁰ 13.808, E 032 ⁰ 53.727	49.3	Music, vehicles and motorbikes, slashing machinery, birds and conversations.
	DPP	N 02 ⁰ 14.018, E 032 ⁰ 53.661	46.4	Music, vehicles and motorbikes, slashing machinery, birds and conversations.
	UBC	N 02 ⁰ 15.814, E 032 ⁰ 52.285	43.8	Birds, wind and conversations.
	MWE + NWSC	N 02 ⁰ 14.408, E 02 ⁰ 53.483	58.8	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Lira Municipal council	N 02 ⁰ 14.866, E 032 ⁰ 54.004	48.0	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Lira DLGHQs	N 02 ⁰ 14.376, E 032 ⁰ 54.048	38.4	Vehicles and motorbikes, slashing machinery, birds and conversations.
	RDC Lira	N 02 ⁰ 14.904, E 032 ⁰ 54.086	43.7	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Police Lira	N 02 ⁰ 54.946, E 032 ⁰ 54.046	45.6	Vehicles and motorbikes, slashing machinery, birds and conversations.



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Lira Municipal Council Works offices	N 02 ⁰ 15.061, E 032 ⁰ 54.161	53.9	Vehicles and motorbikes, slashing machinery, birds and conversations.
	Uganda Prisons Lira	N 02 ⁰ 15.236, E 032 ⁰ 54.022	40.4	Birds, wind and conversations.
	School of Nursing	N 02 ⁰ 15.184, E 032 ⁰ 54.117	40.6	Birds, wind and conversations.
 <p>Activities along the Uganda Technical College access point Source: Last Mile ESIA Field Photos 2017</p>			 <p>Lira Uganda Technical College Source: Last Mile ESIA Field Photos 2017</p>	

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>UBC facility Source: Last Mile ESIA Field Photos 2017</p>			 <p>Access route to Lira UBC facility. Notice the gardens along the route and proximity to homesteads Source: Last Mile ESIA Field Photos 2017</p>
	 <p>General outlook of selected streets in Lira Source: Last Mile ESIA Field Photos 2017</p>			

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Poorly executed none RCIP backfilling works <i>Source: Last Mile ESIA Field Photos 2017</i></p>			
	 <p>Lira Chief Magistrate's Court <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Lira Municipal Council Main Office Block <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				 Lira RDC's office <i>Source: Last Mile ESIA Field Photos 2017</i>
	General outlook of some streets in Lira. Trees and shrubs should be avoided <i>Source: Last Mile ESIA Field Photos 2017</i>			
Dokolo 9/11/2017	Dokolo E.C	N 010 55.194, E 0330 10.041	41.2	Vehicles and motorbikes, conversations and distant music
	Dokolo Health Centre IV	N 01 ⁰ 54.997, E 033 ⁰ 10.439	51.7	Vehicles and motorbikes, conversations and distant music
	Dokolo Police	N 01 ⁰ 54.959, E 003 ⁰ 10.484	36.5	Conversations and distant music
	Dokolo RDC, NWSC, DLGHQs	N 01 ⁰ 54.860, E 033 ⁰ 10.469	36.5	Conversations, Air Conditioning units and distant music

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Branch off from the main road to the EC office can be made from N 01⁰ 55.147 ,E 033⁰ 10.017. Presence of gardens by the roadside and lack of road reserves was also noted in these areas. Most offices are in one enclosure which makes connectivity easy.</p>				
 <p>Access route to Dokolo EC offices Source: Last Mile ESIA Field Photos 2017</p>		 <p>Dokolo EC offices Source: Last Mile ESIA Field Photos 2017</p>		
 <p>General outlook of the main road in Dokolo Source: Last Mile ESIA Field Photos 2017</p>		 <p>Dokolo HC IV Source: Last Mile ESIA Field Photos 2017</p>		

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
9/11/2017 Kaberamaido	Otuboi Sub County	N 01 ⁰ 55.486 E 003 ⁰ 18.626	38.4	Vehicles and motorbikes, masts powering generator, conversations and distant music
	Otuboi Health Centre III	N 01 ⁰ 55.438 E 033 ⁰ 18.653	42.1	Vehicles and motorbikes, conversations and distant music
	Otuboi Police Station	N 01 ⁰ 55.484 E 033 ⁰ 18.692	44.0	Vehicles and motorbikes, conversations and distant music
<p>Otuboi Sub County that was visited mainly had all facilities within the same locality. The facilities of interest include the HCIII, Police station, and Sub Count offices. The area also has a community borehole and gardens that need to be taken into consideration during project implementation.</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Otuboi Police sign post <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Otuboi Police Station <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Otuboi Sub County Office <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Otuboi Health Centre III <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Mukono 26/10/2017	Mukono Municipal Council	N 00 ⁰ 21.338, E 032 ⁰ 44.442	54.5	Vehicles and motorbikes, music and conversations

The main road point of connection (N 00⁰ 21.624, E 032⁰ 44.766) line shall provide for connections to the Municipal council and NSSF among other offices. There was already a line by the main road to the section of LGHQs from which connections shall be tapped to other LG offices in the area. There will therefore be minimal or no excavations along these lines. FDGs revealed that in the recent past, another entity had just excavated along the route from petro city. There are also plans to widen the road which the client should put into consideration. A pictorial register of the area is subsequently provided.



Access route to NSSF Mukono from the Petrocity Fuel station
Source: Last Mile ESIA Field Photos 2017



Part of the Mukono DLG offices to be connected
Source: Last Mile ESIA Field Photos 2017



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Lugazi 27/10/2017	Post office to Municipal, police & Kawolo Hospital	N 00 ⁰ 22.151, E 032 ⁰ 56.534	50.1	Vehicles and motorbikes and conversations
<p>One connection to post office. Connections in the area shall be fast given the proximity of the area visited during the study. The sites include Uganda Police, Kawolo Hospital and Lugazi Municipal Council. All three are within the same catchment making the connection easy with little or no disruptions on existing units like Kiosks within the Police station and finally to Kawolo Hospital.</p>				
Nakasongola 10/11/2017	Nakasongola HC IV	N 01 ⁰ 19.332, E 032 ⁰ 28.031	52.3	Vehicles and motorbikes, conversations and music
	Post office	N 01 ⁰ 18.850, E 032 ⁰ 27.922	59.1	Vehicles and motorbikes, conversations and music
	Nakasongola District Police HQs	N 01 ⁰ 18.804, E 032 ⁰ 27.907	53.0	Vehicles and motorbikes, conversations and music
	Post Bank	N 010 18.717, E 0320 27.907	59.7	Vehicles and motorbikes, conversations and music

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	District Commercial Office & Production Department	N 01 ⁰ 18.752, E 032 ⁰ 27.836	48.9	Vehicles and motorbikes and conversations
	Nakasongola Town Council	N 01 ⁰ 18.843, E 032 ⁰ 27.804	38.0	Vehicles and motorbikes and conversations
	RDC, DISO Nakasongola Head office	N 01 ⁰ 18.812, E 032 ⁰ 27.655	36.5	Vehicles and motorbikes and conversations
	Water office	N 010 18.783, E 0320 27.489	39.0	Vehicles and motorbikes and conversations
	Chief Magistrate's Court	N 010 18.762, E0320 27.453	38.8	Vehicles and motorbikes and conversations
	DPP	N 01 ⁰ 18.798, E 032 ⁰ 27.465	39.6	Vehicles and motorbikes and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Prisons	N 01 ⁰ 18.682, E 032 ⁰ 27.275	36.0	Vehicles and motorbikes and conversations
	EC & NIRA	N 01 ⁰ 19.050, E 032 ⁰ 27.874	38.9	Vehicles and motorbikes and conversations
	UBC	N 01 ⁰ 18.897, E 032 ⁰ 27.868	46.7	Vehicles and motorbikes, music and conversations

Main roads to be impacted include UBC road and Sasira road. Most works shall entail utilizing of below ground borrowing given the tarmaced state of most roads in the area. Utilization of poles or existing third party facilities can also be adopted. Poles should however look at the termites challenge in the area. There are a number of road side businesses that could be impacted by the project. Prior notice and timely backfilling of excavated sections or working at off peak hours should help reduce on business interruptions. Pottery was present at the LGHQs as further discussed in the culture and archaeological sections of this ESIS. Below is a pictorial register for selected points.



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Post Office Nakasongola <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Post Bank Nakasongola <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Status of the main access road and activities in the area <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Nakasongola HC IV <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Nakasongola TC Source: Last Mile ESIA Field Photos 2017</p>		 <p>Nakasongola DLGHQs Source: Last Mile ESIA Field Photos 2017</p>		
Luwero 10/11/2017	EC	N 00 ⁰ 50.528, E 032 ⁰ 29.395	46.4	Vehicles and motorbikes, music and conversations
	NWSC	N 00 ⁰ 50.496, E 032 ⁰ 29.551	49.7	Vehicles and motorbikes, music and conversations
	Luwero TC	N 00 ⁰ 50.601, E 032 ⁰ 29.677	46.1	Vehicles and motorbikes, music and conversations
	Luwero CPS	N 00 ⁰ 50.898, E 032 ⁰ 29.195	45.5	Vehicles and motorbikes, music and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	DPP	N 00 ⁰ 50.984, E 032 ⁰ 29.209	45.9	Vehicles and motorbikes, music and conversations
	Chief Magistrate's Court	N00 ⁰ 50.980, E032 ⁰ 29.234	41.1	Vehicles and motorbikes, music and conversations
	Turn off to Luwero CPS	N 000 50.907, E 0320 29.316	60.1	Vehicles and motorbikes, music and conversations
	Luwero HC IV	N 000 50.051, E 0320 29.94	58.9	Vehicles and motorbikes, music and conversations





Connection is from the highway NWSC point. Luwero Town Council is across the main road to the Plan international Road with a number of roadside gardens. Other sites like the EC are in areas with no road reserves, this needs to be put into consideration during project design and implementation. Most of the sites are easily accessible from the main road for example Post office Wobulenzi with limited roadside activity. Some sections however lack road reserves necessitating liaison with district and local leadership prior to project implementation. Below is a pictorial register showcasing some of the areas of interest:



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Luwero District HC IV <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Area showcasing the DPP and the Chief Magistrate's Court <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Luwero TC <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Roadside gardens to Luwero TC <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Luwero Police Station <i>Source: Last Mile ESIA Field Photos 2017</i></p>		 <p>Post Office Wobulenzi <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Mpigi 14/11/2017	Production department	N 00 ⁰ 50.049, E 032 ⁰ 29.936	36.6	Conversations, birds, vehicles and motorbikes
	Magistrate +DPP	N 00 ⁰ 13.892, E 032 ⁰ 19.257	50.1	Conversations, birds, vehicles and motorbikes
	CPS + Post office	N 00 ⁰ 13.197, E 032 ⁰ 19.885	41.0	Conversations, birds, vehicles and motorbikes
	NIRA	N 00 ⁰ 13.278, E 032 ⁰ 19.650	58.8	Conversations, birds, vehicles and motorbikes

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Mpigi HC IV	N 00 ⁰ 13.530, E032 ⁰ 19.326	50.9	Conversations, birds, vehicles and motorbikes
	Buwama HCIII	N 000 03.675, E 0320 06.395	40.5	Conversations, birds, vehicles and motorbikes
	Buwama Sub County HQ	N 00 ⁰ 03.640, E 032 ⁰ 06.436	45.6	Conversations, birds, vehicles and motorbikes

There shall be limited or no plant removal as it will be mainly aerial. However, there could be pruning of trees in some of these areas. Offices like NIRA/ EC are planning to relocate to other buildings within along the same stretch. To get permanent offices, this might call for utilization of aerial poles or third party wireless facilities until the units. Connection to Buwama HC III and the Sub County Head Quarters shall necessitate road reserve utilization, liaison with UNRA and the district is vital since there are planned road works for that section.


District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Access route to the Mpigi Chief Magistrate's Court <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Mpigi DLGH as seen from the DEO office area <i>Source: Last Mile ESIA Field Photos 2017</i></p>	
 <p>Office of the Resident State Attorney Mpigi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Mpigi Police Station <i>Source: Last Mile ESIA Field Photos 2017</i></p>	

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Kalungu 14/11/17	Lukaya TC	S00 ⁰ 09.307, E031 ⁰ 52.188	60.2	Aero planes, conversations, birds, vehicles and motorbikes
	Lukaya HC III	S00 ⁰ 08.701, E031 ⁰ 52.526	43.1	Conversations, birds, vehicles and motorbikes
 <p>Lukaya TC offices Source: Last Mile ESIA Field Photos 2017</p>		 <p>Lukaya HC III Source: Last Mile ESIA Field Photos 2017</p>		
<p>The route to Lukaya HC III has a number of households if the main access route it to be followed, there is however a short route across a drainage line if poles are erected to serve the purpose. Lukaya TC is along the highway, connection to the area shall therefore be easy.</p>				
	DEO	S00 ⁰ 18.883, E031 ⁰ 44.244	40.1	Birds, wind and conversations



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Uganda Prison-Saza Masaka	S00 ⁰ 18.893, E031 ⁰ 44.480	43.6	Conversations, motor cycles and motor vehicles
	NIRA	S00 ⁰ 19.597, E031 ⁰ 44.389	38.7	Conversations, birds, motor cycles and motor vehicles
	UVRI	S00 ⁰ 19.493, E 031 ⁰ 44.449	42.9	Conversations, birds, motor cycles and motor vehicles
	NWSC + IG	S00 ⁰ 20.791, E031 ⁰ 44.257	43.6	Conversations, motor cycles and motor vehicles
	NSSF + Posta Uganda	S00 ⁰ 20.708, E031 ⁰ 44.271	53.7	Conversations, motor cycles and motor vehicles
	Lands	S00 ⁰ 20.518, E031 ⁰ 44.090	50.4	Conversations, motor cycles and motor vehicles
	Prisons	S00 ⁰ 20.687, E031 ⁰ 44.083	43.6	Conversations, motor cycles and motor vehicles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Office of the Auditor General	S00 ⁰ 20.587, E031 ⁰ 44.116	43.0	Conversations, motor cycles and motor vehicles

Masaka District Admin HDQs to be moved to Kizungu where the LC5 seats. The DLHQs are located on Buganda Kingdom land. This area hosts offices for the DEO, MWE, District Water Office among others. Access to some areas like the Masaka Saza prison have no road reserves. However, connection to the Saza prison can be made from the main road at GPS points S00⁰ 18.878, E031⁰ 44.615 along the Kampala Mbarara Highway. Consideration for compensation and communication to landowners is therefore vital in this area and other project areas with similar attributes. The stretch from the BOU area (S00⁰ 20.251, E031⁰ 44.370) to the Courts of Judicature (S00⁰ 20.439, E031⁰ 44.458) houses a number of MDAs. Care should be taken during project implementation given the number of businesses and real estate along this route. Land lord for NIRA is also the owner of the house below, one pole could be in the lower area along Lutiko road to connect to NIRA and the virus research to reduce on the foot print. This stretch along Broad way has a number of offices that shall be connected including but not limited to URA, Police, prisons, Auditor general's office among others. Roads that shall be impacted include Broad way, Lutiko Road, Kampala road, Victoria road and Edward Avenue. A photographic register is subsequently presented.





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>View of the Masaka DEO office <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Entrance the Masaka DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Boda Boda stage at one of the T-junctions to Masaka DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Entrance the Masaka DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>NSSF and Post Bank Masaka <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Office of the Auditor General Masaka <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Nearest access point to Saza Prison from the Mbarara Highway <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Saza Prison-Masaka <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
<p>Beginning of stretch with most offices in Masaka (BOU and URA areas) <i>Source: Last Mile ESIA Field Photos 2017</i></p>		<p>End of stretch at Courts of Judicature <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Kalisizo & Kyotera	Kalisizo Hospital	S00 ⁰ 32.133, E031 ⁰ 37.338	57.7	Conversations, birds, motor cycles and motor vehicles
	Kalisizo police	S00 ⁰ 32.417, E031 ⁰ 37.212	50.4	Conversations, motor cycles and motor vehicles
	Kalisizo court	S00 ⁰ 32.317, E031 ⁰ 37.219	50.5	Conversations, motor cycles and motor vehicles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC+ Town Council office	S00 ⁰ 32.206, E031 ⁰ 37.476	39.9	Conversations, motor cycles and motor vehicles
	Kyotera Police	S00 ⁰ 37.974, E031 ⁰ 32.524	54.1	Conversations, motor cycles and motor vehicles
	Kyotera NWSC & TC	S00 ⁰ 38.192, E031 ⁰ 32.476	49.8	Conversations, motor cycles and motor vehicles

Routes to be impacted include Bulinda main, Kalisizo TC road. In Kalisizo, the longest stretch is from Hospital to the Police Station. Excavations shall have minimal impact since most activities along the road reserves could easily be moved temporarily. A photographic register for the area is subsequently provided.

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kalisizo Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Kalisizo Police station <i>Source: Last Mile ESIA Field Photos 2017</i></p>
 <p>Kalisizo Town Council offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>				 <p>Kalisizo NWSC <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kyotera Police <i>Source: Last Mile ESIA Field Photos 2017</i></p>		 <p>Kyotera NWSC <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Wakiso 30/11/17	Wakiso District HQs	N01 ⁰ 25.966, E031 ⁰ 21.082	46.6	Conversations, birds and motor vehicles and motorcycles
	Police and Wakiso Chief Magistrate's Court and DPP	N00 ⁰ 23.878, E032 ⁰ 28.106	50.6	Conversations, birds and motor vehicles and motorcycles





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Wakiso TC	N00 ⁰ 23.576, E03 ⁰ 27.730	41.9	Conversations and motor vehicles and motorcycles
	Busiro HCIV	N00 ⁰ 23.848, E032 ⁰ 28.676	55.9	Conversations and motor vehicles and motorcycles
	DISO, URA Nansana Branch	N00 ⁰ 21.692, E032 ⁰ 31.836	61.9	Conversations and motor vehicles and motorcycles
	Nansana TC + Nansana Police	N00 ⁰ 21.844, E032 ⁰ 31.719	61.7	Conversations and motor vehicles and motorcycles
	NWSC	N00 ⁰ 21.231, E032 ⁰ 32.150	59.5	Conversations and motor vehicles and motorcycles
	Nabweru Chief Magistrate's Court	N00 ⁰ 21.384, E032 ⁰ 32.715	40.6	Conversations and motor vehicles and motorcycles
	Nansana Division Office	N00 ⁰ 21.473, E032 ⁰ 32.742	45.5	Conversations and motor vehicles and motorcycles





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Entebbe Municipal Library	N00 ⁰ 21.531, E032 ⁰ 32.694	60.9	Conversations and motor vehicles and motorcycles
	Posta	N00 ⁰ 03.585, E032 ⁰ 28.422	47.5	Conversations and motor vehicles and motorcycles
	DWRM-Entebbe	N00 ⁰ 02.969, E032 ⁰ 28.281	40.8	Conversations and motor vehicles and motorcycles
	Along	N00 ⁰ 02.964, E032 ⁰ 28.279	N/A	Conversations and motor vehicles and motorcycles
	Directorate of Agricultural Extension Services	N00 ⁰ 03.520, E032 ⁰ 28.348	53.5	Conversations and motor vehicles and motorcycles
	URA-Entebbe	N00 ⁰ 03.313, E032 ⁰ 27.862	54.1	Conversations and motor vehicles and motorcycles
	UPPC-Entebbe	N00 ⁰ 03.381, E032 ⁰ 27.992	50.2	Conversations and motor vehicles and motorcycles



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	UVRI	N00 ⁰ 04.524, E032 ⁰ 27.449	51.5	Conversations and motor vehicles and motorcycles
	Entebbe S.S	N00 ⁰ 04.390, E032 ⁰ 28.698	49.3	Conversations and motor vehicles and motorcycles
	NWSC (Kyaliwajala)	N00 ⁰ 23.187, E032 ⁰ 38.636	58.5	Conversations and motor vehicles and motorcycles
	DPP (Kira)	N00 ⁰ 23.641, E032 ⁰ 38.497	42.6	Conversations and motor vehicles and motorcycles
	Kira Court	N00 ⁰ 23.598, E032 ⁰ 38.470	50.6	Conversations and motor vehicles and motorcycles
	Police Station Kira	N00 ⁰ 23.582, E032 ⁰ 38.446	60.6	Conversations and motor vehicles and motorcycles
	Buwambo Prisons	N00 ⁰ 30.029, E032 ⁰ 32.286	39.4	Conversations and motor vehicles and motorcycles
	Buwambo HC	N00 ⁰ 30.087, E032 ⁰ 32.769	50.6	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Buwambo Police Station	N00 ⁰ 30.096, E032 ⁰ 32.776	58.4	Conversations and motor vehicles and motorcycles
	Matugga police	N00 ⁰ 27.499, E032 ⁰ 31.585	53.3	Conversations and motor vehicles and motorcycles
	NWSC & Magistrate's Court Matugga	N00 ⁰ 27.759, E032 ⁰ 31.553	59.6	Conversations and motor vehicles and motorcycles

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Access to the Division to Nabweru HCIII and court shall be at the Nabweru access road-turn off from the main road at GPS coordinates N00⁰ 21.532, E032⁰ 32.696. Routes to be impacted include Mpigi road, K’la –Airport route, Hoima road, Nabweru court road and Mpunga road. Wakiso District is vast with a lot of road side businesses in the area. Care should be taken during project implementation to provide early communication to impacted businesses and have excavated sections appropriately backfilled and restored. Wakiso District had the largest distribution of sites during the study. Excavation works along roads in Wakiso shall have to be undertaken with liaison with UNRA and DLGs since a lot of road works are either being carried out or are ongoing in the district. Traffic management should be given utmost attention given the vast area and number of traffic seen during the ESIA. A number of routes in Wakiso also lacked road reserves, appropriate coordination with local leaders with consideration of host communities’ views shall be vital in project execution. Below is a photographic register of some selected areas.</p>				

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>UVRI Entebbe Offices Source: Last Mile ESIA Field Photos 2017</p>			 <p>Entebbe Municipal Council Source: Last Mile ESIA Field Photos 2017</p>
	 <p>Uganda Printing and Publishing Corporation Source: Last Mile ESIA Field Photos 2017</p>			 <p>URA Entebbe Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
	 <p>DWRM Entebbe Source: Last Mile ESIA Field Photos 2017</p>			 <p>Entebbe Public Library Source: Last Mile ESIA Field Photos 2017</p>
	 <p>Nabweru Magistrate's Court Source: Last Mile ESIA Field Photos 2017</p>			 <p>Nansana Municipal Council Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Wakiso Police Division Head Quarters Source: Last Mile ESIA Field Photos 2017</p>				 <p>Wakiso HC IV Source: Last Mile ESIA Field Photos 2017</p>
Kampala 13/12/2017	Luzira Prisons Head Quarters	N 00 ⁰ 17.922, E 032 ⁰ 38.796	60.4	Conversations, motor vehicles and motorcycles, birds and wind
	Butabika School of Nursing	N 00 ⁰ 19.276, E 032 ⁰ 39.320	38.6	Conversations, motor vehicles and motorcycles, birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Kitintale Police Station	N 00 ⁰ 18.541, E 032 ⁰ 38.361	60.8	Conversations and motor vehicles and motorcycles
	NWSC Kitintale	N 00 ⁰ 18.753, E 032 ⁰ 38.183	59.8	Conversations and motor vehicles and motorcycles
	Kiswa Health Centre, Bugolobi	N 00 ⁰ 19.263, E 032 ⁰ 37.042	57.5	Conversations and motor vehicles and motorcycles
	NFA Bugolobi	N 00 ⁰ 19.280, E 032 ⁰ 36.883	51.7	Conversations and motor vehicles and motorcycles
	NSSF Bugolobi	N 00 ⁰ 19.260, E 032 ⁰ 36.750	65.3	Conversations and motor vehicles and motorcycles
	NWSC Treatment Plant	N 00 ⁰ 19.125, E 032 ⁰ 36.354	55.9	Conversations and motor vehicles and motorcycles
	New Vision	N 00 ⁰ 19.362, E 032 ⁰ 36.218	54.3	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	UETCL	N 00 ⁰ 19.421, E 032 ⁰ 36.385	56.7	Conversations and motor vehicles and motorcycles
	NWSC City Branch	N 00 ⁰ 19.963, E 032 ⁰ 36.874	66.6	Conversations and motor vehicles and motorcycles
	KCCA Workshop	N 00 ⁰ 18.928, E 032 ⁰ 35.727	65.4	Conversations and motor vehicles and motorcycles
	UNRA	N 00 ⁰ 18.999, E 032 ⁰ 35.930	56.2	Conversations and motor vehicles and motorcycles
	Kira Police Station Jinja, Road	N 00 ⁰ 19.378, E 032 ⁰ 36.063	60.5	Conversations and motor vehicles and motorcycles
	Mbuya Military Barracks	N 00 ⁰ 19.640, E 032 ⁰ 37.375	58.7	Conversations and motor vehicles and motorcycles
	Ntinda Police Station	N 00 ⁰ 21.036, E 032 ⁰ 36.965	55.6	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	National Council For Disability	N 00 ⁰ 20.964, E 032 ⁰ 37.145	40.3	Conversations and motor vehicles and motorcycles
	School of the Deaf	N 00 ⁰ 21.151, E 032 ⁰ 36.935	54.1	Conversations and motor vehicles and motorcycles
	DPP Naguru	N 00 ⁰ 20.815, E 032 ⁰ 36.672	55.3	Conversations and motor vehicles and motorcycles
	UHRC Central Regional Office	N 00 ⁰ 20.123, E 032 ⁰ 36.606	64.2	Conversations and motor vehicles and motorcycles
	Court of Judicature	N 00 ⁰ 20.600, E 032 ⁰ 36.675	50.9	Conversations and motor vehicles and motorcycles
	MGLSD, Naguru	N 00 ⁰ 20.043, E 032 ⁰ 36.517	53.2	Conversations and motor vehicles and motorcycles
	Naguru Remand Home	N 00 ⁰ 19.871, E 032 ⁰ 36.342	63.5	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NIRA Nakawa	N 00 ⁰ 19.896, E 032 ⁰ 36.600	55.7	Conversations and motor vehicles and motorcycles
	DPP, Naguru	N 00 ⁰ 20.815, E 032 ⁰ 36.672	55.3	Conversations and motor vehicles and motorcycles
	Uganda Police Kibuli	N 00 ⁰ 20.017, E 032 ⁰ 36.081	54.3	Conversations and motor vehicles and motorcycles
	Uganda Police Nsambya	N00 ⁰ 18.529, E032 ⁰ 35.416	60.1	Conversations and motor vehicles and motorcycles
	NWSC Kansanga	N00 ⁰ 17.831, E032 ⁰ 36.270	56.7	Conversations and motor vehicles and motorcycles
	NWSC VSDF	N00 ⁰ 15.260, E032 ⁰ 37.977	53.2	Conversations and motor vehicles and motorcycles
	LDC	N00 ⁰ 19.539, E032 ⁰ 34.134	56.5	Conversations and motor vehicles and motorcycles
	URA Old Kampala	N00 ⁰ 18.889, E032 ⁰ 34.062	60.4	Conversations, music, mosque and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Kawempe General Hospital	N00 ⁰ 21.727, E032 ⁰ 33.677	65.3	Conversations, music and motor vehicles and motorcycles

With Kampala being the Capital City, there is a lot of traffic and businesses that often take place along road reserves. Number of sites are also paved, an aspect calls for proper excavation and backfilling of impacted areas. A number of roads have also been constructed repaired or are under construction, excavation Kampala shall need constant liaison with other stakeholders with ground services.



Police Station Kitintale and its surrounding road reserves
Source: Last Mile ESIA Field Photos 2017



National Water and Sewerage Corporation, Kitintale
Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
	 <p>National Forestry Authority, Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Kiswa health centre, Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>NSSF offices, Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>NWSC Bugolobi <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
				
				

KCCA (Workshop)
Source: Last Mile ESIA Field Photos 2017

National Council for Disability offices
Source: Last Mile ESIA Field Photos 2017

UHRC Central Regional Office
Source: Last Mile ESIA Field Photos 2017

Naguru Remand Children's Home
Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Rakai	Rakai Hospital	S 00°42.088, E 031°24.752	33.6	Conversations and distant motor vehicles and motorcycles
	Police Station	S 00°42.056, E 031°24.294	34.1	Conversations and distant motor vehicles and motorcycles
	DLGHQs	S 00°42.373, E 031°24.204	46.9	Conversations and distant motor vehicles and motorcycles

With no connection in the district, utilization of third party facilities may help reduce on excavation works and also save on time in connecting Rakai District. Connections for the District Registrar and Town Council are within the same area making it easy for project implementation. A photographic register of some of the sites is subsequently provided:



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Mityana	Mityana DPP & Police-locations New	N00 ⁰ 27.760, E 032 ⁰ 31.552	54.1	Birds, vehicles, motorbikes and conversations
	Chief Magistrates Court	N 00 ⁰ 24.796, E032 ⁰ 3.582	48.1	Birds, vehicles, motorbikes and conversations
	URA	N 00 ⁰ 23.974, E032 ⁰ 02.577	67.9	Birds, vehicles, music, motorbikes and conversations
	Posta Mityana	N 00 ⁰ 24.992, E032 ⁰ 02.438	55.4	Birds, vehicles, motorbikes and conversations
	Mityana Hospital	N 00 ⁰ 23.787, E032 ⁰ 02.615	61.8	Birds, vehicles, motorbikes and conversations
	Prisons	N 00 ⁰ 23.269, E032 ⁰ 02.447	47.1	Birds, motorbikes and conversations
	Municipal Council	N 00 ⁰ 23.356, E032 ⁰ 02.433	54.2	Birds, vehicles, motorbikes and conversations

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC	N 00 ⁰ 23.357, E032 ⁰ 02.426	56.1	Birds, vehicles, motorbikes and conversations

Some of the offices like URA, Posta Uganda are on one stretch making connectivity easy. However, there are a number of businesses stretching to the road reserve as one moves closer to URA offices. Police in this district is also planning to shift to new offices, the planning team should look into this to provide the best connection options.





Post Office

Source: Last Mile ESIA Field Photos 2017



RDC Office Mityana

Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Road network in Mityana Source: Last Mile ESIA Field Photos 2017</p>				
District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Masindi 21/11/2017	Prisons	N01 ⁰ 40.875, E031 ⁰ 43.533	55.3	Conversations, birds, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Police Training School-Kabalye	N01 ⁰ 44.381, E031 ⁰ 42.648	47.6	Conversations, motor vehicles and motorcycles, birds and wind
	Masindi Police Station	N01 ⁰ 41.663, E031 ⁰ 42.655	54.8	Conversations, motor vehicles and motorcycles, birds and wind
	UTC Kyema	N01 ⁰ 43.207, E031 ⁰ 44.055	40.6	Conversations, motor vehicles and motorcycles, birds and wind
	Masindi Hospital	N01 ⁰ 41.054, E031 ⁰ 43.009	46.3	Conversations, motor vehicles and motorcycles
	Post Bank	N01 ⁰ 41.917, E031 ⁰ 43.375	62.3	Conversations, music, motor vehicles and motorcycles
	Bwijanga HC IV	N01 ⁰ 41.917, E031 ⁰ 43.375	46.7	Conversations, motor vehicles and motorcycles
17/05/2018	UWA Masindi Gate	N01 ⁰ 51.221, E031 ⁰ 42.590	45.8	Conversations, motor vehicles and motorcycles

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
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There are a number of sites that fall within the stretch from the junction to the Police Training School and Prisons including but not limited to Uganda Police, NSSF, EC, URA, Masindi Municipal Council and DPP. There are also a number of road side gardens (especially along route to hospital and police training school) that shall need to be put into consideration while stretches like the one to the Police Training School lack road reserves. Main routes that could be impacted include Kasarabwire road and Kampala road. A photographic register for some of the sites is subsequently presented:




Bwijanga HC IV
Source: Last Mile ESIA Field Photos 2017



Masindi Police Station
Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Police training School Kabalye Source: Last Mile ESIA Field Photos 2017</p>			
	 <p>Kampala road status (has most of the offices to be connected) Source: Last Mile ESIA Field Photos 2017</p>			





District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>UTC Kyema <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Masindi Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>	
 <p>Post Office Masindi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Masindi Post Bank <i>Source: Last Mile ESIA Field Photos 2017</i></p>	

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Buliisa 17/05/2018	DLGHQs	N 01 ⁰ 14.954, E 030 ⁰ 45.149	41.2	Conversations, birds, motor vehicles and motorcycles
	UWA Mubako	N 02 ⁰ 15.520, E 031 ⁰ 32.482	47.9	Conversations, birds and motorcycles
	UWA Bugungu Gate	N 02 ⁰ 11.229, E 031 ⁰ 31.983	46.1	Conversations, birds and motor vehicles
<p>Connections to Buliisa and UWA in Murchison Falls National Park should majorly consider utilizing the pipeline fibre cable given the over 100km from Hoima to Buliisa and trenching of the line inside the protected area to check on potential destruction by wildlife. Environmental and social risks may be higher for some target beneficiaries located away from the local government. RDC is located in town. EC is across the road. Buliisa HC IV and Bugoigo HC IV are also far. The project team should be this into consideration during design and implementation.</p>				
Hoima 21/11/2017	DLGHQs	N 01 ⁰ 24.299, E 031 ⁰ 19.974	49.6	Conversations, birds, motor vehicles and motorcycles
	Post Bank	N 01 ⁰ 25.783, E 031 ⁰ 20.970	60.1	Conversations, motor vehicles and motorcycles



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC and Municipal	N 01 ⁰ 25.758, E 031 ⁰ 21.415	55.5	Conversations, birds, motor vehicles and motorcycles
	Posta Uganda	N 01 ⁰ 25.664, E 031 ⁰ 21.400	55.1	Conversations, birds, motor vehicles and motorcycles
	NDA	N 01 ⁰ 25.992, E 031 ⁰ 21.063	56.4	Conversations, birds, motor vehicles and motorcycles
	IOG	N 01 ⁰ 25.461, E 031 ⁰ 21.256	52.2	Conversations, birds, motor vehicles and motorcycles
	Hoima CPS	N 01 ⁰ 25.460, E 031 ⁰ 21.256	55.6	Conversations, birds, motor vehicles and motorcycles
	Chief Magistrates Court	N 01 ⁰ 25.671, E 031 ⁰ 21.346	45.6	Conversations and birds
	NSSF	N 01 ⁰ 25.674, E 031 ⁰ 21.521	59.5	Conversations, motor vehicles and motorcycles





District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	EC	N 01 ⁰ 25.398, E 031 ⁰ 21.301	57.7	Conversations, birds, motor vehicles and motorcycles
	URA	N 01 ⁰ 25.965, E 031 ⁰ 21.075	59.7	Conversations, motor vehicles, birds and motorcycles
16/05/2018	Kabaale Airport area	N 01 ⁰ 26.337, E 031 ⁰ 04.588	44.3	Conversations, motor vehicles and birds
	Bugoma CPF area	N 01 ⁰ 14.955, E 031 ⁰ 45.149	42.8	Conversations, motor vehicles, birds and motorcycles

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Main routes that could be potentially impacted include Kampala road, Fortportal road, Orphanage road, Main street and Kijungu road. The project execution team shall need to work closely with UNRA and other relevant stakeholders prior to excavations. A number of roads were either under construction or had been completed. There are primary schools and the Boma grounds that are often utilized by school children. A pictorial register is subsequently presented. The Kabaale Airport area as part of the industrial park had a separate ESIA carried out. Being a former settlement for refugees from Congo, twenty grave sites are in the site. Some have been compensated but the beneficiaries disappeared without transferring their graves. More graves continue to be discovered. In the course of trenching the OFC such chance finds may be found. The chance finds procedure should be prepared and a duct should be used in the industrial park to reduce the risk of chance finds. Noise levels at the airport are expected to increase during the operation phase given the anticipated number of aircrafts that shall utilize the airport. This connection to the Bugoma CPF shall provide future connection to facilities in the camps in the Kingfisher area in its neighborhood. One of the most viable options to reduce on the project footprint is to utilize the pipeline optical fibre cable tapped at points close to existing NBI in Hoima, Mutukula or Rakai.</p>				

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Hoima DLGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Post Bank Hoima <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Inspectorate of Government Offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Hoima CPS <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Hoima Post Office Source: Last Mile ESIA Field Photos 2017</p>			 <p>Chief Magistrates Court Source: Last Mile ESIA Field Photos 2017</p>
	 <p>Hoima NMS Source: Last Mile ESIA Field Photos 2017</p>			 <p>Regional EC Office-Albertine Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
<p>Hoima NWSC Source: Last Mile ESIA Field Photos 2017</p>				 <p>Office of the RDC Hoima Source: Last Mile ESIA Field Photos 2017</p>
Lyantonde 15/11/2017	Lyantonde Hospital	S00 ⁰ 23.614, E031 ⁰ 09.174	55.9	Conversations, motor vehicles and motorcycles
	NIRA	S00 ⁰ 24.284, E031 ⁰ 09.386	44.7	Conversations, motor vehicles and motorcycles
	DPP Lyantonde	S00 ⁰ 24.39, E031 ⁰ 09.500	49.4	Conversations, motor vehicles and motorcycles
<p>The longest connect shall be on the stretch between Lyantonde LDGHQs and Lyantonde Hospital followed by the connection to the DPP that goes through various settlements or businesses. Connections to NIRA and EC shall be the short given their location along Masaka road. Roads to be impacted include Masaka Road, Lyantonde-Kaliro road.</p>				

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Stretch from Lyantonde Hospital to Lyantonde District LGHQs <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Stretch from Lyantonde District LGHQs to Lyantonde Hospital <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>DPP office Lyantonde <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>EC& NIRA offices Lyantonde <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Ntungamo 16/11/17	EC & NIRA	S00 ⁰ 52.020, E030 ⁰ 16.185	58.5	Conversations and motor vehicles and motorcycles
	Post Bank	S00 ⁰ 52.104, E030 ⁰ 16.149	63.8	Conversations and motor vehicles and motorcycles
	Prison & DPP	S00 ⁰ 52.261, E03 ⁰ 15.723	42	Conversations and motor vehicles and motorcycles

With most of the areas tarmaced in the town centre, utilization of poles or existing infrastructure may help reduce on the environmental footprint. Drilling/ borrowing below tarmac for sections where the lines cross roads should be done. Below is a pictorial register for some of the selected sites.



Post Bank Ntungamo

Source: Last Mile ESIA Field Photos 2017



Uganda Prisons , Nutngamo

Source: Last Mile ESIA Field Photos 2017

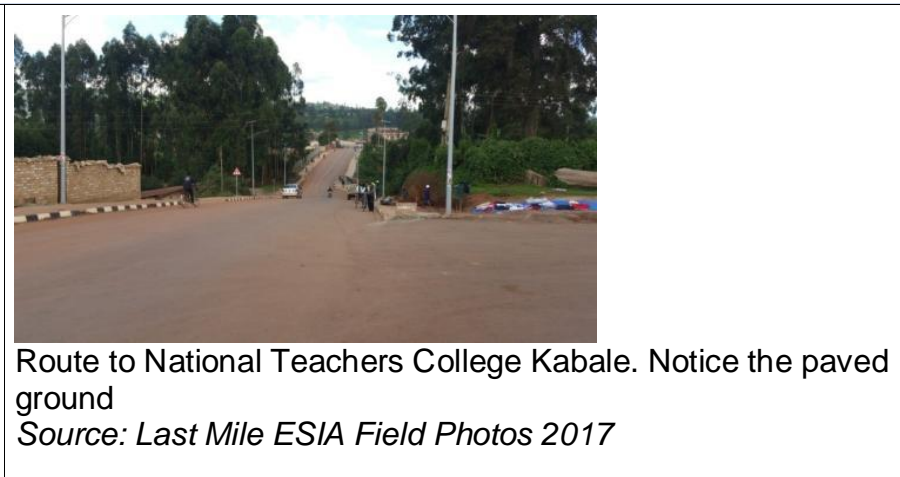
District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Kabale 16/11/17	NTC +UTC	S00 ⁰ 52.259, E03 ⁰ 15.722	41	Conversations, birds and motor vehicles and motorcycles
	Prisons	S01 ⁰ 16.224, E029 ⁰ 59.172	47.1	Conversations, motorcycles and birds
	Kabale University	S01 ⁰ 16.278, E029 ⁰ 59.274	55.2	Conversations and motor vehicles and motorcycles
	NSSF	S010 15.339, E0290 59.978	43	Conversations and motor vehicles and motorcycles
	EC	S01 ⁰ 15.339, E029 ⁰ 59.976	38.2	Conversations and motor vehicles and motorcycles
	IGG	S01 ⁰ 15.395, E029 ⁰ 59.707	46.1	Conversations and motor vehicles and motorcycles
	DPP	S01 ⁰ 14.868, E029 ⁰ 59.550	54.5	Conversations and motor vehicles and motorcycles
	Rushoroza HCIV	S01 ⁰ 17.345, E029 ⁰ 59.795	47.4	Conversations and motor vehicles and motorcycles
	NARO	S01 ⁰ 14.781, E029 ⁰ 59.506	50.7	Conversations and motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
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A number of offices shall be moving to Kikungiri hill where the High Court is located. This therefore calls for utilization of more flexible approaches to these connections like poles since these can easily be relocated. Roads to be potentially impacted include Bunigo road, Mbarara road, Kisoro road and sections off Katuna road. Most connections shall be along Mbarara road for offices like BOU, Posta, Post Bank, NSSF among others. A pictorial register for some of the sites is subsequently presented.



National Teachers College Kabale
 Source: Last Mile ESIA Field Photos 2017



Route to National Teachers College Kabale. Notice the paved ground
 Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Kabale University main entrance Source: Last Mile ESIA Field Photos 2017</p>			 <p>Rushoroza HCIV Source: Last Mile ESIA Field Photos 2017</p>
	 <p>General outlook of the street to provide most distributions Source: Last Mile ESIA Field Photos 2017</p>			 <p>DPP Kabale Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>NIRA Kabale Source: Last Mile ESIA Field Photos 2017</p>		 <p>Noitce roadside garden along NIRA access route Source: Last Mile ESIA Field Photos 2017</p>		
Mbarara 17/11/17	NARO Turn off	S00 ⁰ 36.064, E030 ⁰ 36.873	39.9	Conversations, birds, motor vehicles and motorcycles
	NARO office area	S00 ⁰ 36.168, E030 ⁰ 36.632	35.1	Conversations, birds, motor vehicles and motorcycles
	MUBS, UMI + NEMA	S00 ⁰ 36.590, E030 ⁰ 38 579	46.1	Conversations, birds, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Near Boma grounds	S00 ⁰ 36.365, E030 ⁰ 39.240	38.2	Conversations, birds, motor vehicles and motorcycles
	EC and NIRA	S00 ⁰ 36.358, E03 ⁰ 39.233	39.4	Conversations, birds, motor vehicles and motorcycles
	NWSC	S00 ⁰ 37.082, E030 ⁰ 38.722	58.9	Conversations, birds, motor vehicles and motorcycles
	Nyamitanga Technical Institute	S00 ⁰ 37.234, E03 ⁰ 30.719	52.7	Conversations, birds, motor vehicles and motorcycles
	Prisons	S00 ⁰ 36.933, E03 ⁰ 39.657	52.6	Conversations, motor vehicles and motorcycles
	Post bank-Post office	S00 ⁰ 36.498, E03 ⁰ 39.645	66.5	Conversations, birds, motor vehicles and motorcycles
	Uganda blood transfusion	S00 ⁰ 36.788, E030 ⁰ 38.671	43.5	Conversations, birds, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
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Universities in this area just like in all other areas visited during the study already utilize another system, an aspect that the client shall need to put into consideration. There are plans to modernize Kamukuzi under the MLHUD which shall see a number of units constructed in the area. This development could also see some of the potential users from UMI and MUBS joining the local government as they have also been allocated land in that area. , NITA-U shall ensure that this if put on the radar for future connections. Roads to be potentially impacted include Kabale road, Bushenyi road, High Street, Isingiro road and Kakyeka road. Below is a pictorial register for selected sites:





Mbarara Hospital Blood Bank
 Source: Last Mile ESIA Field Photos 2017



General High Street outlook (providing most connections)
 Source: Last Mile ESIA Field Photos 2017

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>Mbarara Post Office <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Route to Uganda Prisons Mbarara <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>NWSC Mbarara <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Inspectorate of Government Mbarara <i>Source: Last Mile ESIA Field Photos 2017</i></p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
DLGHQs, MUBS and UMI area <i>Source: Last Mile ESIA Field Photos 2017</i>		NARO Mbarara Entrance <i>Source: Last Mile ESIA Field Photos 2017</i>		
Kyenjojo 07/12/2017	NWSC	N 00 ⁰ 36.799, E 030 ⁰ 38.494	51.3	Conversations, motor vehicles and motorcycles, birds and wind
	General Hospital	N 00 ⁰ 36.833, E 030 ⁰ 38.404	53.4	Conversations, motor vehicles and motorcycles, birds and wind
	District Headquarters	N 00 ⁰ 37.028, E 030 ⁰ 38.292	42.8	Conversations, motor vehicles and motorcycles, birds and wind
	DPP& Court	N 00 ⁰ 37.044, E 030 ⁰ 38.340	38.1	Conversations, motor vehicles and motorcycles, birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Police Station	N 00 ⁰ 36.755, E 030 ⁰ 38.548	50.9	Conversations, motor vehicles and motorcycles, birds and wind
	Prison & Town Council	N 00 ⁰ 35.592, E 032 ⁰ 38.552	55.4	Conversations, motor vehicles and motorcycles, birds and wind



At a number of points like the main gate of this hospital, there are boda-boda stages and businesses that could be impacted by the project. Routes to be impacted include Fort Portal highway and Kamwenge road. A photographic register for selected sites is subsequently provided:



NWSC
Source: Last Mile ESIA Field Photos 2017









Kyenjojo General Hospital
Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Local Government Offices Source: Last Mile ESIA Field Photos 2017</p>		 <p>Court Source: Last Mile ESIA Field Photos 2017</p>		
Kyegegwa	Town council	N 002 ⁰ 28.924, E 031 ⁰ 03.527	46.1	Conversation, birds and occasionally distant vehicles and motor cycles
	District Registrar's Office	N 00 ⁰ 28.650, E 031 ⁰ 03.103	40.0	Conversation and birds
	Central Police Station	N 00 ⁰ 28.892, E 031 ⁰ 03.458	53.6	Conversation and motor vehicles and motor cycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Local Government Office	N 00 ⁰ 29.316, E 031 ⁰ 03.734	40.8	Conversation and birds
	Prison	N 00 ⁰ 29.416, E 031 ⁰ 03.683	40.0	Conversation, wind and birds
	Kyegegwa Court	N 00 ⁰ 29.003, E 031 ⁰ 03.589	53.6	Conversation, vehicles and motor cycles
	HC IV	N 00 ⁰ 29.044, E 031 ⁰ 03.207	52.3	Conversation, vehicles and motor cycles
	RDC	N 00 ⁰ 29.242, E 031 ⁰ 03.776	42.0	Conversation, birds and occasionally distant vehicles and motor cycles

Main roads to be impacted include the Fort Portal highway while some offices seemed located in temporary units and could be relocated in the near future. This needs to be put into consideration during the project implementation phase A photographic register is subsequently provided:

District & Date	Site/route & Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kyegegwa Town Council Source: Last Mile ESIA Field Photos 2017</p>				 <p>Registrar offices Kyegegwa district Source: Last Mile ESIA Field Photos 2017</p>
 <p>Kyegegwa Central Police Station Source: Last Mile ESIA Field Photos 2017</p>				 <p>Kyegegwa District Local government offices Source: Last Mile ESIA Field Photos 2017</p>

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
				
<p>Kyegegwa prison Source: Last Mile ESIA Field Photos 2017</p>				
<p>Kyegegwa Health Centre IV Source: Last Mile ESIA Field Photos 2017</p>				
Kagadi	District Registry	N 00 ⁰ 56.174, E 030 ⁰ 48.740	52.6	Conversations, Conversations, birds, motor vehicles and motorcycles , birds and wind
Kasese 07/12/2017	Municipal Council	N 00 ⁰ 10.796, E 030 ⁰ 04.567	42.3	Conversations, motor vehicles, motorcycles, birds and wind
	NWSC	N 00 ⁰ 10.748, E 030 ⁰ 04.599	49.9	Conversations, motor vehicles, motorcycles, birds and wind
	District Registrar	N 00 ⁰ 10.105, E 030 ⁰ 04.739	57.5	Conversations, motor vehicles, motorcycles, birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Divisional Police Head Quarters	N 00 ⁰ 10.497, E 030 ⁰ 04.927	57.0	Conversations, motor vehicles, motorcycles, birds and wind



Routes to be impacted include Rwenzori road near the Municipal Council, Ermine Persha road and some road networks in Kasese Town. A pictorial register is subsequently presented.



Kasese Municipal Council
 Source: Last Mile ESIA Field Photos 2017







National Water Kasese Area
 Source: Last Mile ESIA Field Photos 2017

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
				
<p>UBC Ngeya FM Kasese <i>Source: Last Mile ESIA Field Photos 2017</i></p>		<p>Office of the District Registrar Kasese <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Rubirizi 08/12/2017	UWA	S 00 ⁰ 08.924, E 030 ⁰ 03.807	45.7	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Sub County	S 00 ⁰ 08.123, E 030 ⁰ 03.360	42.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Kichamba Sub County	S 00 ⁰ 14.545, E 030 ⁰ 05.587	51.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	NWSC	S 00 ⁰ 15.829, E 030 ⁰ 06.405	56.2	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	RDC and LG officers	S 00 ⁰ 16.366, E 030 ⁰ 06.443	48.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	District Head Quarters	S 00 ⁰ 17.449, E 030 ⁰ 06.312		Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Town Council & Court	S00 ⁰ 17.325, E 030 ⁰ 06.321	40.4	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind

Main roads to be impacted include the Fort Portal highway while some offices seemed located in temporary units and could be relocated in the near future. This needs to be put into consideration during the project implementation phase A photographic register is subsequently provided:



District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
	 <p>UWA offices Rubirizi <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Wildlife along a road in Rubirizi <i>Source: Last Mile ESIA Field Photos 2017</i></p>
	 <p>Katunguru Sub County offices <i>Source: Last Mile ESIA Field Photos 2017</i></p>			 <p>Rubirizi District Town Council and court <i>Source: Last Mile ESIA Field Photos 2017</i></p>



District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
Sheema	DLGHQs	S 00°24.231, E031°27.690	41.1	Motor vehicles, wind, conversations, birds, animals
<p>Offices for NIRA and the RDC are found within the same area in Kibingo Village, Nyakashambya Ward, Sheema Central Division. A photographic register is subsequently provided:</p>				
				
<p>Offices within the Sheema DLGHQs locality <i>Source: Last Mile ESIA Field Photos 2018</i></p>				
Lwengo	DLGHQ	S 00°24.231, E 031°27.690	46.9	Conversations, birds, motor vehicles and motorcycles

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
<p>Connection to this area shall be from the existing line at the RDCs office. Lwengo also has two main landlords one of whom gave the District land. These landlords should be consulted together with the district leadership prior to project implementation. With consideration of the fact that it is a new district, there should consideration of peoples crops as proper demarcation of roads is yet to be fully effected. NITA-U should ensure that aspects of valuation and compensation should be looked into with support from sister agencies responsible for this.</p>				
Mubende 05/12/2017	NWSC	N 00° 33.671, E 031° 23.506	44.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	RDC, Court DPP High and	N 00° 33.747, E 031° 23.418	45.2	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Municipal Council	N 00° 33.639, E 031° 23.484	53.6	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Regional Hospital	N 00° 34.113, E 031° 23.602	51.0	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
	Works Offices	N 00 ⁰ 35.180, E 031 ⁰ 23.672	46.1	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	Prison Kaweeri	N 00 ⁰ 35.086, E 031 ⁰ 23.649	33.8	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind
	District Head Quarters	N 00 ⁰ 34.280, E 031 ⁰ 23.551	44.9	Conversations, Conversations, birds, motor vehicles, motorcycles , birds and wind

Sites in Mubende also have a number of businesses in their proximity like retails shops, Chapati bakers, bodaboda stage and store for cereals like maize and rice. There are also a number of schools like the Kaweeri Model Primary School. Roads that could be potentially impacted include Kakumiro road and Kiwalabye road. The photographic register for some selected sites in subsequently presented:

District & Date	Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Municipal Council Source: Last Mile ESIA Field Photos 2017</p>				 <p>Mubende Regional Referral Hospital Source: Last Mile ESIA Field Photos 2017</p>

District Date	& Site/route Connections	GPS	Noise levels (dB)	Noise sources
 <p>Kweeri Prison Mubende <i>Source: Last Mile ESIA Field Photos 2017</i></p>		 <p>Mubende district headquarters <i>Source: Last Mile ESIA Field Photos 2017</i></p>		
Kabarore	Regional Electoral Office	N 00 ^o 39.133, E 030 ^o 16.548	38.6	Birds and conversations

Appendix 12: Waste Management Plan



NATIONAL INFORMATION TECHNOLOGY AUTHORITY
WASTE MANAGEMENT PLAN

October 2017

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Revision Control

Revision:	Para /Sect	Change Description

The above section must be fully completed at each revision upon document approval. It should provide details on pages revised, date of the revision and paragraph with clear indication approval of known authority.

TABLE OF CONTENTS

ACKNOWLEDGEMENT	II
LIST OF ABBREVIATIONS	X
EXECUTIVE SUMMARY	XIII
CHAPTER ONE	1
1.0. Introduction	1
1.1 Objectives for the Environmental and Social Impact Study	2
1.2. Purpose and scope of environmental impact assessment	2
1.3. ESIA study team and responsibilities	3
1.3.1 Limitations	4
1.4. Methodology	4
1.5. Structure of the Report	5
The Environmental and Social Impact Statement [ESIS] covers the following key aspects:.....	5
CHAPTER TWO	7
2.0 Institutional, Policy, Legislation and Regulatory Considerations.....	7
2.1 Institutional Framework	7
2.1.1. The National Environment Management Authority (NEMA).....	7
2.1.2. Ministry of Information, Communication and Technology [MoICT] and National Guidance.....	7
2.1.3 The National Information Technology Authority-Uganda (NITA-U)	8
2.1.4 The Uganda National Bureau of Standards (UNBS)	8
2.1.5. Ministry of Gender, Labour and Social Development (MoGLSD).....	8
2.1.6. Ministry of Tourism, Wildlife and Antiquities.....	8
2.1.7. Ministry of Trade, Tourism and Industry (MTTI)	9
2.1.8. Kampala Capital City Authority (KCCA).....	9
2.1.9. Local Government Administration Structures.....	9
2.1.10 National Forestry Authority, NFA	10
2.1.11 Uganda Wildlife Authority (UWA).....	10
2.1.12 Ministry of Water and Environment.....	10
2.2. Policy Framework.....	11
2.2.1. The National Environment Management Policy, 1994.....	11
2.2.2 Information Management Services Policy Draft V.8 2011	11
2.2.3 Electronic Waste (E-Waste) Management Policy, 2012	11
2.2.4 National ICT Policy, 2012.....	12
2.2.5 Telecommunications Policy, 1996	12
2.2.6 The National Culture Policy, 2006.....	12
2.2.7 The National Land Use Policy, 2007.....	13
2.2.8 Wetlands Policy, 1995.....	13
2.2.9 National Water Policy, 1999.....	13
2.2.10 Wildlife Policy, 1999	13
2.2.11 National Gender Policy, 1997	14
2.2.12 HIV/AIDS Policy, 1992	14

2.2.13 National Development Plan (NDP), 2010.....	14
2.2.14 Uganda’s Vision, 2040	15
2.2.15 National Policy on Disability in Uganda, 2006	15
2.2.16 World Bank Safeguards Policies	15
2.2.17 Museums and Monuments Policy (2015)	16
2.2.18 Uganda National Culture Policy 2006	16
2.3 Legal Framework.....	17
2.3.1 Constitution of the Republic of Uganda, 1995	17
2.3.2 The Electronic Signatures Act, 2011	17
2.3.3 Computer Misuse Act, 2010	17
2.3.4 The Electronic Transaction Act 2011	18
2.3.5 Copyright and Neighboring Rights Act, 2006.....	18
2.3.6 National Environment (Wetlands, River Banks and Lakeshores management) Regulations, 2000.....	18
2.3.7 National Environment (Hilly and Mountainous Areas management) Regulations, 2000	18
2.3.8 National Environment (Minimum Standards for Management of Soil Quality) Regulations, 2001	19
2.3.9 Environment (Noise Standards and Control) Regulations, 2003	19
2.3.10 National Environment (Waste Management) Regulations, 1999.....	19
2.3.11 National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, 1999.....	19
2.3.12 Draft National Air Quality Standards, 2013.....	20
2.3.13 Occupational Health and Safety Act, 2006.....	20
2.3.14 Uganda Wildlife Act, 2000.....	20
2.3.15 The Physical Planning Act, 2011	20
2.3.16 Public Health Act, 1935.....	21
2.3.16 Employment Act, 2006.....	21
2.3.17 Workers’ Compensation Act, 2000	21
2.3.18 Local Governments Act, 2015	22
2.3.19 Petroleum Supply Act, 2003	22
2.3.20 Road Act, Cap 358.....	22
2.3.21 Historical Monuments Act Cap 46, 1967 amended in a Decree in 1977.....	22
2.3.22 The National Environment Act, Cap 153.....	23
2.3.23 The National Environment (Audit) Regulations, 2006	23
2.3.24 The National Environment (Environment Impact Assessment) Regulations, 1998	23
2.3.25 World Bank Group General EHS Guidelines.....	24
2.3.26 International Agreements/ Conventions.....	24
Table 2.1: International Agreements.....	24
CHAPTER THREE	25
3.0. Environmental baseline conditions	25
3.1. Location	25
3.1.1 Ownership	25
3.2. Biophysical Environment	26
3.2.1. Morphology, Relief and Drainage.....	26
3.2.2. Climate	26
Figure 3.1: The homogeneous climatological rainfall zones of Uganda, after Basalirwa (1995)	27
Table 3.1: The Regions and Stations used.....	27

3.2.2.1	Rainfall Characteristics in Central Region	28
	Figure 3.2a: Makerere mean mon. R/F 1991-2010.....	28
	Figure 3.2b: Makerere mean mon. Max Temps 1991-2010	29
	Figure 3.2c: Makerere mean mon. min 1991-2010	29
3.2.2.2	Rainfall Characteristics in the Eastern Region	29
	Mean monthly Temperature characteristics in the Eastern Region	30
	Figure 3.3b: Buginyanya mean mon. Min. and Max. Temperature 1980 -2010	30
3.2.2.3	Rainfall Characteristics of the Western Region.....	31
	Figure 3.4b: Mbarara Mean mon Max. Temps 1981 - 2013.....	31
	Figure 3.4c: Makerere mean mon.Min. Temps 1981 -2013	32
3.2.2.3	Rainfall Characteristics of the Northern Region.....	32
	Figure 3.5a: Gulu Mean monthly rainfall 1990-1912.....	32
	Figure 3.5b: Gulu mean monthly Max. Temps 1990 - 2012	33
	Figure 3.5c: Gulu mean monthly Min. Temp 1990 - 2012.....	34
3.2.3.	Geology and Soils.....	34
	Figure 3.6a: Geological outline of Uganda. WNB = West Nile Block, NUT =	
	North Uganda Terrane, WTT = West Tanzania Terrane and LVT = Lake	
	Victoria Terrane. RW = Rwenzori Terrane	35
3.2.3.1	Lake Victoria Terrane.....	35
	Figure 3.6b: Distribution of Iganga Suite granitoid members	36
3.2.3.2	West Tanzania Terrane.....	36
	Figure 3.6c: Geological map of the West Tanzania Terrane with TTG	
	gneisses, Tororo Suite and Kampala Suite.....	37
3.2.3.3	Tororo Suite.....	37
	Figure 3.6d: Geology of Tororo district showing the Tororo Suite	38
3.2.3.4	Kampala Suite.....	38
3.2.3.5	Rwenzori Fold Belt	39
3.2.3.6	North Uganda Terrane.....	40
3.2.4.1	Vegetation Cover for the Eastern-Northern Routes	41
	Figure 3.7: Species distribution in their respective life form in the Eastern-	
	Northern Routes Vegetation cover	43
3.2.4.2	Vegetation Cover for the Western- Southern Routes.....	44
	Figure 3.8: Species distribution in their respective life form.....	44
	Figure 3.9: Proportionality and species status from all the sampled towns	45
3.2.4.3	Vegetation Cover for the Central Routes	45
	Figure 3.10: Proportionality and species status from all the Districts ...	46
3.2.5.	Fauna.....	46

3.2.5. Noise generation	46
3.3. Socio-Economic Environment	47
3.3.1. Population.....	47
3.3.2. Urbanization	47
3.3.3. Safe water and sanitation.....	47
3.3.4. Project Environmental and Social Setting.....	48
3.3.4.1 Archaeology and Cultural heritage.....	48
Ethnographic inquiries (interviews)	49
Archaeological survey.....	49
Plate 3.1: Systematic archaeological survey.....	50
Kiryandongo Archaeological site 1	50
Plate 3.2: String knotted roulette potsherds.....	51
Kiryandongo Archaeological site 2.....	51
Plate 3.3: Mammilated wavy line roulette decoration.	51
Gulu Archaeological site 1	51
Plate 3.4: Potsherds of knotted, curved wood roulette and bones.....	52
Nakasongola Archaeological site 1.....	52
Plate 3.5: A bone in situ and curved wood Roulette decorated pottery .	52
3.3.4.2 Living Culture.....	52
Gulu mass grave/ cemetery	53
Plate 3.6: The new Uganda Human Rights Commission Block	53
3.3.4.3 Assessment of Impact.....	53
3.3.4.4 Strengths and Opportunities of the project.....	54
3.3.4.5 Weaknesses and Threats	54
3.3.4.6 Project Area Photographic and Noise Presentations	55
3.3.4.8 ICT access	55
CHAPTER FOUR.....	56
4.0. Project Description.....	56
Project Components and sub components	56
4.1.1. Objectives and justification for the project	57
4.2. General Description	58
4.3. Site Preparation.....	58
4.3.1. Construction Works	58
4.3.2. Expected Implementation Materials	58
4.4. Operation phase	59
4.4.1. Description of the Operational Works/ Phase	59
4.5. Waste Management Facilities	59
4.6 Decommissioning phase.....	59
4.7. Roles and Responsibilities.....	60
4.7.1. The Role of NEMA and Lead Agencies	60
4.7.2. The Role of Ministry of Gender, Labour and Social Development	60
4.7.3. The Role of Local Government.....	60
4.7.4. The Role of the Developer.....	61
4.7.5. The Role of the contractor	61

4.7.6. The Role of the Ministry of ICT and National Guidance	62
4.7.7. The Local Communities	62
4.7.8. The Monitoring Team	62
Reporting Arrangements	63
4.7.9 Grievance Resettlement Mechanism	63
4.7.10. Contractors	64
4.8. Emergency Response	64
CHAPTER FIVE.....	65
5.0. Analysis of project alternatives.....	65
5.1 Technology Alternatives	65
5.2. A different location	65
5.3. The ‘No Go’ Alternative	65
5.4. Alternative FOC Designs	66
CHAPTER SIX.....	67
STAKEHOLDER/ PUBLIC CONSULTATIONS.....	67
6.1. Public consultations	67
Table 6.1: Stakeholders’ views during public consultation	67
CHAPTER SEVEN.....	77
7.0. Evaluation of Environmental, Social, Health and Safety Impacts	77
7.1 Prediction and Analysis of Impacts.....	77
Table 7.1: Impact Assessment Criteria	77
7.2 Construction Phase	78
7.2.1 Potential Positive Impacts	78
Job Opportunities	78
Table 7.2: Impact Assessment for Job Opportunities.....	79
Plate 7.1: Fruit Stalls in Kaberamaido and Water Bought by the ESIA Field Team in the Car	79
Optimisation.....	79
Table 7.3: Impact Assessment for Income Opportunities.....	80
7.2.2 Potential Negative Impacts	80
Plate 7.2: BodaBodas, Chapatti Makers and a Shoe Trader Disrupted by OFC like Trenching Works at the UH Makerere University Gate Error! Bookmark not defined.	
Table 7.4: Impact Assessment for the Livelihood Risk. Error! Bookmark not defined. Plate 7. 3: Contractor Blocks Access to a Hardware Shop with Debris in Matugga..... Error! Bookmark not defined.	
Table 7.5: Impact Assessment for Business Losses Error! Bookmark not defined. Plate7. 4: Mobility Disrupted by OFC Trenching Works at the UH Makerere University Gate..... Error! Bookmark not defined.	
Table 7.6: Impact Assessment for the Mobility Disruption Error! Bookmark not defined.	
Table 7.7: Impact Assessment for Child Labour and Exploitation.....	81
Table 7.8: Impact Assessment for Prostitution, Multi-Sexual Partners and Social Disorders	82

Table 7.9: Impact Assessment for Increased Crime Incidence	83
Plate 7.5: Achilo Corner Primary School at Lwala-Kaberamaido 15 Km Stretch to be trenched	83
Table 7.10: Impact Assessment for Sexual offences	84
Table 7.11: Impact Assessment for Airborne diseases	84
Table 7.12: Impact Assessment for Slips, Trips and Falls.....	85
Table 7.13: Impact Assessment for Traffic Accidents and Flow Disruptions.....	86
7.14: Impact Assessment for Morale Degeneration	86
Plate7. 6: A Grave Marked in one of the Karamoja Roads for illustration of Chance Finds	87
Table 7.15: Impact Assessment for the Physical and Cultural Resources (PCRs)	88
Alteration of Visual and Aesthetic Quality of Sites Error! Bookmark not defined.	
Plate7. 7: Footprint of OFC Trenching Work at Mega FM (Gulu) and the Makerere University UH Gate Respectively Error! Bookmark not defined.	
Table 7.16: Impact Assessment for the Physical and Cultural Resources (PCRs) Error! Bookmark not defined.	
Disruption of Access to Utilities and Infrastructure Error! Bookmark not defined.	
Table 7.17: Impact Assessment for Public Facilities Error! Bookmark not defined.	
Plate 7.9: Typical poor PPE culture in Uganda during excavations, Last Mile to avoid such cultures during project implementation	88
Table 7.18: Impact Assessment for WRULDs.....	89
7.3 Operations Phase	89
Plate 7.10: A Functional OFC Sub-Station at Mega FM in Gulu	89
Table 7.19: Impact Assessment on Access to Public Services and Information	90
Table 7.20: Impact Assessment on Loss of Market Opportunities by Internet Cafes...	91
Table 7.21: Impact Assessment of the Burden of Disease.....	91
Table 7.21: Impact Assessment on the Rise of Crime Levels.....	92
Alteration in Visual Aesthetics.....	92
Table 7.22: Impact Assessment on Alterations in Visual Aesthetics	93
Plate 7. 9: NWSC Pipes in Kalerwe Cut in the on Going Road Works. 93	
Plate 7. 10: NWSC System Safely Burrowed Under the Panaora Hotel Road in Nakapiripirit	94
Table 7.23: Impact Assessment on the Rampant Cutting of the OFC	95
Table 7.24: Impact Assessment for Mobility Disruptions Error! Bookmark not defined.	
7.4 Decommissioning Phase.....	95
Plate 7.11: Potential E-Waste outside an existing Sub-Station in Gulu and a General Waste Bin of Kaberamaido District Local Government.....	95
Plate 7.12: Makerere University UH Gate Now After Restoration of the OFC Cable depicting change in scenic appearance	96

7.5 Environment Social Safety and Health Risk Assessment	96
Table 7.25: Environment Social Safety and Health Risk Assessment.....	97
CHAPTER EIGHT	111
ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN.....	111
8.0. Environment and Social Management and Monitoring Plan (ESMMP)	111
8.1. Structure of the ESMMP	111
Table 8.1: Summary of the Environment and Social Management and Monitoring Plan for the Last Mile RCIP Project Components	112
Cultural Heritage Management Plan.....	139
Table 8.2: Proposed mitigation measures for potential negative impacts on cultural heritage resources.	139
Table 8.3: Assessment of Significance	140
Monitoring Plan	140
Table 8.4: Archaeology and cultural heritage Monitoring Plan	141
Chance Finds Procedures	141
Procedures to address chance find.....	141
CHAPTER NINE	143
PROJECT DECOMMISSIONING	143
9.0. Decommissioning	143
BIBLIOGRAPHY	144
APPENDICES	147
Appendix 1: Examples of layouts for the routes in selected districts to be visited	147
Appendix 2: UNRA clearance to utilize road reserves for project activities	148
Appendix 4: Risk Matrix.....	151
Appendix 5: Cultural heritage, archaeological and historical sites	152
Appendix 6: Plant Species Composition	165
Appendix 7: Emergency / Incident Response System.....	226
Appendix 8: Stakeholder consultation records	227
Appendix 9: TORs approval.....	252
Appendix 10: Resolution of Parliament to Borrow Funds for the Project from International Development Association	254
Appendix 11: General Site Descriptions - Project Area Photographic and Noise Presentations	
256	
Appendix 12: Waste Management Plan	381
INTRODUCTION.....	398
PURPOSE.....	399
SCOPE.....	399
DEFINITIONS	400
ABBREVIATIONS	401
RESPONSIBILITIES	402
Director Technical Services (DTS).....	402
NITA-U Project Specific Team Members/ Supervisors/ Managers	402
Contractor Health Safety and Environment Supervisors	402
NITA-U Project Partners	403
Environmental specialist (ES).....	403

Waste Handling Contractors	403
All Personnel and 3rd Parties	403
GENERAL PRINCIPLES.....	403
WASTE MINIMISATION AND REUSE.....	404
Waste Reuse and Recycle Programs	404
RECYCLING OF E-WASTE.....	405
WASTE CLASSIFICATION.....	405
WASTE MANAGEMENT PROCEDURE	405
STORAGE, SEGREGATION AND HANDLING OF WASTE	406
MANIFESTING/CONSIGNING OF WASTE	407
WASTE DISPOSAL FACILITIES	407
MONITORING AND REPORTING	408
NON-CONFORMANCE	408
INDUCTIONS, TRAINING AND AWARENESS	409
APPENDIX A – WASTE TRANSFER FORM.....	410
Appendix 13: Operations Site Survey Report Format.....	414
Table 7.14: Impact Assessment for Morale Degeneration.....	417
Plate7. 6: A Grave Marked in one of the Karamoja Roads for illustration of Chance Finds	418
Table 7.15: Impact Assessment for the Physical and Cultural Resources (PCRs)	419
Alteration of Visual and Aesthetic Quality of Sites	419
Plate7. 7: Footprint of OFC Trenching Work at Mega FM (Gulu) and the Makerere University UH Gate Respectively	420
Table 7.16: Impact Assessment for the Physical and Cultural Resources (PCRs)	421
Disruption of Access to Utilities and Infrastructure	421
Table 7.17: Impact Assessment for Public Facilities	423
Plate 7.9: Typical poor PPE culture in Uganda during excavations, Last Mile to avoid such cultures during project implementation	424
Table 7.18: Impact Assessment for WRULDs.....	424
7.3 Operations Phase	425
Plate 7.10: A Functional OFC Sub-Station at Mega FM in Gulu	426
Table 7.19: Impact Assessment on Access to Public Services and Information	427
Table 7.20: Impact Assessment on Loss of Market Opportunities by Internet Cafes .	428
Table 7.21: Impact Assessment of the Burden of Disease.....	428
Table 7.21: Impact Assessment on the Rise of Crime Levels.....	430
Alteration in Visual Aesthetics.....	430
Table 7.22: Impact Assessment on Alterations in Visual Aesthetics	431
Plate 7. 9: NWSC Pipes in Kalerwe Cut in the on Going Road Works	432
Plate 7. 10: NWSC System Safely Burrowed Under the Panaora Hotel Road in Nakapiripirit	433

Table 7.23: Impact Assessment on the Rampant Cutting of the OFC	434
Table 7.24: Impact Assessment for Mobility Disruptions	435
7.4 Decommissioning Phase.....	435
Plate 7.11: Potential E-Waste outside an existing Sub-Station in Gulu and a General Waste Bin of Kaberamaido District Local Government.....	436
Plate 7.12: Makerere University UH Gate Now After Restoration of the OFC Cable.....	437
7.5 Environment Social Safety and Health Risk Assessment	437
Table 7.25: Environment Social Safety and Health Risk Assessment.....	439
CHAPTER EIGHT	457
ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN.....	457
8.0. Environment and Social Management and Monitoring Plan (ESMMP)	457
8.1. Structure of the ESMMP	457
Table 8.1: Summary of the Environment and Social Management and Monitoring Plan for the Last Mile RCIP Project Components	458
Cultural Heritage Management Plan.....	500
Table 8.2: Proposed mitigation measures for potential negative impacts on cultural heritage resources.	500
Table 8.3: Assessment of Significance	501
Monitoring Plan	502
Table 8.4: Archaeology and cultural heritage Monitoring Plan	503
Chance Finds Procedures	503
Procedures to address chance find.....	504
CHAPTER NINE	506
PROJECT DECOMMISSIONING	506
9.0. Decommissioning	506
BIBLIOGRAPHY	507
APPENDICES	511
Appendix 1: Examples of layouts for the routes in selected districts to be visited ...	511
Appendix 2: UNRA clearance to utilize road reserves for project activities	513
Appendix 4: Risk Matrix.....	514
Appendix 5: Cultural heritage, archaeological and historical sites	516
Appendix 6: Plant Species Composition	530
Appendix 7: Emergency / Incident Response System.....	590
Appendix 8: Stakeholder consultation records	591
Appendix 9: TORs approval.....	616
Appendix 10: Resolution of Parliament to Borrow Funds for the Project from International Development Association	618
Appendix 11: General Site Descriptions - Project Area Photographic and Noise Presentations 620	
Appendix 12: Waste Management Plan	Error! Bookmark not defined.
INTRODUCTION.....	757
PURPOSE.....	757
SCOPE.....	758
DEFINITIONS	758

ABBREVIATIONS	759
RESPONSIBILITIES	760
Director Technical Services (DTS).....	760
NITA-U Project Specific Team Members/ Supervisors/ Managers	760
Contractor Health Safety and Environment Supervisors	760
NITA-U Project Partners	760
Environmental specialist (ES)	760
Waste Handling Contractors	760
All Personnel and 3rd Parties	760
GENERAL PRINCIPLES.....	760
WASTE MINIMISATION AND REUSE.....	761
Waste Reuse and Recycle Programs	761
RECYCLING OF E-WASTE.....	761
WASTE CLASSIFICATION.....	762
WASTE MANAGEMENT PROCEDURE	762
STORAGE, SEGREGATION AND HANDLING OF WASTE	762
MANIFESTING/CONSIGNING OF WASTE	763
WASTE DISPOSAL FACILITIES	764
MONITORING AND REPORTING	764
NON-CONFORMANCE	764
INDUCTIONS, TRAINING AND AWARENESS	765
APPENDIX A – WASTE TRANSFER FORM.....	766
Appendix 13: Operations Site Survey Report Format.....	768

INTRODUCTION

This Waste Management Plan provides guidance on waste handling in NITA-U operations. It is prepared to ensure compliance to NITA-U internal policies, Uganda regulations and International Best Practice. It further provides guidance for both office and field operations providing guidance on roles and responsibilities in waste handling (production, collection, storage and disposal). Attention is drawn to the fact that existing waste management regulations in Uganda prohibit disposal of any form of waste on land, water or in air except when it conforms to prevailing national regulatory standards. It is also a requirement in the National Environment (Waste Management) Regulations, 1999, and will be in the draft 2018 waste management regulations for waste transporters and disposal sites obtain licensure from NEMA. With the main waste stream in NITA-U related projects being electronic waste specific reference shall be made to the draft waste management regulations as therein is detail on electronic waste management.

Below are some applicable local and international laws and guidelines:

- National Environment Act, Cap 153
- Water (Waste Discharge) Regulations, 1998
- Public Health Act, Cap 281
- Ferries Act, Cap 355
- Inland Water Transport (Control) Act, Cap 356
- National Environment (Waste Management) Regulations, 1999
- EIA Regulations (1998)
- Standards for Discharge of effluent into water or land regulations
- Minimum standards for management of soil quality regulations (2001)
- Management of Ozone Depleting substances and products regulations (2001)
- Constitution of Republic Of Uganda (Chapter 3, section 245)
- The Land Act, 1997
- Investment Code, 1991
- National Environment (Wetlands, River Banks and Lake Shores Management) Regulations, 2001
- National Environment (Discharge of Effluent) Regulations, 1999
- Wildlife Act, Cap 200 of 2000

PURPOSE

This plan provides practical guidance on management of all waste streams attached to NITA-U operations and or handling of waste generated. It is a compliance tool that supports practical guidance to ease both implementation and supervision of waste management activities. In the event that waste management plans of either the contractors or NITA-U differ, the more stringent plan shall apply with guidance from competent teams.

The NITA-U Compliance Policy Statement/ compliance commitment statement provides for adherence to performance of activities in environmentally responsible way which entails Pollution prevention and Pollution minimization in our activities. To achieve this, the following have been streamlined as pertinent:

- Understand the value of knowledge on environmental compliance in our areas of focus

- Commit to waste minimisation through appropriate maintenance and purchase of sound equipment
- Commit to playing a great role in environmental compliance around communication and E-waste management
- Streamline all waste streams associated with our operations as NITA-U and for our contractors
- Provide for continuous improvement in compliance related aspects of our operations.

SCOPE

This Waste Management Plan applies to all waste, hazardous and non hazardous waste including electronic waste, general domestic waste, grey and black water among others from:

- Stations and poles (both treated and untreated)
- Office facilities
- Transport services
- Excavation works
- Facilities maintenance works and
- Management or disposal options for end of life facilities/ units

DEFINITIONS

Waste	Includes any matter prescribed to be waste, and any radioactive matter, whether liquid, solid, gaseous or radioactive which is discharged, emitted or deposited into the environment in such volume, composition or manner as to cause an alteration of the environment.
General Waste	Material free of any apparent or actual pathological/infectious, radioactive or hazardous chemical contamination.
Hazardous waste	Any waste specified in the Fifth Schedule of the National Environment (Waste Management) Regulations. S.I.No 52/1999, 2nd, 4th Schedule (Regulation 2), Guidelines for determination of some hazardous characteristics.
Electrical electronic equipment	or means equipment which is dependent on electric currents or electromagnetic fields in order to function properly, as well as equipment for the generation, transfer, distribution and measurement of such currents and fields, including the components necessary for the cooling, heating and protection of the electrical or electronic equipment

Electrical or Waste from electrical or electronic equipment or any part of that
electronic waste equipment, including equipment that is old, obsolete, has reached end-
of-life or has ceased to be of any value to its owners.

Waste Contractor NEMA licensed Waste management contractor

ABBREVIATIONS

ES Environmental Specialist

HSE Health Safety and Environment

MSDS Material Safety Data Sheet

NEMA National Environment Management Authority

PPDA Public Procurement and Disposal Authority

SDS Safety Data Sheet

WMP Waste Management Plan

WTN Waste Transfer Notes

RESPONSIBILITIES

Director Technical Services (DTS)

The DTS is responsible for the overall implementation of the Waste Management Plan and communication of the same to both staff and contractors.

NITA-U Project Specific Team Members/ Supervisors/ Managers

Responsible for ensuring that all waste originating from projects is managed in line with this plan. Supervisors should also ensure that all team members are aware of their obligations in line with minimization of waste and sound waste management practices.

Contractor Health Safety and Environment Supervisors

These are responsible for ensuring that all NITA-U related waste is managed in a sound manner in accordance with resident regulations and International best practice.

NITA-U Project Partners

Responsible for waste in operations related to NITA-U and other waste produced from their operations. They should ensure that their operations have competent personnel to appropriately handle waste or offer guidance in waste management.

Environmental specialist (ES)

The ES shall guide teams on various waste management strategies. He/ she shall ensure that all waste streams and waste are identified throughout the project cycle in accordance with this plan. The environmental specialist shall ensure that aspects of waste collection, storage, transportation and disposal are soundly carried out.

The main responsibilities for the ES include:

- Ensuring that waste registers are maintained and updated
- Develop waste management related documentation including but not limited to Waste Transfer and Disposal forms.
- Providing advice on waste disposal issues and periodic summaries on waste management;
- Assessing training needs and carrying out trainings on waste management to execution teams.
- Addressing non-conformances related to NITA-U related waste

Waste Handling Contractors

These shall ensure that all activities carried out are in compliance with the National Environment (Waste Management) Regulations, NITA-U HSE considerations and International Best Practice.

All Personnel and 3rd Parties

It is a duty of all personnel dealing in or aware of NITA-U related waste to efficiently manage waste in accordance with the National Environment (Waste Management) Regulations. Specific interest should be directed to PART V – producer responsibility and product stewardship, management of plastics and associated waste and management of electrical and electronic waste in the National Environment (Waste Management) Regulations.

GENERAL PRINCIPLES

The following general measures shall be considered when handling waste:

- All hazardous and non-hazardous waste from NITA-U related activities shall as reasonably practicable as possible be collected by a NEMA licensed waste handler.
- Food/organic waste produced in offices shall be managed and disposed of by the responsible contractor in compliance with resident regulations.
- NITA-U strives to have a zero E-waste illegal dumping. All waste should be appropriately managed and disposed of in the best available manner.
- Waste minimization and reuse shall be considered by NITA-U and relevant partners as priority approaches in dealing with E-waste waste management.
- Continuous improvement is expected to be one of the guiding factors in managing NITA-U related waste. There shall be continuous liaison with other relevant government agencies to ensure that E-waste is appropriately managed in the country.
- NITA-U is responsible for the E-waste and other waste categories collected from its operation areas and shall ensure that contractors carrying out tasks on their behalf comply with the same.
- Efforts on E-waste collection and disposal centres shall be determined through joint efforts with relevant lead agencies and partners. For guidance purposes, the E-waste storage or segregation areas should:
 - Have the ability to withstand harsh weather conditions
 - Be secure enough to check on scavengers and vermin
- Communication on E-waste management shall be carried out jointly with other relevant Lead agencies and partners.

WASTE MINIMISATION AND REUSE

NITA-U focuses on sound planning regimes to only purchase materials needed for their operations. Where possible, this shall be extended to other development partners in both government and the private sector so as to minimize what goes to waste. Liaison shall also incorporate looking at what is imported into the country and whether it is of value to reduce on trans-boundary waste movement that often occurs under the pretext of valuable goods. Where possible, NITA-U shall ensure that all materials to be utilized are purchased with specific reference to environmental friendliness.

Waste Reuse and Recycle Programs

Where deemed appropriate and sound on HSE grounds, some of the waste from NITA-U operations shall be reused. NITA-U shall in liaison with relevant lead agencies and partners offer guidance on E-waste management plans to the general public in this regard. Re-use of general waste like packaging material, wooden pallets among others from NITA-U projects shall only be carried out with guidance from competent HSE/ ES personnel and in liaison with project management teams.

RECYCLING OF E-WASTE

With e-waste becoming an increasing global challenge, NITA-U plans to adopt recycling approaches to E-Waste in the country in liaison relevant Lead Agencies and partners. NITA-U is in the process of identifying in country recycling plants for e-waste like batteries, solar panels, so that materials that are damaged or that have passed their shelf life are moved to these facilities. In collaboration with NEMA and local governments, NITA-U plans to further enhance e-waste management efforts through among other approaches setting up collection points for e-waste to ease quantification of actual waste volumes disposed of. Awareness sessions on e-waste management shall also be held by NITA-U, other relevant lead agencies and partners to ensure that

the public appreciates associated waste management benefits.

Options in e-waste management shall be considered in line with prevailing conditions as provided for below:

Scenario(s)	Action(s)
Presence of recycling facilities	<ul style="list-style-type: none"> • Store materials to viable quantities at NEMA licensed storage / collection points and move waste to recycling units
Absence of recycling facilities	<ul style="list-style-type: none"> • Store materials to viable quantities at NEMA licensed storage / collection points and; • Move or provide for shipping materials back to the manufacturer or recycling plants out of the country. • Plan to encourage development of technology or facility in the country to deal with the waste
Absence of viable waste quantities at collection points	<ul style="list-style-type: none"> • Carry out joint campaigns to encourage e-waste collection from the public

WASTE CLASSIFICATION

Waste shall at all times be classified as listed in the National Environment (Waste Management) Regulations. Aspects of labelling and colour coding may however be addressed depending on project needs.

WASTE MANAGEMENT PROCEDURE

Sound waste management calls for understanding of the categories of waste associated with a project as improper waste management practices could easily cost NITA-U reputational damage, equipment damage, injury to people and pollution. Appropriate PPE usage shall be adhered to in line with the OSH Act 2006 and the National Environment (Waste Management) Regulations among others. It calls for appropriate awareness on the potential negative impacts associated with poor waste management and an appreciation of the reasons behind the set controls. NITA-U shall therefore ensure that project teams are provided with awareness sessions and trainings on sound waste management. Waste management shall also form an integral part of the project induction process.

STORAGE, SEGREGATION AND HANDLING OF WASTE

- Waste storage facilities should be provided for operations in areas where vast amounts of waste are expected. Handling of these shall be done with appropriate PPE including Safety glasses, long sleeved coveralls, task appropriate gloves and a safety helmet as a minimum. Optical fibre related hazards trainings shall also be carried out. In areas of limited waste quantities, all materials should be stored at project designated points prior to being transported to the government collection centres to ease accountability. This shall provide technical teams with opportunity to salvage and re-use parts of e-waste that are still in sound condition saving money, time and supporting sustainable development.
- Waste storage facilities shall have clear labels, be protected from rain and other adverse weather conditions, protected from vermin, sound floors, proper aeration, with clear warnings on entry and access by third parties. Designated fibre-scrap trash cans shall be utilized to collect cut offs from the NITA-U operations.
- Waste management approaches shall only be approved by the Directorate of Technical Services under the docket of the Environmental Specialist and Project managers.

- Black and grey water from NITA-operations are handled by National Water and Sewerage Cooperation systems. In remote areas where these are not accessible, risk assessments shall be carried out on the best available approaches to deal with human waste and mitigation measures executed prior to project commencement.
- Trans-boundary movement of waste shall only be carried out in consultation with NEMA and with fully signed Waste Transfer Notes. Handling of waste across borders calls for joint planning taking into account considerations from both the sending and receiving end. NITA-U shall ensure that all relevant Lead agencies and partners are informed about this prior to execution
- All E-waste shall be appropriately labelled by the project responsible personnel with details on origin, amount and destination among others. Proper identification systems shall be utilized to also trace the facility number of the products deemed waste. Appropriate storage of these materials shall be carried out with the ES's and project leadership teams guidance. Storage facilities shall be in compliance with National legislation and best industry practice with restricted access and entry. The waste shall then be collected by a NEMA licensed waste handler and transported to a pre-agreed NEMA licensed recycling, reuse or disposal site. Clearly completed waste transfer forms shall be utilized to ensure sound chain of custody of the E-waste. The transfer forms shall be fully signed at the receiving site to ease monitoring and for future reference. A detailed report on waste treatment approach shall be expected from the receiving entity detailing the steps taken and the final output from the process including residual waste.
- Chemically treated poles associated with NITA-U projects shall only be reused with guidance from competent personnel. Re-using them for cooking is prohibited as these pose more health risks to personnel.
- Where deemed appropriate by the HSE or Environmental Specialist, MSDS/ SDS should be availed to the project teams and teams handling waste for guidance purposes as part of the labelling process, housekeeping and first aid.

MANIFESTING/CONSIGNING OF WASTE

A sound chain of custody system should appropriately address aspects of waste quantity, status, movement and treatment. These together with hiring of competent personnel play a great role in waste management. Waste transfer forms shall be utilized by project teams and these shall be signed by all responsible parties until the waste reaches the disposal or treatment facility. Waste transfer forms should clearly provide information on the type of waste, quantities, date & time of dispatch, destination, waste handler details, general state of the materials among others.

Waste transfer notes shall be developed in accordance with the National Environment (Waste Management) Regulations. As a minimum, the NITA-U waste transfer notes shall be in triplicate with the original copy kept by the waste producer and kept for future reference, the second copy for the waste handler or transporter of waste and the final copy for the waste disposal facility.

Drivers of trucks transporting waste for licensed waste handlers shall have appropriate driving licences, be trained in Control of Substances Hazardous to Health (COSHH) and understand the value to stick journey management plans as part of the set chain of custody. This requirement shall also be provided to contractors to ensure consistence in NITA-U operations among other requirements.

E-waste export practices shall only be considered with guidance from NEMA. The option of sending waste back to the producers or exporting it to places where it can be recycled shall only be carried out after appropriate due diligence. Priority shall be given to in country e-waste management facilities due to the ease in compliance monitoring.

WASTE DISPOSAL FACILITIES

As an addition to waste tracking or manifesting of waste, NITA-U shall ensure that due diligence is periodically carried out on facilities receiving waste from their operations. All waste should be disposed of at NEMA licensed points and facilities dealing with waste in Uganda. Some of the known facilities are presented below:

Location Waste Management	Facility/Capability	Acceptable Waste/ activities
General Waste (landfill and recycling)	Kampala City dump and Recycling plants	Inert Waste
Black water and Sewage	National Water and Sewerage Corporation	Any waste originating from black and grey water
Hazardous waste	Enviroserv Uganda, Luwero Industries, Nakasongola and Epsilon Uganda Limited etc...	Chemical contaminated waste, radioactive materials
E-waste receiving facilities	Uganda Batteries Limited, etc...	Battery recycling

MONITORING AND REPORTING

- Project teams shall carry out regular inspections and spot checks to ensure compliance of both the contractor during project implementation, at the storage facilities and the final waste destination.
- Scheduled leadership visits especially for multi-sectoral teams should be encouraged to that all relevant lead agencies and partners to show commitment and encourage continuous improvement.
- Monitoring of facilities by project teams shall be carried out and information on quantities of waste, origin among others reported on a weekly and monthly basis. Aspects of waste management shall be an integral part of the monthly and quarterly monitoring reports submitted to partners and relevant lead agencies. Monthly reports on waste should provide details on waste origin, quantity received, planned or executed disposal routes, cumulative quantities of waste received, description of the waste generated including batch number details where feasible.

NON-CONFORMANCE

Contractual obligations attached to compliance shall be clearly stipulated in contracts and meetings with contractors and staff. Breaches in waste management shall be handled in various steps from simple notifications/ warnings of the non-conformity to fully fledged investigations. Full investigations shall be for repeat incidents (even after personnel have been informed of the requirements) and occurrences as per the NITA-U Risk Matrix. Presentations of the same as a lessons learned so as to check on other project and NITA-U team members getting the same issue shall also be carried out.

INDUCTIONS, TRAINING AND AWARENESS

As part of the general project HSE induction, waste management right from production to disposal shall be provided for. Trainings on waste management shall also be carried out detailing proper definitions of waste, why advocate for sound waste management, NITA-U's commitment to sustainable development, NITA-U related waste streams, storage, handling and principles of waste minimization among others.

APPENDIX A – WASTE TRANSFER FORM

PART A – ORIGINATOR						
NAME OF FACILITY:					DATE:	
WASTE DESCRIPTION	Waste Type Hazardous(H) Non Hazardous (NH)	# of Containers Shipped	Unit of Measure	Total Quantity Transported	Disposal method	Disposal facility
I declare that the information I have provided in Part A is correct and complete. For NITA-U: Name _____ Signature _____					Telephone: _____	

PART B – TRANSPORTER AND STORAGE SITE

Transporter:	
Address of Transporter:	
I declare that I have received the waste as described in PART A for delivery to the disposal site indicated and the information is correct and complete	Telephone: _____
Transporter's representative: _____	Signature: _____

PART C – TRANSPORTER AND STORAGE SITE


Transporter:

Address of Transporter:	
I declare that I have received the waste as described in PART A for delivery to the disposal site indicated and the information is correct and complete	Telephone:
Transporter's representative:	Signature:

PART D- RECEIVING (DISPOSAL SITE)

Waste Receiver:	
Address of Disposal Site	
I declare that I have received the waste as described in PART A for delivery to this disposal site and the information is correct and complete	Telephone:
Transporter's representative:	Signature: Date:


Appendix 13: Operations Site Survey Report Format

			
Surveyor:		Approved:	Date:

Site Survey Report

1. SITE INFORMATION

Site NAME		Site ID		Site Location	
Phase		City/Town		District	
GPS Coordinates	Longitude			Altitude(m)	
Site Type	<input type="checkbox"/> School <input type="checkbox"/> MDA <input type="checkbox"/> TUG				
MW LOS Survey	<input type="checkbox"/> Accept <input type="checkbox"/> Reject				
<input type="checkbox"/> School	Obstacles at close Range				
	Nearby POP				
	Condition of Building	<input type="checkbox"/> Good <input type="checkbox"/> Medium <input type="checkbox"/> Bad			
	Building Height				
	Parapet Wall Height				
	No. of Floors				
	Antenna Pole	<input type="checkbox"/> Available <input type="checkbox"/> unavailable			
	Outdoor Installation	<input type="checkbox"/> Wall Mount <input type="checkbox"/> Pole Mount <input type="checkbox"/> Roof Mount			
	Power for IP Equipment	<input type="checkbox"/> DC available <input type="checkbox"/> AC available			
	Space for DDF installation	<input type="checkbox"/> Available <input type="checkbox"/> unavailable			
<input type="checkbox"/> MDA	Proposed Installation height				
	Space for CPE/NE	<input type="checkbox"/> NE available <input type="checkbox"/> Rack available <input type="checkbox"/> Need new Rack			
	Power for Tx Equipment	<input type="checkbox"/> DC available <input type="checkbox"/> AC available			
	Distance between outdoor to indoor installation				
	Potential Environmental Risks	<input type="checkbox"/> Yes <input type="checkbox"/> No			
	List them				
<input type="checkbox"/> TUG	Possible Safe guards & Measures				
	Potential Social Risks	<input type="checkbox"/> Yes <input type="checkbox"/> No			
	List them				
	Possible Safe guards & Measures				

				
Surveyor:		Approved:		Date:

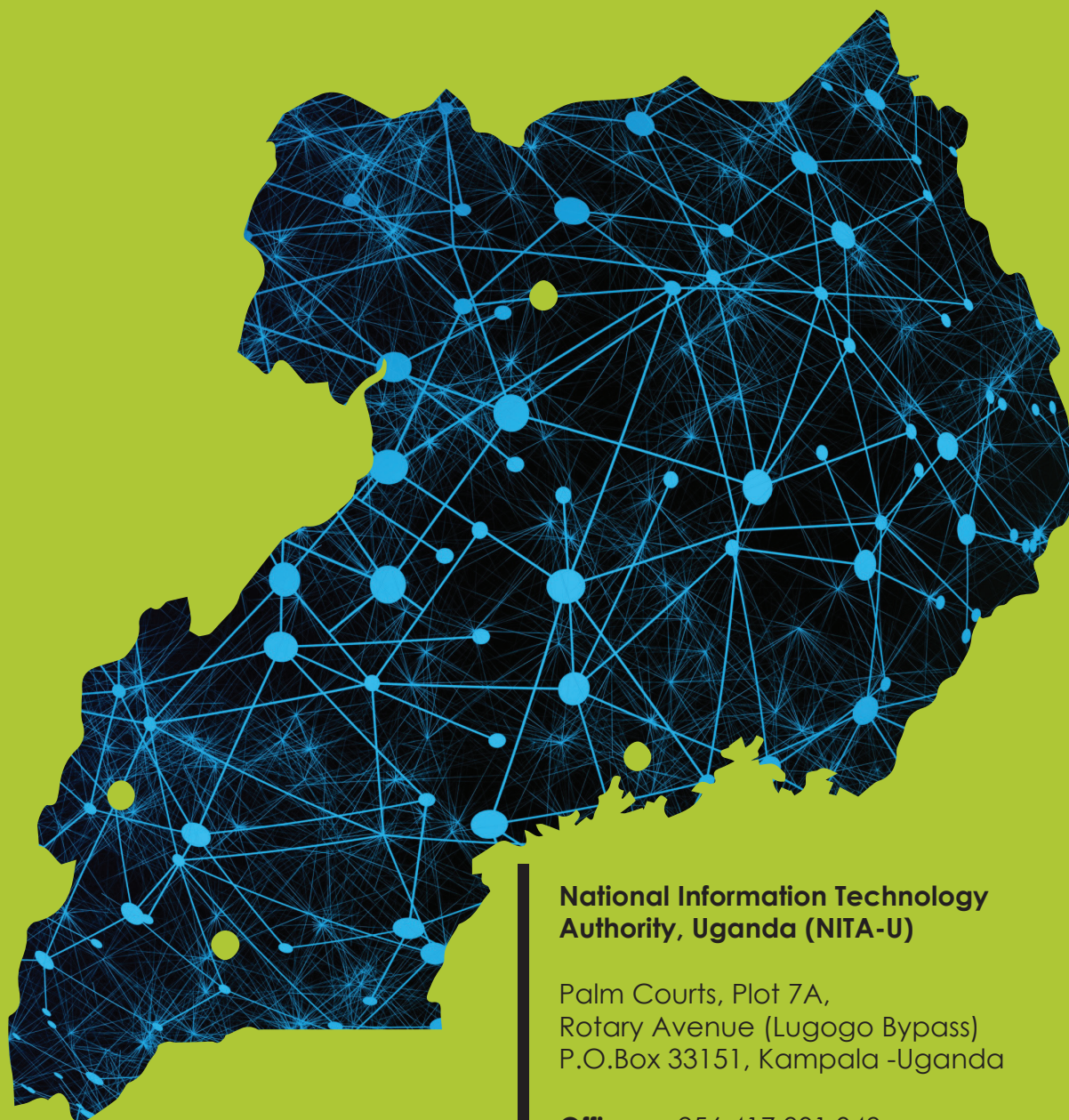
2. TRANSMISSION INFORMATION

3. Requirement

4. Photographs of Path Survey

5. Official Signature

Prepared by	Agreed by Client	Approved by NITA-U
Name:	Name:	Name:
Signature:	Signature:	Signature:
Designation:	Designation	Designation:
Date:	Date:	Date:



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